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Experiences of Women Accessing Prenatal Care: Voices of Rural Saudi Women in Faifa Mountains

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EXPERIENCES OF WOMEN ACCESSING PRENATAL CARE: VOICES OF RURAL SAUDI WOMEN IN FAIFA MOUNTAINS

by

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ABSTRACT

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It is well documented that rural pregnant women around the world experience barriers to accessing prenatal care. Existing literature is based on research that mainly examines the experiences of rural women with prenatal care access and utilization in Western, African, and some Middle Eastern countries. However, the available literature has little information about Saudi rural women's experience with prenatal care access generally and no information about the experiences of pregnant women in the rural areas of Jazan. To address this gap, this qualitative study was employed to gain in-depth understanding of the experiences of Saudi women in accessing prenatal care services in rural areas in the Jazan region of Saudi Arabia. This study was guided by a postcolonial feminist framework that acknowledges the experiences of women with respect to the cultural context in which women live without judgment and without engaging in a comparative analysis with women from Western nations. A purposive sample of thirty Saudi women were interviewed. Data were collected using in-depth individual interviews, field notes, and observation methods. Data were analyzed using software program (ATLAS.ti) and thematic analysis. The findings derived from women's narratives were centered on one major theme, *accessing rural prenatal care* with an emphasis on the sociocultural context in which women experience pregnancy, their position within traditional gender roles, and the structural factors that impact prenatal care access. The findings of this study suggest that healthcare providers need

to recognize rural women's unique needs and preferences and adjust the care accordingly, involve husbands in prenatal care, and promote communication with women and their husbands to enhance prenatal care access and utilization. Future research is needed to explore the perspectives of husbands and healthcare providers on accessing rural prenatal care to gain deeper insight from these key players who also impact prenatal care access for rural Saudi women.

To

my parents,

and especially my daughters

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CHAPTER I. INTRODUCTION AND BACKGROUND

Introduction

The health status of pregnant women living in the rural areas is worse than the women living in the urban areas due to the concentration of poverty, poor infrastructure, and lack of healthcare resources (United Nations Population Fund [UNPFA], 2017; World Health Organization [WHO], 2015). According to the World Health Organization (WHO), 830 women die around the world every day as an outcome of complications that occur during and after pregnancy and childbirth, and 99% of these maternal deaths happen in low-income countries (WHO, 2015). Women who live in rural areas and poor communities have high mortality rates because of the lack of access to maternal care services (WHO, 2015). The constitution of the World Health Organization (WHO, 2016) states that "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition."

The pivotal role of the nurse as a patient advocate is imperative for protecting the health rights of women to access maternity services and maximizing equitable health care regardless of their financial status, ethnicity, religion, race, education level and age. Nurses can speak knowledgeably about what prenatal care women in the community need, as well as the outcomes from receiving poor services in their rural area.

Statement of the Problem

Saudi Arabia's birth rates are high (18 births/1,000 population), and the country's total fertility rate (TFR) is 2,09 children born per women. While the total maternal mortality rate was 12 deaths per 100,000 live births, this indicator is greater than other Arabian Gulf region countries who share the same economic status, including the United Arab Emirates at 6 deaths

per 100,000 live births, and Kuwait at 4 deaths per 100,000 live births (Central Intelligence Agency [CIA], 2019). However, this maternal mortality ranks Saudi Arabia at 142[1] compared to other countries, while the maternal mortality in Kuwait is ranked at 179 compared to other countries (CIA, 2019). In addition, recent Saudi Arabian statistics show that the total infant mortality rate is 12.1 deaths per 1,000 live births (CIA, 2019). The infant mortality in Saudi Arabia is ranked at 113[2] compared to other countries, placing Saudi Arabia behind other Arabian Gulf region countries, like the United Arab Emirates and Kuwait (CIA, 2019). Maternal and infant mortality can be prevented through early detection of pregnancy complications, early arrival to healthcare facilities, and immediate provision of quality care to pregnant women.

The rural Saudi population suffers from poor healthcare provided in their areas compared to the urban Saudi population, due to the maldistribution of healthcare resources (Almalki, Fitzgerald, & Clark, 2011). The general problem is that urban and rural disparities in access to healthcare are an indication that there are disparities of prenatal care between urban and rural women, resulting in increased chances of rural women having poor pregnancy outcomes. Poor pregnancy outcomes could systematically affect the rural Saudi population and puts them at greater risk for further health disadvantages compared to the urban population. The disparities in birth outcomes include disparities in infant mortality, and child health, that ultimately lead to adult chronic illness (Kotch, 2013).

The specific problem is that no study has yet addressed or explored prenatal care in the rural areas of the Jazan region. Particularly, the majority of infant mortalities in Saudi Arabia occur in the southern region, including Jazan region. The 2017 Saudi Arabia census statistics

[1] The higher the rank number the lower the maternal mortality rate
[2] The higher the rank number the lower the infant mortality rate

found an overall infant death rate of 3.85% in Jazan compared with the western, middle, and eastern regions of Saudi Arabia (General Authority for Statistics [GASTAT], 2018). The Faifa mountains, which are located in the Jazan region, are not published in the regional and national census, making it difficult to ascertain the infant and maternal mortality rates in this area.

Inadequate access to prenatal care can result in several complications during and after pregnancy and childbirth. The most common complications are premature birth, low birth weight, infant mortality (Gottlieb, Belmaker, Bilenko, & Davidovitch, 2011; Holtz, 2006), maternal mortality, fetal mortality (Holtz, 2006), pregnancy induced hypertension (Harris, Aboueissa, Baugh, & Sarton, 2015; WHO, 2015) infection, embolism (Holtz, 2006; WHO, 2015), severe iron deficiency anemia, cardiac failure, fetus hypoxemia, stillborn deliveries, gestational diabetes, congenital malformations, preterm birth (Harris et al., 2015; Holtz, 2006), preeclampsia, eclampsia, and unsafe abortion (WHO, 2015). In addition, some studies have indicated that the majority of women who do not seek sufficient care during pregnancy encounter antepartum morbidity conditions, including hemorrhage, convulsions, fever and cough, edema, hyperemesis, burning micturition, lower abdominal pain, and palpitations (Chakraborty, Islam, Chowdhury, Bari, & Akhter, 2003). Therefore, it is important for women to receive healthcare before and during pregnancy to decrease the risk of pregnancy complications.

There were few studies that address the access to maternal healthcare services, including women's perception of access to prenatal care. However, studies that explore the factors which influence women's access to prenatal care were mainly conducted in urban areas, including Riyadh, Jeddah, and Al-Madinah Al-Menawarh cities, which are located in the western, middle, and Eastern regions of Saudi Arabia (Al-Doghaither & Saeed, 2000; Mahfouz, Al-Sharif, El-Gama, & Kisha, 2004; Lamadah & Elsaba, 2012). There are no clear explanations or sufficiently

detailed studies about women's experiences with access to prenatal care services in rural areas of Jazan province of Saudi Arabia. As a result, researchers lack a clear picture of these areas' maternal and child health. A better understanding of prenatal care utilization in these areas would allow policy makers to proceed from an informed perspective about how to improve access to prenatal care and to redesign healthcare systems in these areas to meet women's needs.

Purpose of the Study and Specific Aims

The purpose of this qualitative study is to gain an in-depth understanding of the experiences of Saudi women in accessing prenatal care services in rural areas in the Jazan region of Saudi Arabia.

Research Questions

To accomplish the purpose of the study, the following research questions were examined:

1. What hinders women from accessing prenatal care?
2. What are the factors that assist women's access to prenatal care?
3. What can be done to help rural women to access prenatal care?

Specific Aim

From women's experiences, this study will achieve the following specific aims:

1. To explore the individual characteristics that inform utilization or underutilization of prenatal services.
2. To analyze healthcare delivery system characteristics that prevent and /or assist pregnant women in accessing prenatal care services.
3. To inform health policy that would enhance prenatal care access.

Significance of the Study

Access to prenatal care can be defined as "the potential ability of a women to enter prenatal care services and maintain care for herself and fetus during the perinatal period." (Phillippi, 2009, p. 220). Pre-birth care includes a variety of medical, nutritional, and educational interventions to ensure healthy pregnancy and childbirth outcomes for both the mother and fetus (Daniels, 2011). Care provided throughout the pregnancy allows healthcare providers to treat and prevent potential health problems. Prenatal care includes the provision of appropriate advice and information to women and their families to assist mothers maintaining good health during pregnancy, delivery, and postnatal recovery (Daniels, 2011). During prenatal care, women receive appropriate supplements, including folic acid and other vitamins and minerals required during the pregnancy period (Daniels, 2011). Receiving early and consistent prenatal care is crucial to the health of the mother and development of the unborn baby.

To maximize healthy pregnancy outcomes, pregnancy-related care should begin prior to pregnancy with a preconception care visitation (Office of Women's Health [OWH], 2010). Preconception care is vital to discovering and treating potential problems before conception (OWH, 2010). Preconception care is designed to provide a set of interventions that determine and reduce biomedical, behavioral, and social risks to women's health through prevention, management, and education (Centers for Disease Control and Prevention [CDC], 2006). This care should be sought before pregnancy to optimize prenatal care's benefits.

Poor birth outcomes can have lifelong consequences for individuals, families, and society. Premature births have significant financial costs, and major and minor birth defects among live born infants. Premature births can cause not only economic and emotional hardships

for families, but it is also the number one cause of long-term disabilities in children (Gupta, de Wit & McKeown, 2007; March of Dimes, 2019).

Adequate and timely access to maternal services is critical in protecting mother and infant health and lowering potential risk factors. Early and regular visits to a clinic during pregnancy allow health issues to be identified and treated before progressing. Adequate prenatal care requires care initiation within the first trimester of pregnancy (Epstein, Grant, Schiff, & Kasehagen, 2009). Prenatal care initiation after the first trimester is connected with inadequate care and negative birth outcomes, such as low infant birth weights below 2,500 grams (Schillaci, Waitzkin, Carson, & Romain, 2010). The WHO (2004) recommends women with normal pregnancies visit prenatal care clinics no less than four times. Sufficient and regular prenatal care substantially improves rates of mother and infant survival and is associated with favorable outcomes (WHO, 2004).

Globally, rural pregnant women living in conservative societies and resource-poor areas have a lack of qualified healthcare services and other resources that may improve their socioeconomic status (Reichlin & Shaw, 2015; Strasser, 2003). For example, rural women are more likely to face restricted access to education and employment (Reichlin & Shaw, 2015; Strasser, 2003). The relatively high fertility rate among Saudi's low-income women, and housewives tend to have more children yet have less access to contraceptive and family planning and lack the autonomy to ensure space between pregnancies (Farih, Khan, Freeth, & Meads, 2014). Moreover, because of their lack of accessibility to healthcare resources, throughout their life span and prenatal periods, rural women with low socioeconomic statuses face increased vulnerability to uncontrolled chronic health conditions, including chronic heart disease, hypertension, and diabetes (Admon et al., 2017). All these factors increase likelihood of high-

risk pregnancy and maternal morbidity and mortality (Admon et al., 2017). However, these health complications can be prevented by empowering women and ensuring they enjoy better access to prenatal care.

This study uniquely seeks information on maternal child health in the Faifa mountains, which has not been discussed in other studies. The barriers that exist to accessing adequate prenatal care fall into three main categories: individual barriers, culture, and healthcare system barriers. These three categories and their components will be examined, and once these barriers are understood and acknowledged, intervention programs that are able to overcome these obstacles and, therefore, improve access to prenatal care can be highlighted. Advocacy for rural women expansion can then commence helping women to access adequate prenatal care. This study is giving voice to rural women to reveal the struggles and challenges they face when seeking healthcare. Not addressing the challenges in accessing prenatal care contributes to poor birth outcomes.

The health of mothers and infants is the priority of the Saudi Ministry of Health. Currently the Saudi Ministry of Health's policy goal is to improve maternal and infant health. For example, the Saudi Ministry of Health launched the Mother and Child Health Passport Project in 2011, which aligns with the WHO's recommendations about maternal and infant mortality and morbidity (Ministry of Health [MOH], 2011). This project's purpose is to "provid[e] necessary follow-up care for both mother and child by monitoring the mother's health condition during pregnancy and the child's subsequent health progress until the age of six" (MOH, 2011, p. 1) and to decrease maternal and infant mortality rate (MOH, 2011). In addition, Saudi Arabia is committed to achieving the sustainable development goals including enhanced maternal health and reduced child mortality (Kingdom of Saudi Arabia Ministry of

Economy and Planning [KSAMEP], 2005). Thus, to achieve these goals, the Saudi Ministry of Health is creating new policies and making changes that target the health care system, specifically in women's health, to improve care by redistributing resources and introducing technology into the health care system.

A qualitative approach is used due to the complexity of understanding prenatal care access. The lack of studies conducted in Saudi Arabia on the barriers and facilitators of access to prenatal care in rural areas indicates that a qualitative investigation should be undertaken to understand access to prenatal care in rural areas in Saudi Arabia from Saudi women's perspectives. This approach illustrates the experiences and perspectives of rural Saudi women in accessing prenatal care and will further investigate the problem. This is a particularly critical step for developing effective interventions and policies. This proposed study is likely to inspire ideas and interventions that will not only aid in achieving the Saudi Ministry of Health's goals but also help improve financial aspects of the health care system by decreasing rate of hospitalization of pregnant women resulting from poor access to care.

Conceptual and Operational Definitions

These are some of the concepts, central to this dissertation, that need to be defined:

In 2007, Andersen and Davidson defined **healthcare access** as:

> Actual use of personal health services and everything that facilitates or impedes their use. It is the link between health services systems and the populations they serve. Access means not only visiting a medical care provider but also getting to the right services at the right time to promote improved health outcomes (Andersen & Davidson, 2007, p.3).

Access to healthcare is defined operationally using different dimensions: spatial access, geographic access, potential access, realized access, effective access, efficient access, and

continuous access (Gulzar, 1999). These dimensions are explained as the following: The ability of the individual to access healthcare services is influenced by factors related to the healthcare delivery system; individual related factors, including the need for services, sociocultural, financial, and psychological factors; and geographic characteristics such as distance, transportation, and architectural factors. The healthcare delivery system, individual related factors, and geographic characteristics could be a barrier of facilitator in accessing healthcare services (Gulzar, 1999).

Access to prenatal care: "The potential ability of a woman to enter prenatal care services and maintain care for herself and fetus during the perinatal period" (Phillippi, 2009, p. 220). Prenatal care access is the self-reported ability of a woman to enter, use, and keep continuous and regular care for herself and the fetus during the whole pregnancy (Norris & Aiken, 2006). The socioeconomic status of a woman and her husband, the health status of women, sociocultural and structural determinants are among the most important factors affecting women using prenatal care adequately and regularly (Jacobs, Bigdeli, Annear, & Damme, 2012).

Utilization of healthcare refers to the concrete act of accessing healthcare services (Jacobs et al., 2012). People use healthcare services for different reasons, including preventing or healing from health issues, getting information about their health conditions and prognosis, and fostering maintenance of health and wellbeing (Carrasquillo O, 2013). The dimensions of healthcare services utilization include the type of health services and provider, the site of the healthcare meeting, purpose of a visit, and time interval for visit (Andersen, 1995).

Individual characteristics can be divided into three characteristics:

Predisposing characteristics: the factors that impact women's tendency to seek prenatal care, including socio-demographic factors (e.g., race, gender, educational attainment, and

occupation). Individual health beliefs and attitudes are also considered to be a part of these factors (Andersen, 1995).

Enabling factors: refer to circumstances that allow women to take action and seek access to healthcare services. The factors include family resources such as income and health insurance coverage and community resources such as availability of healthcare facilities and the geographical location of an individual's residence (Andersen, 1995).

The need for care factors: refer to the level of illness that is the main factor determining the individual's use of health care services (Andersen, 1995).

Healthcare system characteristics focus on factors related to delivering healthcare (Andersen, 1995). Delivering care to an individual can be achieved when there is enough resources, equipment, and healthcare personnel (Jacobs et al., 2012). In addition, the characteristics of healthcare providers influence the quality of care provided to the patient like communication skills, gender, and religion (Jacobs et al., 2012).

A patriarchal system: is defined as "a system where men dominate women, primarily through the enforcement of strict gender-role ideologies, one of which is that women are responsible for childbearing and are more limited in their access to the public sphere." (Olmsted, 2003, p. 84).

Assumptions

- The first assumption is that it is best to use a qualitative study design to encourage rural women to express their experiences in detail as they will be interviewed about the barriers and facilitators they encountered when accessing prenatal care.
- The second assumption is that women's narratives are accurate and honest perspectives about barriers and facilitators to prenatal care.

- The third assumption is that access to quality and comprehensive prenatal care is one of the essential human rights that rural women and children deserve to enjoy.

Conclusion

What remains unknown is how Saudi women who live in the Faifa mountains experience access to prenatal care services. The purpose of this dissertation is to gain an in-depth understanding of those women's experiences with accessing prenatal care services in rural areas in the Jazan region of Saudi Arabia. From the postcolonial feminist lens, this study will explore individual, cultural, and healthcare system determinants that influence women from obtaining consistent and comprehensive prenatal care services. The findings from women's narratives will contribute to the developing literature on the experiences of rural Saudi women in accessing prenatal care in Saudi Arabia. Also, the findings of this study will provide recommendations and suggestions for policymakers to improve access to prenatal care in the rural areas of the Jazan region.

CHAPTER II: REVIEW OF RELATED LITERATURE

Introduction

In this introduction, I present relevant literature about prenatal care in Middle Eastern and Africa countries including Saudi Arabia to establish basic information about prenatal care and its influence on pregnancy outcomes in general and in rural areas specifically. This study aims to address the issues that rural Saudi women face in accessing prenatal care when needed. Therefore, I will provide a brief overview about Saudi Arabia including geography (rural and urban areas), economic status, healthcare system, maternal child health, and other factors that could influence maternal health in Saudi. Additionally, I will discuss both postcolonial feminism as a critical theory and how this framework offers guidance for the study of rural women's access to prenatal care.

Saudi Arabia Overview

The Kingdom of Saudi Arabia is an Arab state located in western Asia. Saudi Arabia is bordered by Jordan, Iraq, and Kuwait, the Persian Gulf, Qatar, and the United Arab Emirates, Oman, Yemen, and the Red Sea (Ministry of Education [MOE], 2019). The country has an oil-based economy with strong governmental control over national economic activities (CIA, 2017). Saudi Arabia owns about 16% of the world's petroleum reserves (CIA, 2017). The petroleum sector accounts for around 87% of the country's budget revenue, 42% of GDP, and 90% of export earnings (CIA, 2017). The total population is approximately 31,742,308 (CIA, 2017). Of that total population, 16% live in rural areas, 90% are Arab, and 10% are from Africa and Asia; 95% of the population identifies as Muslim (WHO, 2013). Arabic is the country's official language, and approximately 91% of females older than 15 can read and write (CIA, 2017). Saudi Arabian poverty studies and data are limited (Fadaak, 2010). Regional studies have

documented no poverty (Fadaak, 2010). Addressing poverty in Saudi Arabia has proven challenging. The country lacks a clear definition of poverty, as well as methodological and conceptual frameworks that delineate poverty lines and indicators (Fadaak, 2010).

Rural and Urban Areas Description

Saudi Arabia is the largest nation in the Arabian Peninsula. It is divided into 13 regions with varied development levels, population, and utility of public infrastructure (Al Bassam, 2012). Al Riyadh, Makkah Al Mokarramah, and the Eastern region have the largest populations due to urbanization (Al Bassam, 2012). Approximately 70% of migrant populations live in these regions, which have high levels of economic development, job opportunities, health, educational, and social services (Al Bassam, 2012). Almalki (2011) reports that the persistent poor health conditions of populations living in rural areas undermine national efforts to meet international standards including the Millennium Development Goals (MDGs) and the Sustainable Development Goals (SDGs). The disparity in health outcomes between rural and urban Saudi Arabian populations is complex and has increased as a result of rapid urbanization and rapid migration from rural to urban regions (Almalki et al., 2011). Further, income growth has been greater in urban regions compared to rural regions, widening the socioeconomic gap and consequently increasing inequality in accessing health care services (Wakerman et al., 2008). It is important to clearly define what constitutes urban and rural areas to better understand the factors that influence Saudi women's access to prenatal care. Al Bassam (2012) defines rural areas as regions located outside urban area boundaries. There are 1718 rural areas and villages in Saudi Arabia (Al Bassam, 2012). Populations living in these rural areas and villages are more likely to live in traditional housing and are dependent on farming as a source of their income (Al Bassam, 2012).

The structure of the households in Saudi are small, with an average of six persons in each house; less than half of households own their houses, with most owners being Saudi (Abdul Salam, Elsegaey, Khraif, & Al-Mutairi, 2014). Housing ownership is low due to intense rural to urban migration and immigration (Abdul Salam et al., 2014). The proportion of Saudi and non-Saudi households living in traditional houses is 26.2%, apartments 41.1%, villas 17.7%, and on a floor in a villa is 17.7%, with varying distributions across regions (Abdul Salam et al., 2014). In major regions like Al- Riyadh, Makkah Al Mokarramah, and in the Eastern region, apartments are the major type of housing. Villas are also being common in Al Riyadh, with higher concentrations of traditional houses in the Jazan, Al-Baha, Aseer, and Hail regions (Abdul Salam et al., 2014).

Urban areas have better developed infrastructure compared to rural areas. The water supply in Saudi Arabia is provided through three different resources: public water inside pipe units, catchment tank water, and well water (Abdul Salam et al., 2014). Public water facilities are currently accessible to only 71.3% of households, while catchment tank water serves 25% (Abdul Salam et al., 2014). Nearly half (48.7%) of households use public sewage systems, with 49.7% using ditch sewage (Abdul Salam et al., 2014). A few cities, including Riyadh, Jeddah, and Dammam, are better developed. Finally, Al- Riyadh, Makkah Al Mokarramah, and the Eastern region have modernized residential pockets with high quality infrastructure (Al Bassam, 2012) compared with the southern region where Jazan located.

Jazan province overview. Jazan province is located in the southwestern region of Saudi Arabia and is considered to be one of the seven sea ports in the Kingdom (Jazan University [JU], 2016) (See figure 1). It has over 5,000 villages and cities with a total population of more than 1,533,680 based on the 2016 census (Ministry of Health [MOH], 2016). Jazan province has

various geographical features, including islands, flat lands, shores, mountains, and hills (JU, 2016). Jazan province's major city is Jazan city, which is considered the third largest sea port. Approximately 67% of housing consists of traditional houses (Abdul Salam et al., 2014). The Jazan region has a lower proportion of concrete houses compared with other regions in Saudi (Abdul Salam et al., 2014). Most households in Saudi depend on public stations for electricity (97.4%) (Abdul Salam et al., 2014). However, the Jazan region has less dependency (95.5%), with a larger number of private generators and other sources. Saudi households in Jazan depend on public water (52.9%), catchment tank water (32.5%), and well water (14.7) (Abdul Salam et al., 2014).

Figure 1. Saudi Arabia map. Retrieved July 2019, from http://www.uksacb.org/uk-en1313/page/saudi-arabia. Copyright 2014 by the Saudi Arabian Cultural Bureau in the UK.

There is approximately 10% poor coverage of public sewages in Jazan and 88.7% depend on ditch sewage (Abdul Salam et al., 2014). In conclusion, quality of living and infrastructure across various regions in Saudi Arabia varies widely, with the Jazan region considered one of the

main regions that could benefit from housing and infrastructure development (Abdul Salam et al., 2014).

Faifa mountains. This study was conducted in the Faifa mountains. The Faifa mountains are located in the northeastern side of Jazan province close to Saudi Arabia's border with Yemen (JU, 2016). Faifa's population is approximately 60,000 (Okaz, 2012). The Faifa mountains have the highest peak in Jazan at 11,000 feet above the sea level with an area of 600 km^2 (JU, 2016). The population living in these mountains are challenged with transportation. The roads are narrow and steep, with dangerous curves and slopes (See figure 2) (Alharbi et al., 2014). Due to transportation challenges in some areas, the residents of Faifa craft handmade carriages that can be used on high cable lines (See figure 3) (Alharbi et al., 2014). They use these carriages to transport commodities and also to transfer sick people to healthcare facilities (Alharbi et al., 2014).

The Faifa mountains enjoy a moderate climate and temperatures throughout the year with great amounts of green flora covering the area, including different types of plants, flowers, and herbs (Alarabiya, 2018). The Faifa mountains have forests and valleys that serve as a good environment for wild animals (Al-Arabiya, 2018). Additionally, this area is surrounded by a large valley where the water collects throughout the year (Al-Arabiya, 2018).

The people who live in the Faifa mountains face challenges daily as a result of the difficult nature of the land, particularly, during the rainy season (JU, 2016). This area only has six clinics that provide basic prenatal care and one hospital for delivery service, including ten beds for admission, one delivery room with three beds, two operating rooms in a hospital that serves all patients, three ambulances that service all departments, with no ICUs (F. Alfaifi, phone interview, March 6, 2017).

Figure 2. Road Conditions in Faifa mountains. Retrieved July 2019, from http://www.faifaonline.net/portal/2017/09/17/376471.html. Copyright 2019 by Faifa online.

Figure 3. Handmade Carriage in Faifa Mountains. Retrieved July 2019, from https://mz-mz.net/45507/. Copyright 2019 by mzmz.

Saudi Arabia Healthcare System Structure

Health care is a high priority for the Saudi Arabian government. Over the past few decades, the quality and quantity of health and the health care system has improved significantly (Almalki et al., 2011). Saudi Arabia is ranked as 26th among 190 countries in terms of its health care system (Al-Omari, Abdelwahed, & Alansari, 2015). The Ministry of Health (MOH) is responsible for managing the healthcare system (Almalki et al., 2011). The MOH is considered the main government provider and financer of health care in Saudi (Almalki et al., 2011). The Saudi Ministry of Health ensures that Saudi citizens receive free care through more than 470 hospitals and 2325 primary healthcare centers (Sebai, Milaat, & Al-Zulaibani, 2001). The MOH provides primary, secondary, and tertiary public healthcare services. Tertiary level hospitals care for patients suffering from advanced staged disease using state of the art technology (Sebai, et al., 2001). This level employs 56 specialist hospitals with 20 obstetrics and pediatric hospitals, four ENT hospitals, four chest and fever hospitals, two cardiac and renal hospitals, 17 psychiatric hospitals, and nine convalescent, rehabilitation, and leprosy hospitals (Sebai et al., 2001).

In 1978, Saudi Arabia signed the Alma-Alta declaration, which aimed to exceed World Health Organization health targets for all by 2000 (Almasabi, H., 2013). To accomplish this ambition, the Saudi MOH established clinics and maternal and child care centers. Currently, those clinics and centers are referred to as primary healthcare centers (Almasabi, H., 2013). Prenatal care is widely available throughout Saudi Arabia at these primary healthcare centers (Almasabi, H., 2013). Secondary level care service is provided by general hospitals that accept patients based on recommendations from primary healthcare centers (Almasabi, H., 2013).

The Saudi Arabian healthcare system is predominantly staffed by non-Saudi healthcare professionals (Karout et al., 2013). The majority are of non-Arab speaking backgrounds and have been recruited from other countries (Karout et al., 2013). Culturally discordant care between healthcare professionals' and the predominantly Saudi populace complicates care delivered to Saudi patients. In particular, the composition of midwifery professionals does not reflect the diversity of Saudi women (Karout et al., 2013). Lack of culturally appropriate care for women can lead to greater disparities and a lack of healthcare utilization and satisfaction (Karout et al., 2013).

The underutilization of technology in the Saudi healthcare system, however, results in resource overconsumption and increased medical errors (Almalki et al., 2011). Additionally, the government therefore needs to implement an effective technology strategy that promotes health care system efficiency and, as a result, improves maternal and child health. Currently, the National Transformation Program aims at attracting private sector investment and expertise to the public healthcare system in the hope that privatization will help to further develop Saudi healthcare service and improve healthcare quality (Alshuwaikhat & Mohammed, 2017; Vision 2030, 2016). By the end of 2030, the government will introduce corporatization into the healthcare sector by transferring the responsibility for healthcare promotion to public institutions that compete both against each other and against the private sector (Alshuwaikhat & Mohammed, 2017; Vision 2030, 2016).

Health Care Access in Saudi Arabia

The health care system in Saudi Arabia constitutes 80.7% of government health care sector that provides free health care services for the Saudi population; it constitutes 19.3% of private sector that requires payment for health care services (Almalki et al., 2011). The

government health care sector includes the Ministry of Health (MOH) and other governmental bodies such as referral hospitals and university hospitals. The Ministry of Health is considered the main government provider and financer of health care (Almalki et al., 2011). It provides approximately 60% of total health care services (Almalki et al., 2011).

Equal distribution of healthcare facilities and equal provision of healthcare resources such as healthcare professionals and transportation are essential components for better access to healthcare services (Almalki et al, 2011). According to the WHO, healthcare resources and services are not equally distributed across geographical areas in Saudi Arabia (Almalki et al, 2011). The most common issue faced by the Saudi population at most healthcare facilities is a long waiting list (Almalki et al, 2011). Rural populations are most affected (Almalki, 2011). Most specialized, private, and governmental hospitals with highly qualified healthcare professionals and advanced technology and equipment are located in large cities, while rural regions have lower quality healthcare facilities (Almalki et al, 2011).

The Role of Gender Inequities in Saudi

Gender is a social construct, and each society upholds differing gender expectations when it comes to roles and norms (Namasivayam, Osuorah, Syed, & Antai, 2012). A society's gender norms mandate differences in the roles, rights, opportunities and treatment of men and women. Gender inequities are defined as unfair, unjust, unnecessary and avoidable discriminatory behaviors or treatment of men or women (Namasivayam et al., 2012). Many scholars have reported that, within societies where women have lower statuses than their male counterparts, gender inequities often constrain women's education, employment opportunities, economic potential, marriage choices, and control over reproductive health (Namasivayam et al., 2012). Gender dynamics play a crucial role in maternal healthcare access and utilization on

different levels (Namasivayam et al., 2012). Women who undergo pregnancy and childbirth are often unable to access maternal healthcare services because of deeply and often historically rooted systematic discrimination and gender inequities (Namasivayam et al., 2012). Lack of autonomy, dominance by men, gender-based violence, financial dependency, lack of formal education and other symptoms of gender inequity all impact women's access to prenatal care (Namasivayam et al., 2012).

In the next section, I will discuss three main factors related to gender inequity within Saudi society: women's roles, the patriarchal system, and patriarchal influences on maternal health. These three factors capture the fundamental issues dictating women's position in Saudi society and gender inequity's impact on women's health and access to care, particularly on maternal health. Before beginning this discussion, a brief explanation of Islam's capacity in empowering women and to provide equal rights across gender is merited. This explanation will demonstrate to readers that gender inequities are not rooted in Islamic law but instead relate more so to Saudi cultural norms.

Women in Islam

Saudi Arabia is a Muslim country, and while Saudi culture reflects most of Islam's rules and values, some of these values have been misinterpreted. Islam dictates that all family members are responsible for safeguarding the health of the fetus and mother, and it is the mother's duty to not harm the baby (Chamsi-Pasha & Albar, 2013). Therefore, seeking care during pregnancy is recommended (Chamsi-Pasha & Albar, 2013). The prophet Mohammed, peace upon him, sought to end many forms of violence against women, such as female infanticide (Indiana University [IU], 2016). Islam does not assign Muslim women roles within the home (IU, 2016). The prophet Mohammed's first wife, Khadija, for example, was a powerful

businesswoman who employed him and initiated their marriage proposal herself (Peace Women Organization [PWO], 2012). Another of the prophet Mohammed's wives, Aisha, commanded an army and was the source of Hadith (one of various reports describing the words, actions, and habits of the Islamic prophet Muhammad) (PWO, 2012).

The prophet Mohammed stated, "you have rights over your women, and women have rights over you." This message has been obscured in many Saudi families. Islamic law does not restrain women or state that women cannot fully participate in the economic, political, and social spheres of their society (IU, 2016). In fact, by definition, a truly Islamic society must permit and empower women nurses, physicians, and teachers (IU, 2016). Islamic history demonstrates that women also have the right to be elected to political office. For example, Omar, the second Khalifah, selected a woman to oversee the affairs of the marketplace (PWO, 2012). Muslim women can hold political positions in Islamic society.

Women's Role in Saudi

Traditionally, Saudi Arabian culture dictates that men are responsible for fulfilling every need and necessity for their household, including shopping for groceries and clothing (Al-Ansary, 1980; Al-Safe, 1997; Gazaz, 1994). Men are responsible for most activities outside the home, while women are responsible for in-home activities, such as child-care and household chores (Al-Safe, 1997).

In recent history, Saudi women living in big cities like Riyadh and Jeddah have been granted freedoms outside the household (Al-Safe, 1997; Yamani, 2000). For example, women can go shopping, attend schools and use hospitals with their male guardian's permission (Al-Safe, 1997; Yamani, 2000). Education, entering the labor market, and financial independence have created opportunities for some Saudi women, particularly those living in big cities and

urban areas, for further socialization and modernization (Al-Safe, 1997; Yamani, 2000). More recent policy permits women to drive, but they must still seek their male guardian's agreement to do so. Because Saudi Arabia is a patriarchal society like most societies, social traditions and values continue to assign domestic labor to a woman's roles. Most men and women believe household duties are a woman's responsibility (Al-Safe, 1997; Yamani, 2000).

Patriarchal System in Saudi Arabia

Saudi guardianship law requires all women to have a male guardian (called Wali), who is typically a father, brother, husband, son or uncle (called Mahram). Girls and women are prevented from traveling and seeking education or employment without permission from their male guardians (Aldosari, 2017). In Saudi Arabia's patriarchal society, some men exercise authority over women from birth to death. Some male guardians exercise control and responsibility over women, and most women are completely dependent on men for financial support, especially if they lack independent financial potential through either employment or inheritance from their birth family or husband (Yamani, 2000). Because of the need for male guardian permission or accompany to practice any activities, many women cannot experience freedom to spend their own money (Aldosari, 2017). Employed women in Medina city are often under more stress and at higher risk of violence because they are responsible for both financially supporting their family and taking care of household chores without male assistance (Tashkandi & Rasheed, 2009). Such women are still required to operate under male guardians, who wield the power to make a range of critical decisions on women's behalf.

In 2015, the gender gap index ranked Saudi Arabia at 134 out of 145 countries due to the absence of women's political and economic participation (World Economic Forum [WEF], 2016). Systemic limitations and legal restrictions on women's participation prevent their access

to economic opportunities, increase poverty rates and mandate dependence on men to access health care services and other resources (WHO, 2007). Lack of women's legal and political representation has adversely influenced women's ability to meaningfully change health policies for the benefit of women's health in the country.

The Saudi family is a male-dominated institution. Within it, men are responsible for financing and making important family decisions, including those related to access to care (Alyaemni et al., 2013). Saudi women who seek maternal healthcare services are required to have male guardian permission and must attend prenatal visits with their husbands (Nigenda et al., 2003). However, because of husbands' time constraints, women are often unable to receive adequate care (Nigenda et al., 2003). Additionally, male guardians often prohibit care provided to women by male healthcare providers, particularly male gynecologists (Nigenda et al., 2003).

The influence of a patriarchal society on maternal health. Women's household chores, child care, and older adult care responsibilities clearly influence maternal health. While Saudi woman's roles have not been adequately explored in Saudi culture, the effects of women's roles have been explored in other societies with similar gendered structures. Women's role that center on household care and child rearing may hinder them from scheduling healthcare visits during pregnancy (Kwambai et al., 2013; Munguambe et al., 2016). Several studies point out how men's dominance does function as a barrier to the utilization of prenatal care and delivery at a healthcare facility. For example, Qureshi and others showed how a lack of women's autonomy in making decisions could prevent pregnant women from accessing care or having adequate care (Qureshi et al., 2016). The intersection of gendered dynamics and limited decision-making capacity could serve as a barrier for pregnant women seeking care. For example, Egyptian

women without authority to make decisions and who have mobility constraints received less prenatal care (Benova, Campbell, Sholkamy, & Ploubidis, 2014).

Saudi law requires most women, regardless of age, to receive agreement from a male guardian, typically a father, husband, or next of kin male relatives, to engage in travel, education, or employment, receive identity documents, and be discharged from prison or a governmental organization (Aldosari, 2017). This has obvious implications on women's ability to seek prenatal care. In the past, even healthcare facilities required male guardian permission for specific procedures and treatments. But, in 2012, the Saudi Arabia Ministry of Health approved a new regulation that gives women over 18 years old the right to independently consent to any admission or discharge from healthcare facilities, as well as any medical procedure (except abortion and sterilization procedures) (Al-Amoudi, 2012). Unfortunately, many healthcare providers remain unaware that women now possess the right to provide consent for any medical or treatment procedures without their male guardian. Many providers thus fail to seek women's consent to avoid facing issues with uncooperative male guardians (Aldosari, 2017). If a male guardian is not present, obtaining consent can be delayed, resulting in fatal complications for pregnant women and poor outcomes for women's health (Al-Amoudi, 2012).

The Saudi Red Crescent reported that male guardians often refuse to allow care from male paramedics. If the woman's health condition is deemed unserious, paramedics typically follow the male guardian's wishes (Aldosari, 2017). This practice is most common in remote areas (Aldosari, 2017). Paramedics frequently face assault from male guardians when attempting to treat women in critical condition (Aldosari, 2017). When a male guardian impedes a male paramedic's provision of care to a woman, police release a report at the place of incidence stating that the Red Crescent is not responsible for further complications in the woman's health

because the male guardian refused care (Aldosari, 2017). This report must be signed by both the male guardian and the paramedics. No official policy criminalizes obstruction of emergency care for women.

The Current Saudi Women Health Problems

Many health issues affect pregnant women who experience limited access to prenatal care. Inadequate access to prenatal can result in complications during and after pregnancy and childbirth. While Saudi Arabia's healthcare system has improved significantly in recent decades, the prevalence of chronic health conditions among Saudi women, including obesity, cardiovascular diseases, hypertensions, cancer, and diabetes, has continued to increase (Al-Daghri et al., 2014; Alyaemni, Theobald, Faragher, Jehan, & Tolhurst, 2013). In turn, high risk pregnancies have also increased due to these uncontrolled chronic illnesses and lack of adequate birth spacing (Kotch, 2013).

Alyaemni and others conducted a study that explored gender inequities in health from the perspective of Saudi women (Alyaemni et al., 2013). The majority of low-income women who participated in Alyaemni's study stated that women were sick more often than men because of their heavy workloads within family and society (Alyaemni et al., 2013). Childbearing, caring, domestic roles, and menstruation were seen as making women more vulnerable to illness than men (Alyaemni et al., 2013). In addition, participants indicated that mobility restrictions and life stressors specifically related to poverty and marital conflict impacted greatly on health (Alyaemni et al., 2013). This study also showed that low-income women were more likely to believe that attending prenatal care was unimportant, because they thought pregnancy was not an illness that merited medical attention (Alyaemni et al., 2013). Low-income unemployed women reported being overwhelmed with heavy family responsibilities (Alyaemni et al., 2013). Women

with disabled or sick husbands also suffered heavy workloads, because they had to work outside the home to maintain a household income in addition to taking care of their families (Alyaemni et al., 2013). Additionally, most women explained that hardship associated with poverty increased their stress levels and led to sleeplessness, hypertension, and diabetes (Alyaemni et al., 2013). In contrast, women in the study who earned an income enjoyed better access to care (Alyaemni et al., 2013). The authors concluded from the study that employed women benefited from their education and independent income with improved health (Alyaemni et al., 2013).

Low-income women, in the same study, talked about their children's health issues and how poverty worsened their own health conditions (Alyaemni et al., 2013). Meanwhile, employed women of different ages and educational levels indicated health problems, such as hypertension and mental illness, that resulted from marital conflicts (Alyaemni et al., 2013). Many participants, including both poor and non-poor women, reported a lack of support from husbands in times of illness. Because husbands consider women primary family care providers, they assume women should be able to care for themselves when ill (Alyaemni et al., 2013).

Another study conducted in Riyadh demonstrated that, compared to men, Saudi women face more delays in seeking care for myocardial infarctions, or heart attacks (Alshahrani, McConkey, Wilson, Youssef, & Fitzsimons, 2014). Saudi women who suffer from myocardial infarctions report the following reasons for delayed care: ascertaining a male guardian's permission to seek medical care, requiring a male relative's presence to travel to the healthcare facility, and prioritizing household responsibilities over obtaining healthcare (Alshahrani et al., 2014). It is evident that even in life-threatening situations, patriarchal beliefs and practices affect access to and utilization of healthcare services generally and prenatal care services specifically.

Saudi women indicate several stressors related to their family caregiving roles, physical constraints, financial difficulties, and marital conflicts. These stressors have been associated with adverse health outcomes (Alyaemni et al., 2013). A study conducted by Al-Daghri et al., (2014) indicated that Saudi women with low socioeconomic status were more likely to use healthcare services compared to middle to higher income women and those who had acquired higher education. Women with low socioeconomic status were more likely to suffer from metabolic syndrome and were at greater risk for cardiovascular disease, obesity, hypertension, and cancer (Al-Daghri et al., 2014). Generally, Arab women living in the Gulf states with low socioeconomic statuses have a 10%-15% higher risk for metabolic syndrome than women in developed countries (Al-Daghri et al., 2014).

Saudi Arabia's patriarchal and guardianship systems, which are embraced by Saudi males and enforced by Saudi laws, expose Saudi women to psychological stress and obstruct their access to critical healthcare services. Exposure to stressors over the course of women's lives impacts women's health status and birth outcomes (Bermúdez-Millán et al., 2011). Exposure to stressors during pregnancy elevates prenatal cortisol, which can lead to prematurity, low birth weight, and other negative outcomes (Bermúdez-Millán et al., 2011). The cumulative effects of Saudi women's oppression are strongly associated with increased health disadvantages.

Physical activity is associated with health benefits and disease prevention and is often recommended in the management of a variety of health conditions. The Saudi patriarchal system, which has enjoyed long-time support from Saudi public institutions, negatively affects women's physical health. In Saudi Arabia, girls do not partake in physical activities or sports in school, while boys do (Al-Eisa & Al-Sobayel, 2012). Sports classes are offered only to boys, while cooking and household activity classes are provided to girls (Al-Eisa & Al-Sobayel, 2012). Saudi

cultural beliefs dictate that exercise is related to masculinity and essential for men, but women who exercise destroy their femininity (Al-Eisa & Al-Sobayel, 2012). As a result, almost half of the women are physically inactive, and 29% reported low levels of physical activity (Al-Eisa & Al-Sobayel, 2012). Compared to Saudi men, prevalence of a sedentary lifestyle-related conditions, such as obesity, diabetes, hypertension, and hypercholesterolemia have escalated among Saudi women (Al-Eisa & Al-Sobayel, 2012). Healthy lifestyle habits and consistent management of chronic health conditions prior to conception are essential to a healthy pregnancy (Al-Eisa & Al-Sobayel, 2012). Pre-pregnancy medical conditions increase the risk of poor maternal health.

Many Saudi women require their husbands' permission to receive contraceptives, making it impossible for women to exercise their right to make free and informed choices (Farih et el., 2014). This restriction contradicts the expectation that a patient's healthcare and decisions remain confidential. In Saudi culture, women's contraceptive use decisions are limited by the belief that a woman should respect her husband and obey his directives (Al-Zahrani, 2011; Farih et al., 2014). Men's dominance in decision-making acts as a barrier to the use of modern contraceptives and negatively affects women's health (Al-Zahrani, 2011; Farih et al., 2014). Contraception has many advantages for both women's and infant health, because it allows women to delay child-bearing until their bodies are fully able to support pregnancy (Kotch, 2013).

In addition, contraception empowers women to plan pregnancies and ensure their infants receive the best prenatal care (Kotch, 2013). Women's lack of control over their own bodies increases prevalence of high-risk pregnancies resulting from unmanaged chronic conditions and closely spaced pregnancies (Kotch, 2013). In a study conducted at King Abdul-Aziz Medical

City, Riyadh it was found that 17% of high parity women were at risk of post-partum hemorrhage (Al-Kadri, Tariq, & Tamim, 2009). Another study showed that 66.7% multiparous participants were at risk of poor pregnancy outcomes during their reproductive lives – with twice the risk of spontaneous abortion and four times the risk of infant mortality (Shawky & Milaat, 2001).

Frequent childbearing also negatively influences women's health. Iron deficiency (anemia) is prevalent among Saudi women, and this condition's prevalence has accelerated as a result of numerous pregnancies and poor birth spacing (Mahfouz et al., 1994). Many Saudi girls of childhood and teenage age experience anemia (Mahfouz et al., 1994). Male guardians, for example, often fail to understand the importance of treating mild symptoms that do not affect movement. Additionally, many men remain unaware of the importance of periodic check-ups and care. Lack of Saudi male guardian awareness of periodic care and women's health needs serve as a barrier to treatment and in turn impact women's well-being across many life-stages.

According to Saudi cultural beliefs, men are more capable than women, and husbands have the power and right to allow or prohibit discussions over fertility. Husbands also exercise the authority to agree or disagree with their wives' opinions on reproduction and fertility. In one study, participants reported that they avoided discussing reproductive issues when they held different viewpoints from their husbands because their husbands had the power to ignore their opinions (Jamal-Hariri, 2015). Many women believe they must follow their husbands wishes (Jamal-Hariri, 2015).

Women with increased decision-making power are more likely than their counterparts to enjoy optimal health with their children because they have greater capacity to access existing maternal and child healthcare (Singh, Bloom, & Brodish, 2015; Rao, 2014). Autonomy within

the household has been shown to significantly influence individual health outcomes and behaviors (Singh et al, 2015). Ability of women to make decisions through control over resources are less likely, for example, to have low body mass index (BMI), have children with better nutrition (Brunson, Shell-Duncan, & Steele, 2009), and have the ability to obtain and advocate for potential life-saving resources for both them and their children (Singh et al, 2015; Rao, 2014). Greater autonomy for women could be achieved through access to education and employment. Women who are more highly educated and those with independent sources of income exhibit higher levels of empowerment (Singh at al., 2015; Rao, 2014).

Food Security and Maternal Health

Food security is defined by the United Nation's Committee, as "the condition in which all people, at all times, have physical, social, and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life." (International Food Policy Research Institute [IFPRI], 2018). Thus, food insecurity is defined as a lack of access to sufficient food to meet basic needs (IFPRI, 2018). Food insecurity is related to decreased nutritional status and involves limitations to the quality, quantity, and/or frequency of food intake and lower serum nutrient levels (Carmichael, Yang, Herring, Abrams, & Shaw, 2007). Lack of access to sufficient safe and nutritious food in the gestational period could cause anemia, gestational weight gain, maternal depression/ anxiety disorders during pregnancy, birth defects, low birth weight, postpartum depression, pre-gestational and gestational anthropometric nutritional status, and gestational complications (diabetes, hypertension and obesity) (Carmichael et al, 2007; Ramalho, Martins, Koifman, 2017; Yates, 2008). Key determinants of food insecurity are lack of female empowerment, lower education level, paternal absence, low income, and maternal age (Ramalho et al, 2017).

Rates of desertification are growing in Saudi Arabia due to overgrazing, limited availability of arable land and unsustainable agriculture practices (Baig & Straquadine, 2014). Despite the arid climate, lack of natural resources, and water shortage, Saudi Arabia exports many food items, including dates, eggs, poultry, fish, dairy products and different types of fruits and vegetables such as citrus, watermelon, onions and tomatoes (Baig & Straquadine, 2014).

Government and private sectors have expended a lot of effort to improve their investments in aquaculture and agriculture in order to promote Saudi Arabian food security. In urban areas, access to healthy food in the Saudi market is not largely influenced by cost, but other factors might affect consumer healthy food choices (Gosadi, Alshehri & Alawad, 2016). Saudi people consume more energy-dense diets, including wheat, rice, yoghurt, and chicken acting as the primary items present in their daily meals (Lovelle, 2015). However, many Saudis are consuming a more varied diet due to Western influence (Lovelle, 2015). Small pockets of the population do not receive adequate nutrition and rural populations in particular lack access to sufficient and high-quality food (Lovelle, 2015). In May 2015, the country had an undernourishment prevalence of 5% (Lovelle, 2015). Saudi Arabia, as a desert country, mostly imports their food commodities from other countries and their local productions are not sufficient to meet their domestic needs (Fiaz, Noor, Aldosri, 2016). It is thus necessary for the government to both reduce inequality and secure adequate nutrition for the entire population paying attention to the rural populace in particular.

Maternal nutritional status is of important concern to health professionals during prenatal care because of the effects it has on both the pregnant woman and her fetus. Many studies conducted in Saudi Arabia have indicated a progressive increase in obesity and metabolic syndrome (including Type 2 diabetes) in the Saudi population (Gosadi et al., 2016). In addition,

the population shows lower consumption of fruits and vegetables and higher consumption of food items rich in carbohydrates, salt, and fat (Gosadi et al., 2016). A descriptive cross-sectional study was conducted in the Jazan region to identify the prevalence of anemia in pregnant women, and found a prevalence of 58.9% (Salih et al., 2015). The study also found that two thirds (66.66%) of women who had been pregnant more than 5 times were anemic with a P value of (0.005) (Salih et al., 2015). However, this study reported no significant association between anemia and maternal age, number of deliveries, or abortions (Salih et al., 2015). This study showed that anemia among pregnant women in the Jazan providence is high and reported that there is a need to design interventions and programs to address this issue (Salih et al., 2015). Additionally, healthcare providers should focus more attention on providing nutritional advice during prenatal care (Salih et al., 2015).

Women's age, gender role, geographical location, and educational and employment status are factors that predicate food insecurity. Statistics show that the educational status of the female population over 10 years old in Gizan city, including the Faifa area, are the following: 21.1% of women who were unable to read and write; 13.2% can read and write; 17.2% of women have completed a primary school; 14% of women completed elementary school; 18% of women have a secondary degree or equivalent; 4% of women have a diploma degree; 12% of women have a bachelor's degree; 0.3% of women have master's or higher diploma; and 0.2 % of women have a Ph.D. degree (GASTAT, 2010). These statistics show that the percentage of women with no formal education is high. However, main economic activities practiced by women ages 15 years and over in Jazan are approximately 30850 of women in educational sectors, 8380 of women in productive household activities, 4898 of women in wholesale, retail, repair of vehicles and motorcycles (GASTAT, 2010).

The total population by gender in Jazan consists of 629470 females and 745375 males (GASTAT, 2010). According to statistics reported in 2013, in the Jazan region 179,002 household were headed by men while 12,497 were headed by women (GASTAT, 2010). They also reported approximately 29,087 men and 23,970 women are employees on the job subject to the rules and regulations of the Civil Service (GASTAT, 2010). While, approximately 14,129 men and 8,106 women are employees on the job subject to the rules and regulations of the social insurance (GASTAT, 2010). Women occupy multiple roles in households and are key players in overcoming food insecurity at the household level. Therefore, empowering women by providing them with employment opportunities, assets ownership, and human capital is recognized as an effective strategy for improving household food security.

Generally, distance from urban centers could be a significant factor in predicting food insecurity. Urban demand has placed pressure on Saudi Arabia's rural and manufacturing sectors to supply the goods needed for city living (Lovelle, 2015). This, in turn, has placed an increased strain on Saudi Arabia's rural areas (Lovelle, 2015). It can thus be concluded that populations who live in rural areas may face greater challenges in terms of food access due to the limited availability of food sources.

Access Barriers to Adequate Prenatal Care in Saudi Arabia

Worldwide, many factors limit access to prenatal care services. Phillippi conducted a literature review of women's perceptions of access to prenatal care in the United States and categorized the barriers they reported. This review included articles published after 1990 that examined the maternal, societal, and structural factors (Phillippi, 2009). Phillippi (2009) found that women may not be motivated to seek care, especially if they are carrying unintended pregnancies. Other maternal and societal factors related to poor motivation included fear of

medical procedures, fear of revealing the pregnancy to others, depression, and belief that pregnancy care is unimportant (Phillippi, 2009). The structural barriers reported included long waiting times, clinic location and hours, healthcare provider attitudes and language, absence of child-friendly facilities, and cost of services (Phillippi, 2009).

Some determinants reported in Phillippi's study resemble factors that affect Saudi women's access to prenatal care. Some studies conducted in Saudi Arabia indicated numerous individual and structural barriers impeding Saudi pregnant women from accessing prenatal care (Al-hazmi, 2017; Alsahafi et al., 2016; El- Gilany, El-Wehady, & El-Hawary, 2008; & Karout et al, 2013). First, nurses, who are largely non-Saudi, make up an estimated 74% of healthcare professionals (Lamadah et al., 2012). Expatriate nurses have been recruited from many countries, such as the Philippines and India (Karout et al, 2013). Culturally discordant care has implications for women's access to maternal care (Karout et al, 2013). Some women also reported they were reluctant to attend prenatal care clinics because they feared having to be examined by male physicians (Karout et al, 2013; Nigenda et al., 2003). Generally, in Arab culture, women feel comfortable discussing intimate topics with female physicians (Karout et al, 2013; Nigenda et al., 2003). For this reason, rural women prefer female physicians when attending prenatal care and during labor and delivery (Nigenda et al., 2003).

Saudi women reported they were willing to accept treatment from male physicians when a female nurse was in the consultation room (Nigenda et al., 2003). Women often felt embarrassed to ask male healthcare providers health-related questions, but they were more likely to obtain information from female healthcare providers (Nigenda et al., 2003). Saudi women did report that they were treated with respect during physician's' consultation. Some women expressed a preference for treatment by Muslim physicians (Nigenda et al., 2003).

One study by Al-hazmi explored the importance of prenatal care awareness among pregnant Saudi women attending prenatal care in Madinah city, Saudi Arabia. Authors found women with college education were more aware of prenatal care's benefits for themselves and their babies. This group was more likely to seek adequate and regular prenatal care (Al-hazmi, 2017). In addition, El- Gilany, El-Wehady, and El-Hawary (2008) indicated that, among Saudi women, employment was associated with delayed initial prenatal care and fewer prenatal visits. The more unfavorable Saudi women reported their working conditions, the more noticeable this influence on prenatal care attendance (El- Gilany, El-Wehady, and El-Hawary, 2008). Employed women suffered greater lack of prenatal care and poorer pregnancy outcomes compared to housewives who reported the same educational levels (El-Gilany et al., 2008). Employed pregnant women were more likely to have preterm deliveries, cesarean sections, and low birth weight infants (El-Gilany et al., 2008). Another study revealed that women with higher education and better work status reported increased positive prenatal care experiences (Habib, Hanafi, & El-Sagheer, 2011).

One study conducted in Jeddah by Alsahafi and others identified additional obstacles Saudi women face in attending prenatal care. This study revealed that about 8.8% of Saudi women failed to seek care during pregnancy because they lacked the time, while 28.8% of the participants indicated they did not book appointments because they could not find suitable appointments available (Alsahafi et al., 2016). Approximately 34.8% of women cited lack of awareness of their pregnancy for weeks as the reason behind lacking or delays in care during pregnancy (Alsahafi et al., 2016). This study showed that about 37.1% of women failed to attend visits during pregnancy because they believed such visits were unimportant and had no influence on their pregnancy, particularly during the first trimester (Alsahafi et al., 2016). A significant

number of women - 45.8% - indicated lack of transportation to their clinic was a major obstacle that prevented them from obtaining care (Alsahafi et al., 2016). Meanwhile, 51.7% of women in the study lacked enough money to partake in prenatal care visits (Alsahafi et al., 2016). This finding indicates that poor women are more likely at risk of maternal mortality because they lack resources required to seek access to skilled healthcare personnel (Alsahafi et al., 2016). Additionally, this study highlights another major issue all Saudi patients face within the healthcare system: long waiting times of which, approximately 86.2% of women complained (Alsahafi et al., 2016).

In another study, semi structural interviews were conducted in Riyadh city, Saudi Arabia with Saudi women and physicians working in tertiary hospitals. This study clarified barriers that urban women face when seeking prenatal care including availability of transportation, work conditions, and poor healthcare system (Alanazy, Rance, & Brown, 2017). Conversely, physician participants in the study reported several different obstacles that prevented women from attending prenatal care: level of education, availability of transportation, women's beliefs and knowledge regarding the importance of prenatal care (Alanazy et al., 2017).

It is difficult for healthcare providers to reach and provide healthcare services to the scattered and isolated populations of mountainous areas connected by unpaved roads or no roads at all. Khattab and others, in the Aseer region in Saudi Arabia, investigated rural women's preferences on place of delivery and the person attending the delivery (Khattab, Khan, Al-Khaldi & Al-Gamal, 2000). They found that rural women are dependent on and preferred traditional birth attendants (TBAs) (dayas). Rural women in this study preferred TBAs because they were female, more accessible and had more understanding of the local culture (Khattab et al., 2000). Further, women felt that TBAs had the necessary experience, and were more comfortable with a

TBA's presence at delivery (Khattab et al., 2000). This study showed that the rates of limited education among TBAs and the prevalence of harmful practices in the region were high, indicating a need to train and equip TBAs with basic knowledge and information to conduct safe deliveries (Khattab et al., 2000). It has been found that the use of TBAs had failed and trained personnel only could detect obstetric risks and be trusted to refer women onto a hospital (Sibley, Sipe, Brown, Diallo, McNatt, 2009).

Importance of Prenatal Care in Rural Saudi Arabia

Pregnancy and childbirth should be an enjoyable time for parents and families. Creating an environment that facilitates safe pregnancy, childbirth, and motherhood requires the dedication of care and attention to women by their families, communities, and skilled health professionals. Adequate healthcare availability and accessibility, equipment, and medicine are also required. Physical constraints, power relations, and gender roles have been recognized as factors that prevent women from accessing and utilizing the healthcare services they need.

The Saudi Arabian government offers free healthcare services to citizens and this has helped to reduce maternal and infant mortality rates through agreements with international bodies and through initiatives aimed at improving maternal and child health, including the Safe Motherhood Initiative (SMI), the Millennium Development Goals (MDGs), and the Sustainable Development Goals (SDGs) (Almalki et al., 2011). However, little progress was made in meeting the MDG's specifically related to improving maternal health in Saudi Arabia, because the goals of this initiative were not established or designed to effectively respond to Saudi Arabia's guardianship system (United Nations Country Team [UNCT], 2017).

The government has sought to reform the national healthcare system by increasing the quantity and quality of higher education for healthcare professionals. It aims to substitute the

system's predominantly expatriate healthcare professionals with qualified Saudi professionals (Almalki et al., 2011). Additionally, to improve quality of care and reduce turnover rates, training and scholarship resources have been allocated to enable Saudi healthcare professionals to continue their education abroad (Almalki et al., 2011). In spite of these measures, the Ministry of Health has reported maldistribution of healthcare services across the nation (Almalki et al., 2011). This maldistribution mostly affects rural populations and disadvantaged groups. Those living in rural and remote areas lack necessary access to healthcare services and qualified providers. Improving access requires equity in healthcare facility distribution, access to healthcare specialties, and availability of healthcare resources and transportation (Almalki et al., 2011). The next section includes a summary of the research literature pertaining to rural pregnant women and barriers they may encounter while accessing prenatal care. The findings are divided into two main areas: individual characteristics (predisposing, enabling, and need of care factor), and health delivery system characteristics.

Access Barriers to Adequate Prenatal Care Globally

Individual Characteristics

Predisposing characteristics. Cultural factors, including gender and decision-making, could serve as facilitators or barriers for pregnant women seeking care. In terms of gender, in most African societies, for instance, the men or household head are responsible for organizing transportation for women to health care facilities (Al-Mujtaba et al., 2016; De Allegri et al., 2015; Turan et al., 2012). When the household head is not available to arrange transportation, the women may deliver at home (Al-Mujtaba et al., 2016; De Allegri et al., 2015; Turan et al., 2012). One study showed that Kenyan men see women as responsible for childbearing, which burdens women and leads to health complications taking into account that decision-making and control

over resources rests with men (Byford-Richardson et al., 2013; Kwambai et al., 2013; Turan et al., 2012). Similarly, in Bedouin –Arab and Pakistani society, because women's roles include taking care of family members, women may not have time to visit the clinic (Gottlieb et al., 2011; & Nisar, Aurangzeb, Dibley & Alam, 2016). Bedouin –Arab women's additional lack of childcare support was a reason given for not attending prenatal care. In Pakistan, the husband and mother-in-law may restrict women from visiting health care facilities (Nisar et al., 2016). In a study conducted in Nigeria, results showed that the men prevented women from using hospital services (Al-Mujtaba et al., 2016). In contrast, a study conducted in Kenya showed that men encouraged and sometimes even forced women to receive prenatal care and to deliver at health care facilities (Kwambai et al., 2013). This literature underscores the decision-making power that men have and the resultant influence that they have over women's healthcare access.

Considering sociocultural factors, De Allegri and others reported that households and other community members prefer that women deliver at home (De Allegri et al., 2015). About 40% of people from one village preferred delivery at home instead of delivery at health care facilities because they witnessed recent cases of maternal death at facilities (De Allegri et al., 2015). The study reported that between 71% and 100% of people from two villages in rural Burkina Faso believed that women preferred to deliver at home because of cultural beliefs that delivery should happen in one's own village (De Allegri et al., 2015). In addition, women were afraid of delivering outside of their village because of lack of access to support (Turan et al., 2012). Other social factors that caused poor access to prenatal care were that women were afraid of being tested for HIV because of the stigma associated with the virus (Byford-Richardson et al., 2013; Kwambai et al., 2013; Turan et al., 2012). Also, women preferred the manner of care provided by traditional birth attendants (lay midwives) over nurses explaining that the traditional

birth attendants were kind during delivery in contrast to nurses, who were rude (Byford-Richardson et al., 2013). Other factors that limited Pakistani women's desire to seek care was fear of being diagnosed with complications during pregnancy that required hospitalization and fear of the side effects of medications (Nisar et al., 2016).

Regarding the age of women, a study conducted in Pakistan by Budhwani, Hearld, and Harbison concluded that there were no significant differences between the oldest and youngest age groups in receiving care in the first trimester, having four or more prenatal visits, delivering at health care facilities, having a medical professional at delivery, and receiving postnatal care (Budhwani, Hearld, & Harbison, 2015). In contrast, a study conducted in rural Ethiopia found that age was significantly associated with distance to health care facilities, so that older, educated mothers lived in areas with better access to care than younger mothers (Kwambai et al., 2013). Young women did not care to live near health care facilities because they considered themselves healthier than older women and felt that they did not need those services (Kwambai et al., 2013).

Religion may also be a factor in predicting the utilization rate of prenatal care services (Exavery et al., 2014; & Singh, Kumar, & Pranjali, 2014). For example, a study done in Tanzania showed Muslim women utilized more healthcare facilities at delivery than Christians, however, this study did not provide reasons why this was the case (Exavery et al., 2014). However, Al-Mujtaba and others showed that Muslim women are required by their religion to be accompanied by their husbands when travelling or during examinations with male health care providers (Al-Mujtaba et al., 2016).

Many studies show that higher levels of education had a positive influence on women utilizing maternal services (Budhwani et al., 2015; Hounton et al., 2012; Okwaraji, Webb, &

Edmond, 2015; Pierce, Heaton, & Hoffmann, 2014; Turan et al., 2012; Yao, Murray, & Agadjanian, 2013). Women who had received some formal education were more likely to live closer to health care facilities than uneducated women (Okwaraji et al., 2015). In addition, women having poor knowledge about health was a strong predictor of underutilization of care and increased risky health behaviors (Van Minh et al., 2016). Educated women who have the ability to read also attended more prenatal visits than those who were less educated (Exavery et al., 2014).

In addition, economic dependence on men impacts women's access to care (Al-Mujtaba et al., 2016; Byford-Richardson et al., 2013). In Mozambique, women who were economically dependent on their partners experienced delays in care when their partners were not financially able to pay for care (Munguambe et al., 2016). In other societies, women's lack of autonomy, as well as financial dependence on men, affected health seeking and decisions-making on health matters. For example, Gottlieb reported that about 3.7% of Bedouin-Arab women, who live in south Israel, have limited decision-making capacity when it comes to seeking care, which leads to underutilization of prenatal healthcare (Gottlieb et al., 2011). Gottlieb showed how women had to be accompanied by their husbands during prenatal visits, which restricted women's ability to obtain adequate parental care (Gottlieb et al., 2011).

Other personal characteristics related to empowerment serve as a barrier to accessing prenatal care (Kwambai et al., 2013). A woman's perceptions about healthcare services could negatively influence her tendency to seek health care (Turan et al., 2012). For example, Turan and others showed that women believed health care facilities would not accept them during labor if they had failed to attend prenatal visits (Turan et al., 2012). In another study, pregnant women mentioned that having all care in one location, having family included during the visit, flexible

work schedules for pregnant women, and children's activities provided at the clinic were important components for better access to healthcare (Phillippi, Myers, & Schorn ,2014).

Enabling factors. Women who live in rural areas underutilize prenatal care (Pierce et al., 2014). Poor geographical access to prenatal care and long distances to health facilities were presented as a common barrier to prenatal care access (Al-Mujtaba et al., 2016; Atuoye et al., 2015; Budhwani et al., 2015; De Allegri et al., 2015; Hounton et al., 2012; Kwambai et al., 2013; Nisar et al., 2016; Yao et al., 2013). For example, lack of transportation (De Allegri et al., 2015; Nisar et al., 2016) and road conditions during the rainy season made reaching care on time impossible for women in certain countries (Atuoye et al., 2015; Choulagai et al, 2013; De Allegri et al., 2015; Keya et al, 2013; Kwambai et al., 2013; Munguambe et al, 2016; Nisar et al., 2016; Qureshi et al., 2016; Vallely et al., 2013). In Mozambique and rural Malawi, for example, weather conditions and rainy season sometimes made reaching care in time to give birth impossible (Kumbani et al., 2013; Munguambe et al, 2016) and road conditions were thus identified as deterrents to travel for pregnant women being able to attend a health facility to give birth (Cofie, Barrington, Singh, Sodzi-Tettey, & Akaligaung, 2015; Munguambe et al, 2016; Vallely et al., 2013).

Al-Mujtaba and others conducted a study in north-central Nigeria, which showed that because of community stigma, HIV infected women used health care facilities that were far from their own community, where no one knew them (Al-Mujtaba et al., 2016). The location of residence (rural or urban) thus plays an important role in accessing prenatal care. Budhwani and Yao's studies reported that Pakistani and rural African women who live near cities described higher quality of prenatal care and sufficient resources, compared to those living in rural areas who encountered poor provision of care (Budhwani et al., 2015; Yao et al.,

2013). Consequently, women in cities had better geographical access to maternal healthcare services (Atuoye et al., 2015; Budhwani et al., 2015; Yao et al., 2013).

In addition, women who live in communities with high levels of utilization of prenatal and postnatal care were more likely to access care than women who lived in areas where prenatal care utilization was lower (Budhwani et al., 2015). This means that the decision of women to seek care may be influenced by people around them. Moreover, women who live in areas where secondary education levels are high were more likely to deliver at facilities than women who lived where secondary education levels are low (Budhwani et al., 2015).

Regarding economic factors, low-income women had less access to prenatal care (Pierce et al., 2014). Women living in households with lack of access to at least one of four basic amenities (energy, water, sanitation, and energy for cooking) were less likely to have access to skilled birth attendants and to experience poorer birth outcomes than women with incomplete secondary education (Van Minh et al., 2016). However, the influence of household amenity access on women's desire to seek skilled birth attendants was not clearly explained in this study (Van Minh et al., 2016). Benova et al. (2014) reported that Egyptian women with limited resources, including household and agricultural assets and low dwelling quality underutilized prenatal care and delivery at a facility; however, a study by Okwaraji, Webb, and Edmond (2015) reported no association between household wealth and travel time to the facility. In addition, three studies illustrated that women in low-income households were less likely to seek prenatal care (Budhwani et al., 2015; Turan et al., 2012; Van Minh et al., 2016).

Many scholars have shown how health insurance coverage and low healthcare costs increased women's access to prenatal care (Phillippi et al., 2014; & Viegas, Noronha, Singh, Rodrigues, & Padmadas., 2012). For example, Nisar and his colleagues reported that for

Pakistani women, treatment fees at private hospitals decreased their tendency to seek maternal healthcare services (Nisar et al., 2016). Nevertheless, low-income women who live in rural Ghana and have free maternal care still encountered financial constraints related to referral or emergency situations, which require, for instance, transportation costs (Ganle, Parker, Fitzpatrick, & Otupiri, 2014). A study conducted in Burkina Faso showed that women who have community health insurance schemes (plan) were more likely to utilize health care services because this insurance covered all financial expenses related to maternity services (Hounton et al., 2012).

Distance was a major issue related to accessing care experienced by rural pregnant women in Tanzania and Uganda (Adjiwanou & LeGrand ,2014; Choulagai et al, 2013; Cofie et al, 2015; Keya et al, 2014; Qureshi et al., 2016; Vallely et al., 2013). In one study, Adjiwanou and LeGrand (2014), reported that healthcare facilities were located far away from women's area of residency, which impeded their use of skilled health personnel at birth. In Ghana, the lack of a healthcare facility within a village was one reason that led mothers to deliver at home (Cofie et al, 2015). Kumbani and others discovered that when rural Malawian women experienced labor at night, it was impossible for them to reach a facility because of safety reasons, especially if there was no male to travel with them (Kumbani et al., 2013). Women in some studies reported preferring not to use healthcare facilities because of the costs associated with traveling to the healthcare facility (Cofie et al, 2015; Munguambe et al, 2016; Vallely et al., 2013).

The need for care factors. Bernardes and others found that the need for care including previous pregnancy loss, previous preterm birth, hypertension before and after pregnancy, maternal smoking during pregnancy, and maternal consumption of alcohol during pregnancy were factors that led women to use healthcare facilities (Bernardes et al., 2016). Multi-gravidous

women though had less tendency to access prenatal healthcare because they felt they had previous experience with pregnancy (Anderson, 2014; Bernardes et al., 2106; Chiavarini et al., 2016; Exavery et al., 2014; Kusuma, Kumari, & Kaushal, 2013; & Nisar et al., 2016). Nisar and others reported that Pakistani women who did not experience major health problems or did not have experience with prenatal care in previous pregnancies were less likely to visit public or private care facilities during pregnancy (Nisar et al., 2016). In addition, multiparous women underutilized maternal services (Budhwani et al., 2015; Kwambai et al., 2013; Turan et al., 2012).

Faster childbirth in multiparous women or having had an uncomplicated first delivery might explain why some multiparous women deliver at home (Budhwani et al., 2015; Kwambai et al., 2013; Turan et al., 2012). Women who were HIV infected showed an associated need for healthcare services (Al-Mujtaba et al., 2016; Byford-Richardson et al., 2013; Turan et al., 2012). Finally, women with pregnancy complications were more likely to access prenatal care and to delivery at a health facility (Turan et al., 2012). Much of this literature is consistent with other studies conducted in Saudi Arabia that identify similar obstacles that Saudi women face when seeking healthcare in general and prenatal care specifically.

Health Delivery System Characteristics

In summary, the health delivery system factors that impede women's access to prenatal care as indicated in the literature include hours of operation (Exavery et al, 2014; Nisar et al., 2016; & Phillippi et al., 2014), quality of care, staff attitude (Exavery et al, 2014; Feinstein et al., 2103 & Phillippi et al., 2014), healthcare provider characteristics, availability of resources and equipment (Bradley et al., 2012; & Feinstein et al., 2103) and facility reputation (Feinstein et al., 2103).

Health care provider characteristics that serve as barriers to accessing prenatal care include unfriendly treatment from health care providers such as fear of tough and disrespectful attitudes from nurses (Al-Mujtaba et al., 2016; Byford-Richardson et al., 2013; Kwambai et al., 2013). The literature shows that low-income women with limited education were often treated harshly by health care providers (Turan et al., 2012). Conversely, pregnant women preferred healthcare providers who provide compassionate care, are unrushed during visits, and respond to their questions. Women also prefer female healthcare providers because female healthcare providers are seen as more compassionate (Phillippi et al., 2014). One study conducted in North-Central Nigeria by Al-Mujtaba and others indicated that the health care provider's gender and religious affiliation were not considered to be a barrier for women in receiving care, but that healthcare providers' attitude was more so important for women (Al-Mujtaba et al., 2016).

Lack of health care resources and availability of services act as barriers in utilization of prenatal care services. In rural Ghana, people failed to follow up with referrals because of the absence of an ambulance service (Atuoye et al., 2015). In Pakistan both rural and urban women reported they did not follow up with prenatal care visits because of lack of staff and services, and limited hours of operation at public health facilities (Nisar et al., 2016).

The clinic services were another influence that affected utilization of maternal healthcare including provision of the type of care that pregnant women actually needed, availability of appointments, atmosphere of the clinic and feeling welcomed by the staff, and short wait times (Phillippi et al., 2014). Health care providers presence was important in determining pregnant women's access to care (Phillippi et al., 2014). For example, midwives who worked in healthcare facilities in rural Ghana mentioned that a lower number of midwives affected management of deliveries, which led women to become unwilling to seek care at the facility

(Ganle et al., 2014). Bedouin –Arab women and immigrant women were discouraged from accessing prenatal care because they were unsatisfied with the care provided as there were language and communication barriers with healthcare providers (Gottlieb et al., 2011). Additionally, rural women in Ghana spoke of overcrowding in maternity wards, delay and insufficient care, lack of referral and mistrust in the healthcare system as factors that led them to be dissatisfied and to not seek care (Ganle et al., 2014). Lack of a booking system at healthcare facilities also prevented women from making appointments, leading to overcrowding of pregnant women at the clinic (Ganle et al., 2014).

Monitoring and Prevention Initiatives

In this section, I will discuss how the safe motherhood initiative (SMI), the Millennium Development Goals **(**MDGs), and Sustainable Developmental Goals (SDGs) address maternal and infant mortality and explain healthcare sector strategies for implementing the SMI initiative in different countries as well as improvements that have been reported in Arab countries following the establishment of the MDGs. Finally, I will explain how Saudi Arabia is achieving these initiatives.

The Safe Motherhood Initiative

The year 2018 will mark 31 years since the launch of the SMI in 1987, which attracted global attention to the issues of maternal and infant mortality (Family Care International [FCI], 2007). The primary goal of the SMI was to reduce the burden of maternal death and poor health in developing countries (FCI, 2007). Maternal death is defined as the death of a woman while pregnant or within 42 days of the end of pregnancy (WHO, 2004). After establishing initial policies, many improvements have been reported in reduction of both maternal and infant death rate. However, half a million women are still dying annually around the world from preventable

causes related to pregnancy, childbirth, and postpartum causes related to pregnancy and morbidity (illness and health complications) (Guerra-Reyes, 2013). Additionally, many women suffer from long term disabilities and illness resulting from unsafe birthing practices and uncontrolled chronic health conditions during pregnancy (Hill et al., 2007).

The Safe Motherhood Conference was held in Nairobi, Kenya in February 1987 (Smith & Shiffman, 2016). The SMI is the first global initiative that aims to intensify policy intervention around maternal mortality reduction (Smith & Shiffman, 2016). This initiative intends to mobilize stakeholders to address disparities in infant and maternal morbidity and mortality. In late 1987, the Safe Motherhood Inter-Agency Group (IAG) was established to accomplish the SMI (the Institute of Development Studies [IDS], 2017). IAG is a partnership of international and national agencies that seek to increase global awareness about safe motherhood, establish goals and priorities for the SMI, encourage research, support national programs, mobilize resources, offer technical support, and share information to promote safe pregnancy and childbirth (IDS, 2017). However, SMI components include prenatal care, nutrition, family planning, personal hygiene during pregnancy, basic obstetric care, emergency care, postpartum care, post abortion care, prevention of sexual transmitted infections, prevention of mother to child transmission of HIV, breastfeeding, and child care (Bale, Stoll, & Lucas, 2003; Smith & Shiffman, 2016; Taylor, 2014). Unfortunately, a few years after launching this initiative, little progress in the reduction of maternal deaths has been reported because stakeholders have failed to address the external forces structuring the maternal mortality issue (Gruskin et al., 2008). Since 1990, the percentage of women attending prenatal care in developing countries has increased by 20 percent, and about 50 percent of women attend at least four prenatal visits (as is recommended) (FCI, 2007).

After the Nairobi conference in 1987, multiple regional and national meetings were held in Africa, Asia, and the Arab region in an effort to understand poor maternal health outcomes and to develop strategies to enable national policy makers, healthcare providers, and non-governmental organizations to address these issues (FCI, 2007). Many feminist scholars, in conjunction with women's rights activists, sought to enhance worldwide awareness that SMI must recognize and address a woman's health within the social, economic, and cultural context of her life in order to improve maternal and child health (Gruskin et al., 2008).

In 1994 and 1995, women's health and human rights movements made efforts in guiding Cairo and Beijing international consensus documents. Their primary focus was the lack of women's autonomy and ability to make decisions about their health or lives, including their ability to practice human rights (Gruskin et al., 2008). After considering social determinants of health and developing national strategies and programs that align with the SMI, many governments witnessed progress in various key indicators, including an increase in the percentage of women receiving prenatal care, and births attended by a skilled birth attendant (FCI, 2007; WHO, 2007).

Promoting safe pregnancy and childbirth in developing countries has been a goal for many international organizations since the establishment of the SMI with the partnership of the World Bank, UNICEF, WHO, UNFPA, UNDP, IPPF and Population Council (AbouZahr, 2003). Since the start of the SMI, there has been significant improvement in promoting maternal health. This progress has been achieved through different strategies that have evolved over time as a result of changes in population needs and the nature of the problem (AbouZahr, 2003). Maternal mortality has been successfully reduced when multiple interventions integrate

and target multiple issues and factors. Interventions are most effective at both community and organizational levels.

Community level interventions. Several interventions at the community level focus on Traditional Birth Attendants (TBAs). In low-income countries that lack healthcare infrastructure and access to care for the population, a focus on TBAs was the first intervention in the prevention of maternal mortality (Ray & Salihu, 2004; Sarmento, 2014). Early intervention designs trained TBAs that worked with underserved women to provide hygienic delivery, life-saving care, medical equipment, skills, and knowledge that helped TBAs perform safe deliveries for women in their homes, as well as to identify high risk pregnancies and refer those cases to healthcare facilities (Bergström & Goodburn, 2001; Ray & Salihu, 2004; Sarmento, 2014). This intervention has been implemented in different geographic regions. Collaboration between trained TBAs and healthcare staff help to save on the cost of care and contribute to reducing neonatal deaths related to sepsis (Guerra-Reyes, 2013).

Later, the TBA project became difficult to monitor and maintain and did not show any significant reduction in maternal mortality (Guerra-Reyes, 2013; Ray & Salihu, 2004). Researchers raised many concerns related to this intervention, including lack of consistent training and improper use of medical equipment and knowledge (Guerra-Reyes, 2013). After that, interventions at the community level focused on providing a continuum of care in the service delivery for mothers and children, from pre-pregnancy to delivery, including education and disseminating information and knowledge to the community about maternal death prevention through delivery at a healthcare facility by a healthcare professional (Guerra-Reyes, 2013; Mushi, Mpembeni, & Jahn, 2010; Portela & Santarelli, 2003). These interventions improved communities' and women's access to knowledge which assisted in making healthy

decisions and change behaviors (Mushi et al., 2010). These health education interventions also increased women's, families', and communities' knowledge about women's sexual reproductive rights (Guerra-Reyes, 2013; Portela & Santarelli, 2003). In addition, these interventions promoted social support between women, men, community members and healthcare professionals (Guerra-Reyes, 2013; Portela & Santarelli, 2003).

Healthcare system level interventions. A few interventions and changes have targeted healthcare systems, but the most replicable and effective approach to influence maternal mortality has been the application of the Maternal Death Review (MDR) at a district hospital in Senegal that provides primary care and maternity referral services (Dumont et al., 2006; Guerra-Reyes, 2013). The MDR is a qualitative, in-depth evaluation of the factors and circumstances leading to maternal death in specific healthcare facilities (International Federation of Gynecology and Obstetrics [IFGO], 2013). This type of interview is easy to apply in facilities and does not require any external expertise (IFGO, 2013). The MDR has been used to improve maternal health and avoid preventable maternal deaths. The application of the MDR approach in Senegal showed positive changes in the hospital structure that, in turn, improved life- saving interventions at a lower cost and reduced maternal mortality (Dumont et al., 2006; Guerra-Reyes, 2013). Additionally, the MDR has shown significant decreases in maternal deaths related to hemorrhage and hypertension, within three-year intervention periods specifically (Dumont et al., 2006). However, the authors suggest that more evidence is needed to measure the effectiveness of this approach based on different hospital types (Dumont et al., 2006; Guerra-Reyes, 2013).

Policy level interventions. There are three large partnership initiatives that include policy level planning in different countries. The first partnership is the Skilled Attendance for Everyone (SAFE) toolkit that strives to develop strategies to increase the proportion of deliveries

with skilled attendance in low-income countries (Bell et al., 2003; Guerra-Reyes, 2013). This project seeks to improve maternal and prenatal outcomes, particularly for poor women in developing countries. Some developing countries have applied this intervention, including Bangladesh, Malawi, Ghana, Egypt, Jordan and Mexico (Bell et al., 2003). The SAFE toolkit provides new knowledge on the determination, establishment, and evaluation of effective, affordable, and equitable strategies to improve skilled attendance at delivery in developing countries (Hussein et al., 2004).

The second partnership is the International Federation of Obstetricians and Gynecologists (IFOG) initiative to mobilize the obstetric/gynecological community to help women obtain skilled attendance at birth (WHO, 2004). This initiative started in 1997 and targeted different countries with high maternal mortality rates: Pakistan, Central America (Guatemala, Honduras, Nicaragua and El Salvador), Uganda, Mozambique, and Ethiopia (Benagiano & Thomas, 2003). The initiative focused on accomplishing four goals: attendance of skilled personnel for all women during pregnancy and delivery, availability of emergency obstetric care, accessibility of comprehensive obstetric care services in the area, and rapid transfer of women when needed (Benagiano & Thomas, 2003). Each of these countries assessed their needs, and then developed interventions and activities to address their deficiencies. All interventions and activities developed were low cost, replicable, and sustainable without international assistance (Benagiano & Thomas, 2003). This initiative allowed for the provision of training for traditional specialists and connected them with healthcare services.

The Averting Maternal Death and Disability (AMDD) initiative was developed at Columbia University and introduced a framework explaining social and organizational factors that influence maternal death and provided strategies to address them (Columbia University

Mailman School of Public Health [CU MSPH], 2017). This initiative allowed for the conduct of research and policy analysis to identify obstetric emergencies and advocated solutions to reduce maternal and infant mortality (CU MSPH, 2017). The three Delay Model is the foundation of AMDD interventions (Calvello, Skog, Tenner, & Wallis, 2015). It provides three primary reasons for delay in seeking healthcare services during obstetric emergency. First, the inability to seek care could be related to lack of recognition of complications or social and cultural barriers (Calvello et al., 2015). Second inability to attain healthcare could result from poor road conditions or lack of transportation (Calvello et al., 2015). Third, inability to seek effective healthcare could be related to poor quality of care, unskilled personnel, and lack of equipment (Calvello et al., 2015).

Since 1999, the AMDD has worked with partners from many funding and research agencies and international Non-Governmental Organizations (NGOs) to implement interventions in more than 50 countries in Asia, Africa, and Latin America (CU MSPH, 2017). For example, AMDD partners with CARE (an international humanitarian organization) to establish a project in the northern provinces of Ayacucho, Peru to improve access and utilization of emergency obstetric care (EmOC) (CU MSPH, 2017). This project worked with five healthcare facilities and provided them with comprehensive packages of strategies and interventions that helped enhance capacity and quality of emergency obstetrical services and promoted human rights approaches to healthcare (Otolorin, Gomez, Currie, Thapa, & Dao, 2015). Major program interventions involve strengthening infrastructure, improving human resource capacities through training, promoting protocol and service standards, advancing the quality of care, and strengthening a right based approach to healthcare (Kayongo et al., 2006; Otolorin et al., 2015). This intervention was increased rate of need meeting in EmOC from 30%

in 2000 to 84% in 2004, and the target hospitals were able to provide 24/7 care for women (Kayongo et al., 2006).

The Millennium Development Goals in the Arab Region

In September 2000, world leaders of 189 countries gathered at the United Nations to develop a global vision to eradicate poverty (Van Minh et al., 2016). Their vision translated to the eight MDGs; They (including Arab region and its sub-regions) signed a declaration that revealed a commitment to tackling the injustice and inequality in their nations: poverty, illiteracy, and ill-health. Two of these goals targeted improvement in maternal health and reducing child mortality (UNICEF, 2013). In 2015, the final MDGs reported that the 15-year efforts successfully produced greater access to health services, as well as improvement in maternal and child health (UNICEF, 2013).

The Arab region and its sub-regions incorporate Mashreq and Maghreb countries, countries of the Cooperation Council for the Arab States of the Gulf (GCC), and the least developed countries (LDCs) (UNICEF, 2013). From 1990 to 2011, the region's infant mortality rate dropped approximately 34 percent, but in LDCs the rate was only reduced by 13 percent (UNICEF, 2013). In the Arab region, from 1999 to 2011 neonatal mortality rates, including deaths within the first month after birth, fell from approximately 29 per 1,000 live births to 21 per 1,000 live births (UNICEF, 2013). Notably, this 27 percent decline in the number of neonatal deaths is less than the 34 percent decline in numbers of infant deaths (UNICEF, 2013). This indicates that the percentage of deaths during the first month is increasing in these regions. Neonatal mortality is associated with preterm birth complications, as well as complications during birth.

The achievements in reducing the maternal mortality rate in the Arab region are uneven. Between 1990 and 2010, GCC countries have halved the number of deaths to 15 deaths per 100,000 live births in 2010 (UNICEF, 2013). Mashreq and Maghreb sub-regions reduced the ratio of deaths by more than 60 percent (UNICEF, 2013). Remarkably, in LDCs between 1990 to 2010, the maternal mortality rate declined from 820 to 676 deaths per 100,000 live births (UNICEF, 2013). Three areas witnessed slower progress in reduction of the maternal mortality rate between 2000-2010 compared to the 1990s (UNICEF, 2013) including the GCC, Maghreb, and Mashreq countries. Several determinants impede reduction of the maternal mortality ratio, including lack of access to health care and poor quality of care. Eighty percent of maternal deaths could be avoided if women had adequate access to maternal services and other health care services.

Most Arab countries have achieved progress in increasing the number of births delivered by skilled health personnel to more than two thirds (UNICEF, 2013). One exception is LDCs, where just one in three births were attended by skilled health personnel (UNICEF, 2013). Again, with the exception of LDCs, prenatal care coverage across the region has also expanded, particularly in GCC countries, where women enjoy universal access to prenatal care (UNICEF, 2013). Prenatal care is a vital source for women to receive adequate information, intervention, and care that prevent complications during and after birth, as well as promote health and well-being of both mothers and infants (UNICEF, 2013). In Arab regions, the percentage of women who attended a prenatal visit once has increased from 53 to 70 percent (UNICEF, 2013).

However, as coverage of prenatal care improves, and the number of births attended by skilled health personnel increases, Arab regions still have wide disparities between the richest and poorest households (UNICEF, 2013). Across the region, except in Yemen, the richest

quintile has universal coverage, while the poorest quintile and rural areas have only limited access to health care services (UNICEF, 2013). For example, in Egypt, around 55 percent of births are attended by skilled health personnel in the poorest households, far less than the percentage of the richest households, which is at 97 percent (UNICEF, 2013). On the other hand, most sub-regions' countries, with the exception of LDCs and Mashreq countries, have lower numbers of teenage pregnancies, because childbearing at this age encompasses higher health risks that put both mother and infant in danger (UNICEF, 2013).

Saudi Arabia's Progress in Maternal and Child Health After Establishing Initiatives

In 1990, Saudi Arabia's government introduced and strengthened programs that established comprehensive primary healthcare centers. Many of these centers offered maternal and child health services (Baldo, Khoja, Al-Mazrou, Basuliman, & Aziz, 2000). Introducing MCH programs targeted improvement of reproductive health and safe motherhood, baby friendly hospitals, women's health, control of chronic diseases, development of a district health system, and reinforcement of a referral system for mothers and children (Baldo et al., 2000). Much has been accomplished to make motherhood safer. Maternal, child, and infant mortality rates have been reduced, maternal and child healthcare services have been expanded, and prenatal care and rates of delivery at healthcare facilities have increased (WHO, 1999). As an example of an adopted SMI intervention, the Ministry of Health of Saudi Arabia has adopted the safe motherhood package (Al-Mazrou, Farag, Baldo, al-Shehri, & al-Jefry, 1995). This package is a low-cost intervention for any hospital because it does not require complicated equipment, expensive drugs, or additional resources (WHO,1994). However, documentation of SMI achievements in both Saudi Arabia and the Arab States of the Persian Gulf countries remains scarce, perhaps because SMI goals were integrated into the MDGs and the SDGs.

Saudi Arabia has endorsed several international agreements and summits, including the MDGs, SDGs, and SMI. In recent years, Saudi Arabia has improved women's status and the well-being of mothers and newborns through these initiatives. The following section provides a brief description of these initiatives and the progress that has been made in Saudi Arabia.

Saudi Arabia's national program in line with the MDGs, has made little progress in improving maternal health, but Saudi Arabians continue to work to achieve the targets of the SDGs to accelerate progress made through the MDGs. The SDGs replaced the MDGs framework when it expired in 2015. The SDGs framework sets 17 universal goals and 169 targets. All goals are interrelated, but each was assigned specific targets to be met by 2030. The SDGs aim to facilitate broad healthy lives at all ages and address quality of education, climate change, gender equality, and economic development.

The fifth goal of the SDGs is gender equality and empowerment of all women and girls. The framework is outlined through six targets within this goal: eradicate all forms of discrimination, all forms of violence, acknowledge the value of unpaid care and domestic work, provide full and effective participation as well as equal opportunities in administration, and finally enable universal access to sexual and reproductive health and reproductive rights. Women face discrimination in all public and private fields. In fact, current discussions about discrimination and improving equal treatment by no means guarantee that inequalities will be addressed or reduced. Inequality is not an individual issue but rather a structural problem that requires collaborative efforts at governmental and social levels to facilitate social transformation.

The Saudi government aligned the Vision 2030 and the 2020 National Transformation Program with SDGs to set the country on a path of sustainable environmental and socio-economic growth. One of the goals of this vision is to increase women's workforce participation

from 22% to 30%. The government took a first positive step to empower women by issuing mandatory national identity cards. These national identity cards allow women to identify themselves and reduce the power of guardianship laws mandating that women, regardless of socioeconomic status, must be accompanied by a male guardian when accessing public resources. Before ID cards were issued, women were required to present a male family member to identify them. ID cards enable women to more easily function in society. Without ID cards, women were not able to travel, seek education or employment, or open a bank account without accompaniment or written permission from a male guardian.

Gender discrimination predisposes women to deeper disparities. The Saudi government has worked to eliminate discriminatory laws, policies and conditions by promoting appropriate legislation that empowers women and reduces gender inequality in all spheres. For instance, in January 2013, Saudi women joined the national Consultative Assembly. In 2015, the Saudi government granted women the ability to run for office in municipal elections. In addition, the Saudi Ministry of Education announced it would offer physical education classes in schools to both boys and girls. Finally, a royal decree, which takes effect in June 2018, declared that women were legally allowed to drive vehicles.

Trends in maternal mortality in Saudi Arabia. The WHO (2015) reported that, in 2015, 98% of mothers obtained prenatal care coverage (at least one visit) in Saudi Arabia (WHO, 2015). This statistic includes visits to a skilled provider (physician, nurse and/or midwife) (WHO, 2015). Additionally, 97% of births were attended by skilled health personnel (a physician, nurse and/or midwife) (WHO, 2015). The following chart shows the reduction in maternal deaths in Saudi Arabia from 1990 to 2015 (See figure 4).

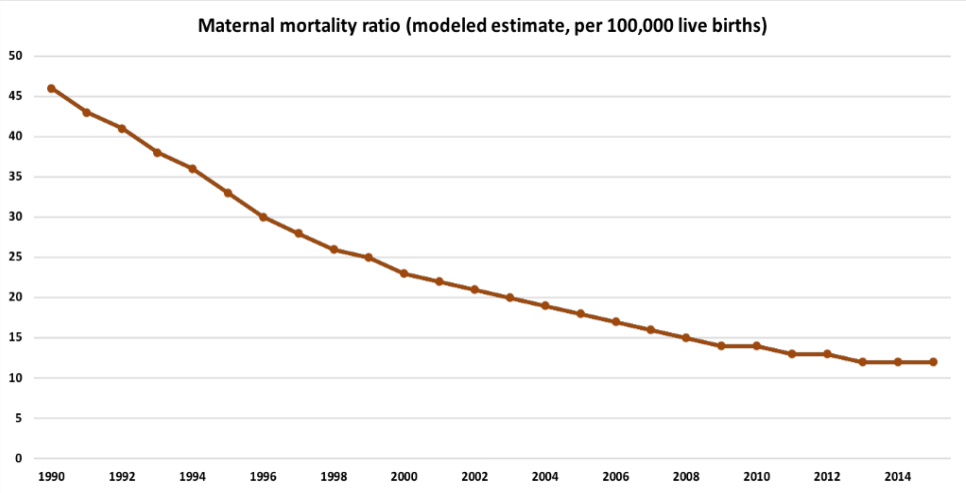

Figure 4. Trends in maternal mortality:1990 to 2015. Adapted from maternal mortality ratio (modeled estimate, per 100,000 live births) by World Health Organization. 2018, Retrieved from https://data.worldbank.org/ indicator/SH. STA.MMRT?locations=SA. Cop

Philosophical Framework

Saudi Arabia has been able to harness wealth amassed from oil production to provide benefits and free services, including education and healthcare, for all citizens (Albishi, 2004). Additionally, the government has implemented key international instruments, such as the Safe Motherhood Initiative and the Millennium Development Goals for decades to help improve maternal and child health and to empower women in the region (United Nations Children's Fund [UNCF], 2013; WHO, 1999). While the government has made progress in achieving some targets of the MDGs, challenges remain, including improvement of rural healthcare services and gender equality (Alshuwaikhat & Mohammed, 2017). Previous programmatic MDGs strategies have largely failed to engage in a rigorous analysis of why some of the targets have not been met (United Nations [UN], 2015), particularly for rural women living on the economic and social margins of society.

The root causes of disparities in maternal healthcare across the nation must be understood. In particular, how gender and socioeconomic status influence societal practices,

policy formulation and the design and delivery of maternal healthcare services must be further studied. This study employed postcolonial feminism, to better understand the broader issues surrounding rural prenatal care access and barriers that prevent rural Saudi women from obtaining quality care during pregnancy.

Application of Feminism in Nursing Science

The nursing sciences have evolved by including constructivist aspects through analysis of a situation from a biomedical view (Mosqueda-díaz, Vílchez-barboza, Valenzuela-suazo, & Sanhueza-alvarado, 2014). Currently, the influence of varied philosophical theories on nursing has led to more complex views better able to tackle health challenges. Critical theory is an umbrella term covering different theories, including feminism (Ritchie, Lewis, Nicholls, McNaughton, Ormiston, 2014). Current critical theory applies discourses of equity, inclusion, and social justice known and suited for feminist agendas (Denzin & Lincoln, 2011). Critical theory has contributed to the nursing discipline by allowing nursing professionals or scholars to consider aspects of a socio-cultural context while caring for a patient or conducting a study (Mohammed & Hudson-Barr, 2006). This way of thinking encourages nurses to recognize social inequalities related to health and alter the status quo through innovative applications of knowledge in order to contribute to a more just society (Mosqueda-díaz et al., 2014).

In using critical theory, nurses can develop effective solutions that eliminate inequities (Mohammed & Hudson-Barr, 2006) and facilitate dialogue about the daily experiences of women, create a forum where marginalized women's voices can be heard and to increase women's participation in their healthcare (Mosqueda-díaz et al., 2014). A democratic vision of knowledge through understanding of prenatal care access for women will emancipate and liberate. Applying this vision to day to day activities will facilitate greater care quality and

access, as well as optimize rural pregnant women's well-being. Additionally, this way of thinking assists in the investigation and resolution of potential discriminatory practices not only within healthcare system, but also in social and public policy (Mosqueda-díaz et al., 2014)

Critical theory provides a conceptual structure with which practitioners can investigate the fundamental causes of any situation. Many nursing scholars employ feminist theory as a critical theory, specifically to address different aspects of women's health. For instance, Mkandawire-Valhmu (2010) used a critical ethnographic approach to study female domestic workers in Malawi and to analyze their experiences with violence. Her study demonstrated that gender as well as race and class inequalities predisposed women to violence (Mkandawire-Valhmu, 2010).

A feminist perspective helps to explain how formal institutions like the healthcare system reinforce and reproduce structural inequality that prevents social change (Green, 2012). "Feminist research is political in standpoint, gendered in focus, reflexive in process and transformative in outcome." (Green, 2012, p. 2). Applying a postcolonial feminist framework in this research enables us as researchers to analyze relationship dynamics that acknowledge the significance of institutional and social power structures.

Generally, research within the critical paradigm seeks change. This paradigm utilizes different research methodologies within a form of participatory action research (Gillis & Jackson, 2002). Within the critical paradigm, research hopes to raise awareness, promote partnership, and develop policy (Wuest, 1994). Nursing researchers are empowered when research facilitates change at the macro-level that influences not only individual long-term health, but also the long-term health of populations (Jackson, 2015).

One important nursing paradigm is the critical paradigm, which focuses on social struggles, domination, and institutions in order to develop a more equal society (Gillis & Jackson, 2002). The reduction of oppression within society is the primary goal of this paradigm. The critical paradigm argues that knowledge is shaped by the society from which it arises (Wuest, 1994). Therefore, knowledge is not an objective fact, but instead a product of social values and effects. It is not adequate to addresses power inequalities in society without acting to change the status quo (Wuest, 1994).

The critical paradigm aligns with the nursing profession, which emphasizes fostering justice through justifiable nursing care and distribution of resources. Many nurses aim to manage patients' health problems by changing patients' beliefs (Jackson, 2015). As a result, they may overlook external factors that impact a patient's behaviors and health (Jackson, 2015). For example, a pregnant woman may not regularly or adequately seek prenatal care, contributing to poor pregnancy outcomes. However, if that women lives in poverty and cannot afford transportation, her inability to attend prenatal care reflects necessity rather than preference. This difference is contextually significant, as nursing must look beyond directly caring for a patient and dedicate attention to reducing the harm to an individual caused by social and contextual realities. Nursing recognizes the broader effects of societal and political factors and considers best practices with respect to these determinants. Advocacy is key to nursing practice and originates from an understanding of a patient's environment and its influence. When nurses acknowledge macro-level determinants that influence health, patients are emancipated from the responsibility for health problems attributed to the individual (Jackson, 2015).

Postcolonial Feminist Theory

Facilitating prenatal care access by removing vulnerability and uncertainty from those seeking care is essential to maximizing individual functioning and achievements (Papadimos, 2007; Ruger, 2007). In this study, a feminist perspective will be applied to explore the challenges experienced by Saudi women in seeking prenatal care in rural areas. A feminist perspective focuses on understanding gender inequality in relation to class, education, healthcare policies, and other factors, which interact and result in a lack of access to prenatal care (Rodgers, 2005). Feminist theory presents a woman–centered view as an alternative to male-centered philosophical, social and cultural traditions (Rodgers, 2005).

A postcolonial feminist theory was developed as a response to the notion that feminism is focused primarily on Western women. A postcolonial feminist lens thus includes the perspectives of indigenous women and women of color. Postcolonial feminist theory contests the work of earlier Western feminist scholars' assumptions and dominant discourses related to the experiences of women of color. Feminist writers like Chandra Talpade Mohanty and Gayatri Spivak have criticized western feminists universalizing of the experiences of women of color and contest the idea of a 'Universal Sisterhood' that focuses on gender roles without analyzing how gender intersects with other categories such as class, race and ability (Vanner, 2015). Analyzing the experiences of "women of color" in the way Western feminist scholars have historically done produces knowledge that is problematic because it overlooks the contextual factors that influence the realities of women (Mohanty, 1988). In addition, postcolonial feminism highlights the impact of a colonial legacy (Young, 2003). Mohanty argues that "women of color" suffer from double colonization, first as a colonized subject and second, by being a woman under patriarchy (Mohanty, 1988). As a postcolonial feminist scholar, Mohanty is particularly concerned about

depictions of women of color or "postcolonial women" as uneducated, poor, ignorant, domesticated, victimized, family-oriented, and tradition-bound (Mohanty, 1988). She argues that these are negative representations obscure attention to history and political factors that also impact women's lives (Mohanty, 1988). Postcolonial feminists thus critique the homogenization of women among and within populations of women.

Western feminism's ethnocentric ideas and absence of attention to does a disservice to the analysis of women's issues. The assumption of universality in analyzing the experiences of women has frequently been criticized for its emphasis on gender in analyzing women's experiences while obscuring the influence of other categories such as race, nationality and other structural factors that construct the experiences of women. (Mohanty, 1988). Postcolonial feminism thus challenges traditional Western feminist discourse that universalizes women's experiences, particularly in the global south without acknowledging the heterogeneity of women across race, class and ethnic lines (Mohanty, 1988). Ultimately, postcolonial feminist theory seeks to examine the influence of historical, sociocultural, political, and economic factors that shape women's experiences.

In order to understand rural Saudi women's experiences with prenatal care, postcolonial feminist theory is useful in helping to analyze the intersection of multiple social and cultural factors that shape women's prenatal care experiences. Exploring the contexts in which women live their lives and access prenatal care helps us get to the root of existing health disparities and differential access to resources (Khan et al., 2007). Applying postcolonial feminist theory also leads to the creation of transformative and emancipatory knowledge that allows for the decolonizing of the research process by deconstructing the power embedded in traditional research approaches and deliberately centering the voices of marginalized women participating

in this study (Denzin, Lincoln, & Smith, 2008). Women who are at the center of an issue have information and ideas that can lead to transforming their experience for the better (Khan et al., 2007).

Grounding this research in postcolonial feminist theory is instrumental in shaping an inquiry that respects the cultural context in which women live their lives without judgment and without engaging in a comparative analysis with western based women (read: White women). Postcolonial feminist theory encourages dialogue on issues of women's health as they occur within the cultural context in which women find themselves. Rather than viewing the interactions between Saudi men and women through the lens of Western gender dynamics, postcolonial feminist theory allows us to contextualize the ways Saudi women and men engage with one another as they navigate their realities based on evolving cultural traditions, family systems, and legal infrastructures.

Conclusion

Decreasing maternal morbidity and mortality is a major goal of the health care system globally. Many developing and developed countries are trying to provide full prenatal access and to identify the barriers that limit women's access to adequate maternal services in both rural and urban areas. However, previous evidence has shown that marginalized populations living in rural areas are more likely to have less quality of prenatal care and lack of resources and are less likely to seek it. In addition, women face several barriers in accessing prenatal care including spatial factors, such as geography, and non-spatial factors related to population characteristics and health care system characteristics. Thus, inequities in access to prenatal care in rural areas elevates the ratio of maternal morbidity and mortality.

This chapter provided a comprehensive presentation of women's societal roles in Saudi

Arabia and commonly documented decision-making processes concerning reproductive health behavior and its relationship to gender structure. Gender structure in Saudi culture continues to negatively influence women's health status, increasing high-risk pregnancies and complications during pregnancy and birth. Women's lack of autonomy in decision-making, unequal gender roles and positions, and gender inequality in general all serve as barriers to women seeking prenatal care in rural areas.

Postcolonial feminist theory will be used to uncover the realities of women's access to prenatal care, as well as societal outcomes resulting from women's lack of access to healthcare. This information will help promote change in rural women's lives. Additionally, this research will integrate postcolonial feminist theory to privilege women's voices and to garner their thoughts on the effect of gender roles on access to healthcare and other barriers.

CHAPTER III. METHODOLOGY

Introduction

This study employed an exploratory, qualitative method using a critical ethnographic design. In this section, I will discuss the study's research methodology and provide important information pertaining to the rationale for employing qualitative inquiry. I will also discuss why I elected to focus on critical ethnography as an appropriate method in guiding data collection. Next, I will provide a clear description about the study's research setting, sampling strategy, research design, data collection and analysis methods, ethical considerations, trustworthiness issues, and finally limitations.

Rationale for Qualitative Research Design

When explaining the epistemological issues pertaining to qualitative methods, it is important to consider how and why this current investigation lends itself to a qualitative approach. Realism and constructivism are both epistemological approaches within social research (Bloomberg & Volpe, 2008). The constructivist approach emphasizes understanding and interpreting the individual or group experiences within a specific context at a specific point in time (Bloomberg & Volpe, 2008). Qualitative research is form of inquiry that provides in depth and detailed interpretations of complex phenomena grounded in participants' experience and circumstances expressed by their language and behavior in their natural setting (Ritchie, et al., 2014). By employing qualitative inquiry, researchers can uncover beliefs, values, feelings, and perspectives that would not be captured through a quantitative method that relies upon testing a hypothesis and identifying the relationship between variables.

A qualitative approach provides in depth, rich information to most adequately address the research purpose and questions. In addition, findings from this approach can initiate the tracking

and investigation of unexpected or new events to develop testable theories or hypotheses, specifically in areas which have never been investigated (Polit & Beck, 2012). As stated in the background section, there is a lack of evidence describing access to prenatal care in rural areas of Saudi Arabia, which made it difficult for this researcher to develop a measurement tool that was culturally appropriate without conducting interviews with participants. Thus, gaining an understanding of this phenomenon from the perspective of participants provided a platform that could assist in developing instruments for quantitative research purposes.

One of the core values of qualitative inquiry is addressing issues of equity and social justice (Denzin & Lincoln, 2011). Using a postcolonial feminist approach to qualitative inquiry allowed for an understanding of the social world from the rural Saudi women's perspective who live in Faifa and presented an opportunity for advancing social justice and women's right to healthcare generally and prenatal care specifically. A postcolonial feminist framework enabled me to create a space in my writing that allows for the empowerment of women and allows for their voices to be heard, particularly women who have experienced marginalization. Through qualitative inquiry, this was achieved by analyzing women's narratives and using their quotes to support the study findings. I believe that the findings of this study could contribute to improving the everyday lives of women from this population by providing recommendations aimed at supporting meaningful change in both society and in the healthcare system.

Disparities in access to healthcare exist between the rural and urban areas of Saudi Arabia. A postcolonial feminist approach to qualitative inquiry allowed me to analyze, critique, and interpret the processes that create the disparities experienced by participants within a particular setting of daily life (Denzin, 2010). Use of a postcolonial feminist approach constituted an appropriate way to reflect upon and discuss how rural women are systematically

affected by inequities of care, which put them at greater risk for further health disadvantage. This approach also created a platform from which to advocate for women by providing concrete recommendations, based on women's voices, for developing potential health interventions and for informing health and social policy.

Critical Ethnography

Ethnography is considered the oldest form of qualitative inquiry. It allows for narrative descriptions of members, problems or phenomena within a particular cultural group (Ritchie et al., 2014). One advantage of this method is that ethnographers can incorporate different methods into the collection of their data, including observation, interviews, and analysis of documents, in order to gain an understanding of a specific group within the context of culture (Holloway, 2017). Ethnography is unique in that it can uncover the details of a particular group's experiences in great detail. Ethnography allows researchers to expand their understanding of why behaviors (lack of access to prenatal care) occur instead of tallying the frequency of the occurrence. An ethnographic approach relies upon three main methods: descriptive or conventional ethnography, critical ethnography, and auto-ethnography (Patton, 1990). In the discipline of nursing, ethnographic methods have been extensively used to study nursing phenomenon and generate nursing knowledge (Holloway, 2017).

Critical ethnography is guided by critical theory, and its purpose is to reveal social inequities (Thomas, 1993). Critical ethnography enables me to contextualize access to prenatal care and to gain an understanding of the experiences of pregnant women as they seek to access care. It also attempts to restructure the research process in ways that promote the views of rural Saudi women whose voices have not necessarily contributed to the structure of the healthcare system or informed health policy. This approach was used in this study to allow for a deep

understanding of barriers and facilitators of access faced by women in Faifa of Saudi Arabia within the context of broader sociocultural and economic factors. Because critical ethnography inherently explores knowledge with the intent of informing change (Creswell, 1998), this method was used for the purpose of contributing to practice and policy by providing invaluable knowledge to develop policies and programs that promote prenatal care utilization.

The Research Sample

Sampling Method

Non-probability sampling can be used in qualitative research via three different strategies: purposeful, theoretical, and convenience (Ritchie et al., 2014). A purposeful sample is the approach that was applied to this study because it included participants who possess rich and detailed information about aspects and questions that the researcher sought to answer (Ritchie et al., 2014; Sandelowski, 1995). This technique has been extensively applied by many qualitative researchers (Patton, 1990). This sampling method allowed for the procurement of great insights into prenatal care utilization in rural areas by examining the problem from different angles in order to identify common themes across the sample. I also sought to recruit women from different healthcare facilities by employing a snowball sampling strategy, whereby I asked participants to refer other women who met the inclusion criteria to participate in the study.

Participants and Setting

The study participants consisted of Saudi women 18 years or older who lived in the Faifa mountains of the Jazan province of Saudi Arabia and spoke Arabic. The sample size was 30 which was adequate to allow for in depth exploration to demonstrate a wide-ranging understanding of experiences (Sandelowski, 1995).

Saudi women, rather than non-Saudi women, were selected because including different cultures in a single study would not have provided a comprehensive understanding of care utilization within a specific group. Pregnant women and women who had delivered within two years were selected because they were experiencing the phenomenon under investigation and were better able to provide detailed information. The decision to limit the study to the Faifa mountains was based on the unique geographic features of the location that potentially hinder women from utilizing care during pregnancy. Faifa is a mountainous region with limited accessibility to transportation, unpaved roads, and unique weather conditions. In addition, to my knowledge, there are no qualitative studies that have focused on the prenatal care of women in this particular rural area of Saudi Arabia. Because I speak the dialect of the women in the area and am familiar with their cultural norms and values, I was better able to gain participant trust over a short time period and thereby gain, through interviewing, in-depth description of women's experiences. Participants were recruited from Faifa General Hospital and/or primary health care centers.

Research Design Overview

Process for Data Collection

In-depth interviews. Three methods were used to collect data for this study: in-depth interviews (individual interviews), field notes, and observations. A semi-structured interview guide (See appendix A) was used to ask participants questions related to their experiences, and perspectives pertaining to prenatal care access. This guide included probing questions to motivate participants to provide detailed responses. A semi-structured interview guide including open-ended questions is commonly used by healthcare professionals in qualitative, ethnographic studies (Jamshed, 2014; Mkandawire-Valhmu, Rodriguez, Ammar, & Nemoto, 2009). The semi-

structured interview guide (See appendix A) that I developed enabled me to explore the impacts of individual, social, and structural factors that impeded or motivated Saudi women's access to prenatal care in their area. The questions on the interview guide began with simple questions and progressed to complex, more direct questions. These questions were organized into three parts: individual, cultural, and healthcare delivery system related questions that could influence women's access to prenatal care. Following the two initial interviews, I transcribed the interviews and conducted a preliminary analysis in order to make any potentially valuable changes or revisions on the questions of the interview guide for future interviews. Before beginning the interview, demographic data were obtained (See appendix B).

Qualitative research interviewing is a powerful method that has grown more prominent in recent decades because of its ability to examine individuals' public and private lives and understand perspectives that cannot be considered through observation (Patton, 1990; Kvale, 2006). Individual interviews were selected as a method of data collection, rather than focus groups, because they are a powerful approach to generating full description and interpretation of individual experiences in a natural setting that assists in gaining information regarding the phenomena being investigated (Denzin & Lincoln, 2011; Ritchie et al., 2014). The individual interview provided privacy for women giving responses to personal questions that may not be disclosed by participants in a focus group interview. Moreover, individual face to face data collection eliminated peer pressure that could inhibit participant responses in focus group interviews. Active and careful listening, use of humor, illustrating empathy and respect, and cultural sensitivity are critical elements that were adopted to facilitate the full engagement and comfort of participants during the interview (Ritchie et al., 2014).

Audio-recording was typically used to accurately capture interviews. Audio recording allows the researcher to give each participant her full attention during the interview by responding to their questions and by also observing how the interviewees are responding to questions (Ritchie et al., 2014). The capturing of such detailed information is not possible through direct interview transcription (Ritchie et al., 2014). I anticipated that some participants might refuse to have their voice recorded even after providing them with the reasons for recording and assuring them that their confidentiality would be maintained. In the event that a participant did not want to be recorded, first, I offered to use a voice changer application, which alters participants voices and would make them sound like someone else. If they still did not want to be recorded, I employed a female Saudi nurse who was trained to understand issues of confidentiality to document the interview. The transcriber completed the UWM CITI training. The modules in the CITI training provided information on the rules, regulations, and ethical principles governing research involving human subjects. I emphasized to her the importance of transcribing the conversation word for word as much as possible. I also gave her handouts of a guideline in the transcription as well as a sample of an interview transcript. Finally, she only transcribed the questions asked and the answers and did not interact with participants. Each individual interview lasted for one to two hours.

Interview. At the beginning of each interview, I asked important contextual information from the participants such as demographic information. Having this information at the beginning assisted me in how I asked questions throughout the interview session (Ritchie et al., 2014). During the interview, the participant did most of the talking while I sat, calmly listening. During that time, I decided what to follow up on and how to phrase the questions, as well as judging the length of time that should be devoted to any given question, when to move to the next question

or topic, and how to respond if the participant moved on to topics outside the scope of the study. About ten minutes before ending the interview, I gave a signal that the interview would be ending (Ritchie et al., 2014). This approach is recommended because it prompts the participant to discuss anything important that has not been discussed yet and ensures that the participant is not left with unexpressed feelings or issues (Ritchie et al., 2014). Further, I asked the participant for any final thoughts before ending the interview. After the interview, I thanked the participant and explained what would happen next with the data and reporting. Also, during this stage I answered any questions raised by the participant during the interview and gave them my contact information or support services if needed.

Field notes and observation methods. Field notes are another method used by ethnographers during data collection that allows researchers to obtain information about what is seen and heard outside the interview session. In writing field notes, my comments and impressions about the interview dynamics, and the behavioral and non-verbal expressions of participants that were not captured via audiotape recording were recorded (See appendix C) (Patton, 1990; Ritchie et al., 2014). Field notes assisted me in formulating new, specific questions as the interview continued (Patton, 1990; Ritchie et al., 2014). Notetaking is usually accompanied by audio-recording (Patton, 1990). During each interview, I took notes on responses, non-verbal behaviors, the setting, and atmosphere. Field notes offered an opportunity to document what I saw and heard outside the immediate context of the interview, my thoughts about the dynamic of the encounter, ideas for inclusion in later fieldwork and issues that helped increase analytic insight.

The third method of data collection was the observation method, which is one of basic tools employed by ethnographers to understand groups or cultural practices and beliefs (Ritchie

et al., 2014). During observation, researchers immerse themselves within the culture in order to better understand the complexity of how humans experience everyday life, as well as to uncover factors related to the research problem that the researcher may not have been aware of when designing the study (Ritchie et al., 2014). Observation ensures that the data collected through interviews and other methods are well understood, but it will also enable a researcher to develop better questions for interviews that will provide greater breadth and depth of understanding of the phenomenon (Mack, Woodsong, MacQueen, Guest, & Namey, 2005). All my observations during the study were documented in my fieldnotes.

Recruitment. Before conducting this study, I obtained approval from the directors of both Faifa General Hospital and primary healthcare centers to gain access to interview their patients. I sent a letter asking the directors for approval to conduct my study at their facilities. This letter included my contact information and information about the study. I requested that the directors provide me with a suitable time to come and conduct interviews with women. In addition, I requested that the directors provide a private place to conduct the interviews at the healthcare facilities. Finally, this letter requested that the directors sign an attached consent form if they agreed to allow me to conduct the study at their facilities.

After gaining approval to access the Faifa General Hospital and primary healthcare centers, I began recruiting eligible patients from the clinic or the obstetrics/gynecology department or admissions unit by myself without a facility staff assistant to avoid any direct or indirect pressure placed on the women to participate. It was important to ensure that the women did not feel obligated to participate. I planned to use the snowball approach, in which I asked women who had already been interviewed to identify other women they knew who fit the selection criteria. In order to improve sample diversity, I asked these women to identify and refer

women who met the criteria but who were dissimilar from them in a particular way (in terms of education level, marital status, and income level) but to avoid family members or close friends. The Faifa General Hospital and primary healthcare centers were selected as settings for recruitment because they provided me with access to many potential participants. Interviews were conducted within and outside of these healthcare facilities depending on participant preference.

Data Analysis

During the data analysis process, the ethnographer must reduce the amount of data collected to a more manageable size in order to enable him/her to reflect on the experiences of the population being studied (Ritchie et al., 2014). Some issues may arise during the translation process that need to be taken into consideration as data collection was conducted in a language different from the language that is being used to present the findings. Some strategies have been proposed by different researchers, and I utilized them to help minimize these issues. The data must be translated by an individual who possesses an adequate knowledge of both languages and their cultural contexts (Regmi, Naidoo, & Pilkington, 2010). I possessed these skills and I transcribed the interviews into Al-Fayfiyah dialect verbatim before translating them into English. Each transcript was listed with the participant's number, so it could be easily identified while also maintaining confidentiality. Many researchers have recommended that the translator works to retain as much meaning conveyed in the original language as possible (Denzin & Lincoln, 2011). Based on this recommendation, I literally translated each sentence from Al-Fayfiyah dialect to English, except in scenarios where the words in question had no English equivalent or possessed a cultural meaning that would have been lost if directly translated to English. In these cases, the words in question remained in Faifi and an explanation was provided in parenthesis or

in a footnote. These strategies enhanced the quality of the translation and prevented errors during this process, which in turn enhanced the credibility of the study findings.

I used a qualitative data analysis software program (ATLAS.ti) to support the analysis process. Different stages were followed during data analysis, including familiarization, construction of the initial thematic framework, indexing and coding, and data summary (Ritchie et al., 2014). In the familiarization stage, researchers examine and read all the data and identify topics of interest relevant to the research question (Ritchie et al., 2014). The second step - construction of an initial thematic framework - involves organization of the data through the generation of a list of topics, which were reviewed based on the study purposes, and classifying them into relevant themes and subthemes (Ritchie et al., 2014). Third, the researcher executes an indexing process that incorporates themes and subthemes into a table with two columns, where the first column represents the transcript and the second column conveys the thematic reference (Ritchie et al., 2014). The final step, data summary and display, helped to reduce the data to a more manageable level and to refine the evidence for presentation in the findings section (Ritchie et al., 2014).

Ethical Considerations

Human Subjects Approval

Prior to initiation, this study was approved by the IRB committee of the Saudi Board via letters sent from the University of Wisconsin-Milwaukee soliciting permission to conduct my study. After gaining written approval, the University of Wisconsin-Milwaukee and the Saudi Institutional Review Board (IRB) for protection of Human Subjects reviewed the study and approved it prior to the conduct of research to ensure that the rights and privacy of participants were protected (See appendix D).

Ethical Considerations for Women Participants

Issues that raise ethical dilemmas are typically related to autonomy, confidentiality, privacy, and justice. As stated previously, the ethnographer is primarily interested in studying individuals in their natural setting, interacting with participants, listening to and recording their stories, and interpreting and exhibiting participants' experiences and social world based on their voices and perspectives by using their own words (Aluwihare-Samaranayake, 2012). This study focused on a population that is considered vulnerable because it included rural women, some with limited formal education. I, therefore, remained aware of and considered potential ethical issues that could occur from interacting with participants. Potential overall risks to women were estimated to be minimal. Safeguards included the consent process, positively worded open-ended interview questions, and adherence to confidentiality. The interview did not probe sensitive aspects of behavior, sexual behavior, or illegal conduct. If information about the women became known outside of the research study, it would thus pose no significant risk of criminal prosecution, civil liability, loss of financial standing, reputation, or employability. The interviews were conducted privately by myself and the transcriber (when needed) at healthcare facilities or at the participants' homes. The fundamental procedures that the research followed are discussed at length below.

Informed consent and participant authorization. Informed consent safeguards participants and ensures they adequately understand the nature of the study, their participation, potential risks and benefits, their right to withdraw or withhold information, confidentiality, and who they can contact if they have any questions or concerns (Polit & Beck, 2012; & Ritchie et al., 2014). Participants are protected through an ongoing consent process with complete freedom to withdraw at any time (Orb, Eisenhauer, & Wynaden, 2001; Ritchie et al., 2014).

Several steps were taken to obtain informed consent from participants or their guardians (See appendix E). First, the consent forms were translated to Arabic. The consent form was read to each participant before beginning the interview. The researcher also explained that the participant could interrupt during the information-giving process to ask any questions, express any concerns, or voice their need for a break or desire to withdraw or leave. Second, a break was given after reading the consent form to each participant as needed. The purpose of giving the break was to give some time for the participant to decide whether or not she wanted to participate. Third, the researcher obtained a thumb print and a signature with the date and time from women.

Fourth, after obtaining consent from participants, I collected demographic data from each woman before starting the interview. This data assisted in providing contextual data on individual, social, and institutional factors that could affect the underutilization of prenatal care. Fifth, for the purpose of safety and the right of women to express their viewpoints, I did not provide copies of consent forms to participants, as they could have been discovered by male guardians who could have pressured them to withdraw from the study when women had no desire to do so. Finally, I asked each participant for permission to audio record their responses in order to allow me to accurately document participant perspectives and to take notes on their responses. During data collection, I regularly revisited and reobtained consent.

Confidentiality

Confidentiality and anonymity are essential components that the qualitative researcher must adhere to in order to ensure participants feel safe when providing what is considered personal information (Gibson, Benson, & Brand, 2013). To maintain confidentiality, individual interviews were conducted in a private environment either in the hospital, clinic or at home, with

only the researcher and the transcriber present (when the woman refused to allow her voice to be recorded). In order to adequately protect participants' information, I asked that participants not disclose their names. Instead, their information was collected and organized using participant numbers. The participant was informed that she had the right to request that the recording be stopped at any time during the interview, skip any questions she did not want to answer, and withdraw from the study at any stage without providing a reason.

If someone else accompanied the potential participant, I took the potential participant to a private area and introduced myself and my study to her. Also, I asked her if she was willing to voluntarily participate in the study. So, the person accompanying the potential participant did not know that I was the researcher and that I was trying to identify participants for a study.

If the participant preferred to do the interview in her home, to avoid the presence of other women (like a mother, sister, or mother-in-law) with the participant during the interview, I told the other women that "I am nurse and I need to sit with her (the participant) alone to perform an assessment." In order to maintain participant safety and autonomy, I did not send or provide official study invitations. I instead personally contacted potential participants who showed interest in the study to provide them with further information or clarification. Then, to ensure that a participant was willing to participate I met with the participant in a private room to explain in greater detail the nature of the study and what her participation entailed. I also explained that her participation was voluntary and would not affect the treatment or care provided to her at the clinic or hospital even if she refused to participate.

Data protection, storage, and transporting. Demographic information was stored separately from the research data. The research data included audio recordings, transcripts, and fieldnotes. Respondent names was replaced with numbers. The data were also stripped of

identifying information and replaced with a number. The participants were identified only by a participant ID number on all trial documents and on any electronic database. These numbers were used instead of the participant's name on all field notes. Electronic transcripts linking numbers to participants were kept in a separate location from the research data. All paper documents, including transcripts, demographic information, and consent forms, was kept in a locked cabinet in my room in Saudi Arabia. All paper documents were destroyed after transferring them electronically. These electronic documents were securely stored as encrypted files on my personal laptop computer with a protected password to reduce the risk of a breach in confidentiality. This laptop computer transferred with me to the USA. To maintain privacy and confidentiality, access to research data was restricted to the researcher, the chair of the dissertation committee, and the dissertation committee members. Qualitative data were secured in transit from meetings with participants using digital recorders. Further, memory cards from the recording device was removed to minimize the risk of data being lost or stolen, and the audio-recordings were destroyed after transcription.

Compensation to Research Participants

As a token of thanks for their valuable time, all participating women received gift cards for cell phone minutes' worth 20 Riyal Saudi ($5.33 U.S. dollar) at the end of their interviews. Even if a participant was not able to complete the interview or withdrew from the research, she would receive the compensation. I took the phone card from the participant after she had charged her phone to maintain participant safety and to avoid questions from anyone about where, why, and from who she received this card.

Issues of Trustworthiness

Both qualitative and quantitative researchers must establish high quality reliable studies. Lincoln and Guba, 1985 recommended the use of *trustworthiness* in qualitative inquiry rather than "validity" and "reliability," which are often used in relation with quantitative criteria. They identified four criteria to establish the trustworthiness of qualitative inquiry, including creditability, dependability, confirmability, and transferability (Bloomberg & Volpe, 2008; Guba & Lincoln, 1994). Through trustworthiness, the researcher establishes rigorous, accurate, and meaningful data that reflects participants' perspectives (Guba & Lincoln, 1994).

Reflexivity

Reflexivity is considered an important element in achieving trustworthiness because it assists in avoiding systematic bias from the researcher when collecting, interpreting, and presenting data (Bloomberg, & Volpe, 2008; & Ritchie et al., 2014). Reflexivity is a component that qualitative researchers must implement throughout the research process (Denzin, & Lincoln, 2011). Researchers must actively seek to observe and set their beliefs and values aside before beginning their study and remain aware of them throughout the entire research process. Such reflection permitted me to provide unbiased opinions and interpretations separate from my own personal experiences pertaining to the setting and culture of the study. In addition, reflexivity enabled me to clearly state my social position and to assist the reader in considering how my social location affected the research process.

Emic and Etic Perspectives

Emic and etic approaches are utilized to observe the same phenomenon and to provide two differing perspectives or interpretations (Copeland-Carson, 2006). The emic perspective refers to an insider's view, while the etic refers to an outsider's view. The researcher (outsider)

possesses one perspective, and participants (insiders) possess another, but the combination of these two perspectives is necessary. Using the emic, or inside perspective, the researcher attempts to understand culture from the perspective of individuals within the culture. Conversely, with an etic, or outsider perspective, the researcher does not adopt the perspective of a member of the group being investigated, and instead focuses on actions and concepts (Copeland-Carson, 2006; Dwyer & Buckle, 2009). In this case, I consider myself as insider of the studied group, because I am a married, Saudi woman with two daughters. I grew up among this people, and I speak their dialect and engage in many of the same sociocultural practices. In addition, I lived in the group's area for long time and have personally faced similar challenges related to access to healthcare. In addition, I have worked as a teaching assistant in nursing school and completed all my nursing clinical practice and work experience in both rural and urban hospitals in Saudi Arabia, including in the area where this study was conducted.

However, in some ways, I was function as an outsider. Because I have carried each of my pregnancies to term in the USA, I have not experienced many of the prenatal access related issues participants encounter within the rural Saudi Arabian healthcare system context. I am also a doctoral nursing student studying in the USA; in this sense, I am outsider. The combination of both emic and etic perspectives helped me to evoke a more accurate description and understanding of the phenomenon being studied, as well as to offer a more accurate explanation of the culture of rural Saudi women using both personal and professional viewpoints.

Triangulation

Triangulation is defined as the combination of various methods and sources in order to study a single phenomenon (Ritchie et al., 2014). Triangulation allows the researcher to enhance the credibility of a study's findings and to deepen their understanding of the

phenomenon in question (Denzin, & Lincoln, 2011; & Ritchie et al., 2014). In this study I explained how women perceived access to care during pregnancy and examined the factors that may hinder or assist pregnant women in accessing prenatal care. In depth interviews, field notes, and observations were triangulated to enhance the study's credibility and to provide adequate evidence to support the description of the phenomenon.

Limitations of the Study

This study has certain limitations including limitations on data because there were some data we were unable to collect. For example, as it would not have not been culturally appropriate, the question about the form of Islam with which women identify (whether Sunni or Shia) was excluded from demographic data because asking this sensitive question could have caused the participants to refuse to participate or they may have given a false answer based on what they believed to be acceptable. We also did not collect any information about how much women and their husbands earned as this too would have been culturally inappropriate. Such information may have had a bearing on women's access to prenatal care and could thus have been useful.

Conclusion

In conclusion, this methodology chapter provided detailed information about the study design including critical ethnographic methods employed to provide a description of the experiences of rural, pregnant Saudi women in accessing healthcare in Faifa. The participant sample constituted 30 purposefully selected individuals. Three data collection methods were employed: individual interviews, field notes, and observation. The resulting data were reviewed based on literature, theoretical framework, and identified themes. The study's credibility and

dependability were considered and ensured using different strategies described, including triangulation and reflexivity.

CHAPTER IV: RESULTS

In this chapter, I discuss the findings of this study on the experiences of Saudi women with access to rural prenatal care in the form of three manuscripts. In the first manuscript, I explain the impacts of gender dynamics on rural Saudi women's access to prenatal care. In the second manuscript, I describe structural barriers associated with prenatal care access among rural Saudi women. In the third manuscript, I discuss the influence of cultural beliefs and traditional practices on the utilization of prenatal care in the rural areas of Saudi. All themes and subthemes of the three manuscripts are summarized in Figure 5. The contents of these three manuscripts are described in Table 1.

Table 1. Manuscript Titles, Aims and Target Journals

Manuscript Title	Aim	Intention Journal
Manuscript 1: The Role of Gender Dynamics on Rural Saudi Women's Access to Prenatal Care in the Faifa Mountains of Saudi Arabia	To explore the influence of gender dynamics on pregnant women's attendance of prenatal care visits.	Health Care for Women International Journal
Manuscript 2: An Analysis of Factors Affecting Prenatal Care Access among Rural Saudi Women in the Faifa Mountains of Saudi Arabia	To analyze the structural factors including, healthcare system characteristics, healthcare provider characteristics, and transportation that impact rural pregnant women's	Maternal and Child Health Journal

	access to prenatal care in the Faifa mountains of Jazan province	
Manuscript 3: An Analysis of the Sociocultural Determinants of Prenatal Care for Saudi Arabian Women in Jazan Province	To gain an understanding of rural women's experiences with prenatal care access within their given sociocultural context, and to determine the factors that impact prenatal care attendance.	Journal of Transcultural Nursing

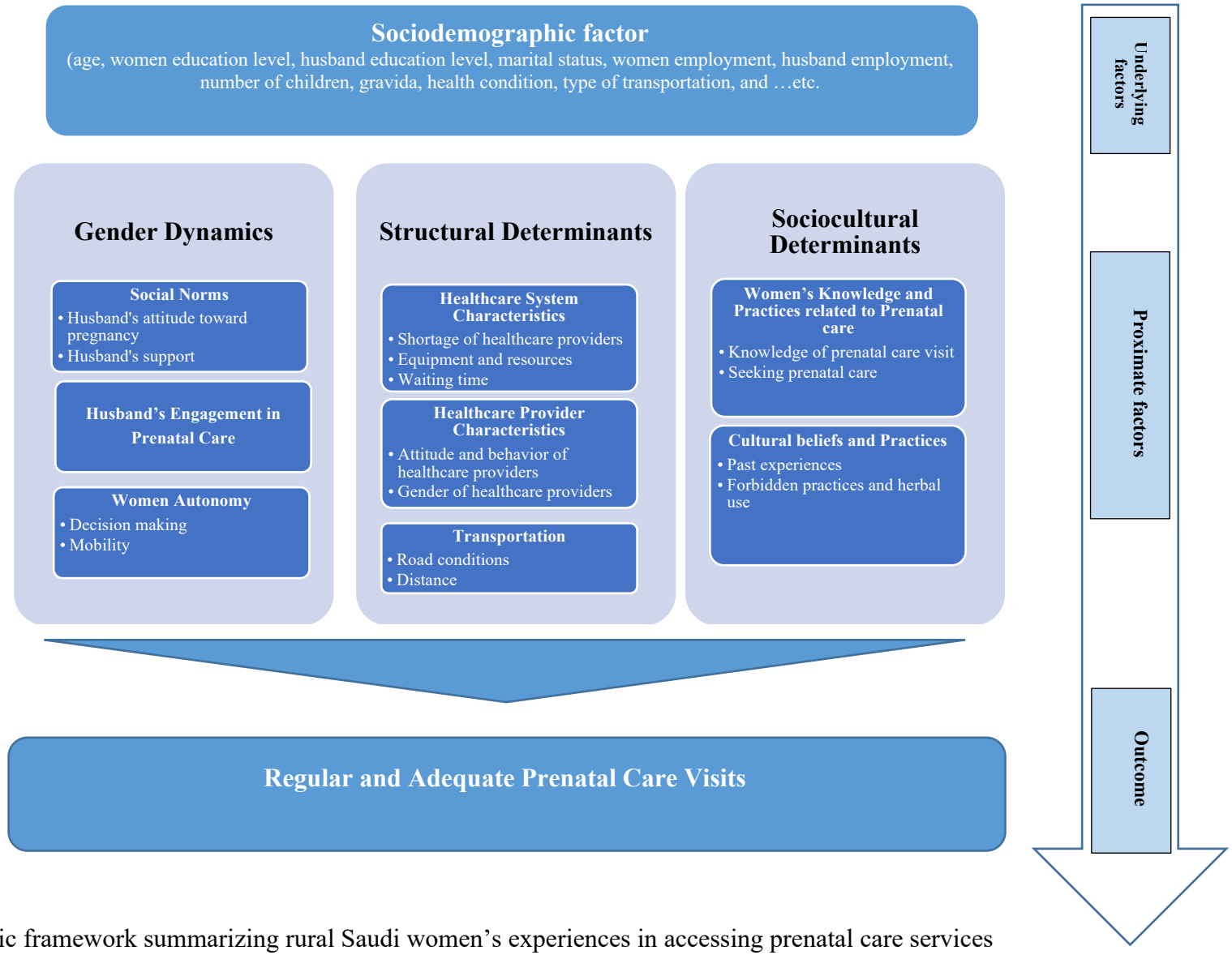

Figure 5. Thematic framework summarizing rural Saudi women's experiences in accessing prenatal care services

Manuscript 1: The Role of Gender Dynamics on Rural Saudi Women's Access to Prenatal Care in the Faifa Mountains of Saudi Arabia

In this first manuscript, I report findings on how gender dynamics impact women's access to prenatal care in the rural Jazan area of Saudi Arabia. The manuscript is formatted based on the author guidelines of *Health Care for Women International Journal*, the intended journal of publication. I provide a brief overview of existing international and Saudi Arabian literature exploring the influence of gender dynamics on women's access to prenatal care in both rural and urban communities. I used a postcolonial feminist lens to guide data collection and analysis of narratives from interviews with thirty rural Saudi women and to discuss the findings and implications for policy and practice.

The Role of Gender Dynamics on Rural Saudi Women's Access to Prenatal Care in the Faifa Mountains of Saudi Arabia

The Role of Gender Dynamics on Rural Saudi Women's Access to Prenatal Care in the Faifa Mountains of Saudi Arabia

Abstract

Limited evidence exists in the healthcare literature concerning rural women's access to prenatal care in Saudi Arabia. Yet there is a high infant mortality rate compared to other Arabian Gulf region countries as well as a lack of healthcare resources in rural Saudi Arabia compared to urban areas. Thirty in-depth interviews were conducted to explore the barriers and facilitators that rural Saudi Arabia women in the Faifa Mountains experience in accessing prenatal care services. Using a postcolonial feminist lens to analyze the findings, three major themes were identified: (a) social norms; (b) husband's engagement in prenatal care; and (c) woman's autonomy. We found that most men supported their wives physically, emotionally, and financially during pregnancy. Women in the study also reported a degree of autonomy when it came to decision-making that enhanced not only their health but their child's health. Literature reports that male involvement in prenatal visits improves the health of mothers and their children. While the women in our study received some support from their partners, they reported a lack of involvement by their husbands in prenatal visits.

Introduction

Maternal mortality has been a development challenge for over two decades. The 2000 Millennium Development Goals (MDGs) prioritized maternal and child health with one of the targets emphasizing a 75% reduction in maternal mortality by 2015 (United Nations Development Program [UNDP], 2000). While the maternal mortality ratio declined by 45% worldwide, this number indicates that several countries were unable to meet the target (UNDP, 2015). Maternal mortality continues to be a moral and global development imperative as evidenced in the new Sustainable Development (SDG) agenda. The third SDG on good health and well-being includes a target to reduce the global maternal mortality ratio to less than 70 per 100 000 live births (UNDP, 2016). One of the levers for improving maternal mortality is access to prenatal care services. However, many women face constraints in accessing these services. These constraints are often perpetuated by gender inequalities (Morgan, Tetui, Muhumuza Kananura, Ekirapa-Kiracho, & George, 2017; Namasivayam et al., 2012).

As a UN member state, Saudi Arabia is committed to achieving the SDGs, including improving maternal health outcomes and decreasing child mortality (Kingdom of Saudi Arabia Ministry of Economy and Planning [KSAMEP], 2005). Several population-based studies explored factors affecting access to healthcare generally in Saudi Arabia for those living in urban areas (Al-Doghaither & Saeed, 2000; Mahfouz, Al-Sharif, El-Gama, & Kisha, 2004; Lamadah, Amin, & Elsaba, 2012). Other studies examined access to prenatal care specifically, however these studies focused primarily on the urban areas of Saudi Arabia, and not rural areas. Even in high-income countries, women living in rural communities experience higher mortality rates than their urban counterparts because of limited access to maternal health care services and healthcare

providers (American College of Obstetricians and Gynecologists [ACOG], 2014). Women in the rural areas in Middle Eastern countries additionally experience a more fragile socioeconomic situation than urban women, which puts them at greater risk for experiencing poverty and social exclusion (Kronfol, 2012).

As one of the higher income countries in the Middle East, Saudi Arabia has made great efforts to allocate resources to improving maternal and child health (World Bank [WB], 2019). The total population of Saudi Arabia is approximately 33,413,660, with only 16 % of the population living in rural areas in 2017 (General Authority for Statistics [GaStat], 2019; WB, 2018). Jazan city, located in the southern region of Saudi Arabia, ranks second in infant death constituting 3.85% of the country's infant mortality rate (GaStat, 2018). Insufficient prenatal care resources and the underutilization of the limited prenatal care services that are available contribute to this high infant mortality rate (Almalki, Fitzgerald, & Clark, 2011).

Hou, and Ma (2013) suggest that women with greater decision-making power within their households are more likely to use maternal healthcare services and achieve better pregnancy and health outcomes. Education plays an important role in enabling women to seek maternal healthcare services. Women's autonomy in making decisions about household purchases, healthcare for their children, and visits to relatives predict their utilization of maternal healthcare service (Ghose et al., 2017). The level of women's decision-making power varies across Middle Eastern countries. For example, in Eastern Mediterranean countries, where women's decision-making power may be limited, men who are the head of the household often hold decision-making power related to finance, women's freedom of movement, children's education, and utilization of healthcare services by women and children (World Health Organization [WHO],

2007). A study in Egypt found that women's participation in the family decision-making process positively influenced child health, increasing immunization rates and reducing mortality rates among children under 5 years of age (Kishor, 1995). Another study in Pakistan found that women would be less likely to seek skilled healthcare personnel if her husband or the male household head discouraged her from using maternal health services (Hou, & Ma, 2013).

Several studies in various countries provide evidence that gender inequity affects women's ability to access healthcare services. Women living in rural community's experience gender inequity in unique ways compared to their urban counterparts. For example, urban women across the world, including the Middle East and North Africa (MENA), have more access to social services, education, transportation, and employment opportunities, and experience fewer sociocultural constraints compared to rural women (Reichlin & Shaw, 2015; Vishwanath, 2012). The challenges rural women face while trying to access education and employment are reinforced and perpetuated by gender norms (Reichlin & Shaw, 2015).

Few studies have analyzed gender dynamics as a determinant of access to prenatal care in rural Saudi Arabia (Jamal-Hariri, 2015). The country's social construction of gender roles shapes the healthcare experiences of rural pregnant women and is an important aspect of women's health that needs to be explored. This paper explores the influence of gender dynamics and inequities on pregnant women's attendance of prenatal care visits. We provide an overview of Saudi Arabia's healthcare system and discuss gender inequity in Middle Eastern and North African countries. Postcolonial feminist theory is outlined as and described the study methodology and lens that informed analysis. Finally, we discuss key findings and how these

might inform healthcare practice and policy for rural women in similar contexts around the world.

Background

Saudi Arabia's Healthcare System

Healthcare in Saudi Arabia is primarily managed by the Ministry of Health (MOH) (Almalki et al., 2011). In 2017, the country's healthcare expenditures accounted for 7.61 % of the government's budget (The Ministry of Health [MOH], 2018). The MOH provides universal healthcare for all Saudi citizens, as well as for the millions of international pilgrims who come to Mecca to perform Hajj[3] (MOH, 2018). Approximately 60% of healthcare services are provided by healthcare facilities affiliated with the MOH, while 18% of services are provided by other governmental healthcare facilities affiliated with the military and universities (Almalki et al., 2011). The remaining 22% of healthcare services are provided by private self-pay healthcare facilities regulated by the MOH (Almalki et al., 2011).

Saudi Arabian infant mortality is ranked at 113 compared to other countries, placing Saudi Arabia behind other Arabian Gulf region countries, like the United Arab Emirates (ranking) and Kuwait (ranking) (Central Intelligence Agency [CIA], 2017). The use of prenatal care services is lower in Saudi Arabia than in neighboring countries (WB, 2019). The utilization rate of prenatal services in Saudi Arabia is 97% (WB, 2019), but that number may be misleading as it may represent cursory rather than comprehensive prenatal care. The lower utilization rate of

[3] Islamic Help Organization (IHO) (2019), stated that hajj is the Muslim pilgrimage to Mecca that takes place in the last month of the year. It is mandatory for Muslim adults to go on Hajj at least once in their lifetime. They must be of sound mind and physically and financially capable of undertaking the journey. Every year, about 2 to 3 million people from across the world gather in Mecca for the Hajj

comprehensive prenatal care could partially explain why infant mortality rates in Saudi Arabia have historically been high.

The Saudi MOH has developed and implemented several projects at healthcare institutions that aim to improve maternal and child health, such as a paper-based medical record called the Mother and Child Health Passport that women carry with them to their health appointments (MOH, 2011). The health passport is used to track women and infant's health condition during pregnancy across providers and healthcare institutions.

This study, which is grounded in rural women's perspectives on the barriers and facilitators influencing their ability to access prenatal care, could support the efforts of the Saudi Arabian Government in achieving the SDG 3 targets as well as SDG 5: *To achieve gender equality and empower all women and girls.* This study helps to establish our understanding of how gender dynamics influence prenatal care access for rural Saudi women.

Gender Inequity in Middle Eastern and North African Countries

"Gender" refers to socially prescribed roles and responsibilities and the power relations between men and women (Dan et al, 2006). Social definitions of "woman" and "man" vary from culture to culture and change over time across social and ethnic groups (Namasivayam, Osuorah, Syed, & Antai, 2012). The social expression of gendered roles and characteristics are developed at an early age. One major consequence of an established gender order within any given society is the rationalization of patterns of inequality and power differentials between women and men (Namasivayam et al., 2012). Many scholars have discussed the implications of gender inequality, how it informs gender roles and ultimately, how those roles impact women's health (Morgan, Tetui, Muhumuza Kananura, Ekirapa-Kiracho, & George, 2017; Namasivayam et al., 2012). For

example, the World Health Organization reports that women and girls in Egypt and Jordan experience restrictions on their mobility, decision-making, and autonomy, which could be obstacles to effective access and utilization of healthcare services (WHO, 2007).

The Saudi Arabian government provides equal access to education for both men and women, and both have similar opportunities to get scholarships to pursue their higher education overseas (Saudi Arabian Cultural Mission [SACM], 2019). Labor force participation for women was previously limited, but this has changed dramatically over the past decade. In the past, employment opportunities for women were mainly in the fields of education and healthcare (Abdul Latif Jameel Company [ALJCO], 2018). Recently however, the government has pushed the public and private sectors to employ more Saudi women in a wider variety of positions (ALJCO, 2018; Ministry of Labor and Social Development [MLSD], 2017). In addition, the government supports women's participation in the workforce by providing financial assistance to mothers, called Kara for childcare and Wasool for transportation (MLSD, 2017). Contrary to the gender pay gap in some high-income nations, the public sector in Saudi, as well as some private companies, routinely pays Saudi women and men the same wages for the same or comparable jobs (Bashraheel, 2018). However, there is wage gap based on gender in the private sector (Bashraheel, 2018).

As is the case with many Middle Eastern countries, Saudi society is widely acknowledged as patriarchal (Aldosari, 2017). In some families in Saudi Arabia patriarchy supports women, and in others it restricts their freedom to partake in equal opportunities for education and employment offered by the government. Regardless of employment, women are typically responsible for managing the household and for providing child care (Jamal-Hariri,

2015). Following long-held traditions some women are still required to obtain permission from a male guardian[4] before leaving the house (Al-Safe, 1997; Human Rights Watch [HRW], 2016). In traditional families, men are responsible for all activities outside the home, including earning an income, making financial decisions, and shopping for major purchases (Al-Safe, 1997; HRW, 2016). As a result, women in those families are financially dependent on men and have less autonomy (Aldosari, 2017). Despite the progressive approach Saudi Arabia takes in offering men and women equal opportunities for education and employment, legislation requires that a male guardian provide permission before a woman can pursue these opportunities (HRW, 2016; Vidyasagar, & Rea, 2004).

To facilitate greater access to healthcare for women, the Minister of Health recently declared that women over 18 have the right to consent to any healthcare admission, discharge, or intervention procedure (Al-Amoudi, 2017). Nevertheless, many healthcare providers continue to ask the male guardian to consent to any procedures performed on a woman, often because providers are unaware of the new regulation or want to avoid clashes with the male guardian (Mobaraki & Soderfeldt, 2010; Al-Amoudi, 2017). If a male guardian is unavailable at the time of consent or delays consent, the resulting consequences can be life-threatening for both the pregnant woman and her unborn child (Al-Amoudi, 2017). There is evidence that the restrictions that patriarchal families place on women may have implications for maternal and child health. Qureshi and others (2016) reported that Saudi women's limited decision-making and autonomy

[4] Male guardian (called Wali), who is typically a father, brother, husband, son or uncle (called Mahram) (HRW, 2016).

in their traditional families affected their ability to access adequate prenatal care. For instance, if a husband insists on accompanying his wife to each prenatal visit, her healthcare access may be limited by his time constraints (Nigenda et al., 2003). Further, male guardians may be hesitant to allow women to accept treatment administered by male healthcare providers, which can become an issue as there are few female healthcare providers in Saudi Arabia (Mobaraki & Soderfeldt, 2010). In turn, there is growing evidence that gender inequality has implications for maternal and child health. For example, Story and Burgard (2012) found that joint decision-making between husbands and wives in Bangladesh is positively associated with antenatal care use and skilled delivery care.

Postcolonial Feminist Framework

This study employed a postcolonial feminist perspective to inform data collection and analysis. Postcolonial feminism critiques the homogenization and universalization of women's issues espoused by Western feminist scholars (Mohanty, 1988), particularly in the earlier years of feminist theory development. Postcolonial feminism also recognizes the intersectionality of gender, class and other factors in shaping women's experiences in the global south (Tolhurst et al., 2012). Grounding this study in postcolonial feminist theory is instrumental in shaping an inquiry that respects the cultural context in which women live their lives. No judgment or comparative analysis with women located in western nations, specifically White women, was made. Additionally, postcolonial feminism fosters dialogue on issues of women's health as they occur within the social context in which women find themselves. Rather than viewing the interactions between Saudi men and women through the lens of Western gender dynamics, postcolonial feminist theory allows us to contextualize the ways Saudi women and men engage

with each other as they navigate through their realities based on their evolving social norms, family systems, and legal infrastructure.

Postcolonial feminist theory is particularly relevant when studying rural Saudi women whose social context has not been shaped by Western influences. A feminist approach to inquiry allows for the creation of a space where rural Saudi women's voices could contribute to knowledge development about the realities facing rural pregnant women in accessing prenatal care. Women at the center of an issue possess information and insight that can lead to transformational change (Khan et al., 2007).

Methods

To capture the perspective of rural Saudi women on their access to prenatal care, this study employed a qualitative approach through individual interviews. Narratives create an opportunity to gain in-depth and detailed interpretation of complex phenomena from participants' perspectives as they articulate their perceptions in their own language, words and setting (Ritchie, Lewis, Nicholls, & Ormston, 2014; Quick & Hall, 2015). Thematic analysis was used to identify the themes emerging from the narratives. Our analysis of the narratives details how gender dynamics affect prenatal care access and utilization for rural women.

Setting and Recruitment

We conducted the study in the rural area of Jazan in Saudi Arabia known as the Faifa mountains from January to April 2019. Rural Saudi women were recruited from Faifa General hospital and primary healthcare centers of Faifa. We chose these healthcare facilities for recruitment because they provided access to potential participants who met the study criteria. The study employed purposive sampling to recruit participants. Snowball sampling was also utilized as a strategy for recruitment to improve sample diversity. Participants were selected

based on several criteria: women had to be Saudi, 18 years or older, living in the Faifa mountains of the Jazan province of Saudi Arabia, speak Arabic, and identify themselves as postpartum or having been pregnant in the last two years. Only postpartum women and women who had delivered within the last two years were selected for participation to minimize issues around memory recall. There were no pregnant women participated in this study.

The researcher recruited participants from the obstetrics/gynecology department clinic and admissions unit. A snowball approach was adopted to help facilitate recruitment of participants. Women who had already been interviewed were asked to identify others they knew who met the selection criteria. Women were given the choice to be interviewed either within the healthcare facilities or their homes. Twenty-seven interviews took place in a private room at the healthcare facility, where the interview could be conducted without disturbance. Three interviews were conducted in participants' homes where it proved to be more convenient for the participants. After each interview, the cellular number of the researcher was provided to enable participants to refer other eligible women to the study or to call and ask follow-up questions or share concerns.

Sample

Thirty women were interviewed for this study. Participant characteristics are presented in (Table 1). The average age of the participants was 33 years. Twenty-nine of the participants were from the Faifa tribe, which has a total population of approximately 60,000 (Okaz, 2012). One person was from the Al-Shumrani tribe. The average number of prenatal care visits per pregnancy was eight. Nine women worked in the government organizations as teachers and school administrators; two women worked in the private sector as seller representatives; one woman worked as a dressmaker; two women were students in college; 16 women identified as

housewives. Nine women had attained a bachelor's degree and the rest had a high school diploma or less. The average number of years of schooling for the total sample was 12 years. The number of children women had ranged from one to eleven children and on average, the women in the sample had four children. Twenty-eight participants were married, one was a widow, and one was divorced. The twenty-eight married women reported that their husbands acted as heads-of -household; the divorced woman reported she was the head of her household, while the widow reported that she shared the head-of-household role with her eldest son.

Data Collection Procedure

Data were collected through in-depth interviews. A semi-structured interview guide was developed, which was first written in English and then translated into Arabic. This guide was used to ask participants about their experiences with access to prenatal care in the area. Twenty-three of the interviews were audiotaped once consent had been obtained. The other seven refused to be audiotaped as they felt it would violate a cultural expectation of modesty. Women expressed discomfort with being recorded and were afraid that their anonymity would be compromised, even after the researcher explained that confidentiality would be maintained. For these seven women, their interviews were written down in the Al-Fayfiyah dialect by a local transcriber. The transcriber was a local female nurse who was trained to understand issues of confidentiality. If the participant refused to be recorded, the transcriber wrote down questions and answers directly into the Al-Fayfiyah dialect. The first author then translated these transcribed interviews into English. For the remaining interviews that were audio-recorded, verbatim transcripts were produced by the first author in the Al-Fayfiyah dialect[5] before

[5] Alaslani (2016), reported that Al-Fayfiyah dialect is believed to be a dialect of Himyaritic which is a classic form of Arabic. This dialect is spoken by 60000 peo

translation into English. The interviews lasted approximately one and a half to two hours. Participants' socio-demographic information was also collected to help contextualize women's lives.

Data Analysis

Data analysis was performed using a software program (ATLAS.ti) and the thematic analysis method. Transcripts were analyzed utilizing the tenets of thematic analysis (Figure1) to assist the researcher in gleaning rich and detailed information from the data. The researcher followed the five key steps that guide data management for thematic analysis described by Ritchie, Lewis, Ormston, & Nicholls, (2014). In the first step, the first author read and re-read the transcripts to become familiar with the overall story of each participant (familiarization process) and noted initial ideas about topics. Specific topics that formed a pattern in the data were then coded in a systematic way across the entire data set. In the familiarization stage a list of codes identified from the data was generated. These were reviewed to determine if they met the aims of the study (Ritchie, Lewis, Ormston, & Nicholls, 2014). During this step, ATLAS.ti software was used and a Word file was created to log collated codes with relevant data as they were identified during the familiarization process. In the second step, an initial thematic framework was constructed for organizing the data (Ritchie et al., 2014). The list of codes was sorted into a hierarchy of themes and subthemes. In the third step, the codes of the relevant data were indexed and sorted. The indexing process was used to incorporate themes and subthemes into a table with two columns, in which one column represented a passage from the transcript and the other column conveyed the thematic reference (Ritchie et al., 2014). After the indexing was completed, the data were sorted so material with similar content could be viewed as a whole. Finally, the data were reduced and refined into evidence for representation in the findings section

(Ritchie et al., 2014).

Data trustworthiness was achieved by applying four principles to the process of analyzing data: credibility, dependability, confirmability, and transferability (Guba & Lincoln, 1994). By following these principles, we were able to obtain results that rigorously, accurately, and meaningfully represented the participants' views (Guba & Lincoln, 1994). Data credibility was enhanced by providing evidence to support an understanding of the phenomenon. For example, in-depth interviews, field notes, and observations were all used to triangulate the data (Nowell, Norris, White, & Moules, 2017). Data confirmability was reached by using reflective journals. As the person responsible for collecting the data, the first author engaged in an ongoing process of self-reflection on her own cultural background, personal experience, socioeconomic status, personal beliefs and values, and her overall social location in relation to the study participants. This was done to bracket any biases she may have had that could have influenced the study findings (Guba & Lincoln, 1994). Transferability of data was accomplished through careful documentation of participants' demographic information and other data that helped contextualize the women's narratives. Finally, dependability was met by carefully deliberating over the research process and making decisions with other scholars, who served as members of the dissertation committee (Nowell et al., 2017). Data analyses were confirmed by the last author and thereafter all the other co-authors as a way of also establishing dependability.

Ethical Consideration

Before conducting the study, we obtained approval from both the University of Wisconsin-Milwaukee's Institutional Review Board and the Saudi Institutional Review Board. Informed consent was achieved by having each participant provide a signature or thumbprint after learning about and understanding details about the study. We explained to each woman that

her participation was voluntary and could be withdrawn at any time, in which case her recorded or written information would be deleted. In addition, participants were protected through an ongoing consent process (Orb, Eisenhauer, & Wynaden, 2001). We ensured women understood the nature and purpose of the study and potential risks. The transcribed materials were reported anonymously and stored in encrypted files on the first author's personal laptop computer with a protected password to reduce the risk of a breach in confidentiality. As a token of thanks for their valuable time, all participating women received gift cards for cell phone minutes' worth 20 Riyal Saudi ($5.33 U.S. dollar) at the end of their interviews.

Results

The results explore how gender dynamics, as expressed by the rural Saudi women participants facilitate and constrain their access to prenatal care. Three themes were identified: social norms, husband's engagement in prenatal care, and women's autonomy. Theme one, social norms, included the following codes *husband's attitude toward pregnancy* and *husband's support*. Theme two, husband's engagement in prenatal care, did not have any additional codes. Theme three, women's autonomy, included the following codes: *decision-making* and *mobility*.

Social Norms

The women in the study discussed their husband's attitude toward their pregnancy and his willingness to support them during their pregnancy. Twenty-two women described a positive relationship with their husband regarding their pregnancy.

Husband's attitude toward pregnancy. All women reported that they immediately told their husbands about their pregnancies after taking a home pregnancy and/or a laboratory test at a health facility. Most women talked about their husbands' joy upon learning of the pregnancy. Some women mentioned that their husbands were happy and wished to have more children. One

woman stated, “I told him (husband) immediately after I knew the result of the analysis. He was happy.” (P29, 28 years old, 1 child, bachelor’s degree education). Another woman shared, “He was happy when he heard the news, and he wanted more children.” (P10, 29 years old, 3 children, high school education). One woman stated, “He was happy, but it was easy to be happy. He was not carrying the baby, and he was not the one taking care of the baby.” (P9, 48 years old, 11 children, no formal education).

Six women reported that their husbands’ first reactions to the news of their planned or unplanned pregnancies were worry and concern. The spouses were concerned about the responsibilities involved in having and caring for a new child as well as concerns about their wife’s health. For example, one woman mentioned that her husband expressed mixed feelings in the beginning, immediately after learning of her pregnancy. He was concerned about the responsibility of raising a child, but eventually he was happy about the news. Other participants said that, after initial misgivings, their husbands were happy about the pregnancy, “My husband, in the beginning, was worried because of the responsibility. Of course, the pregnancy was happy news for him, and Alhamdulillah [thank Allah] he was happy.” (P3, 34 years old, 1 child, bachelor’s degree education).

Eighteen of the thirty women had unplanned pregnancies. Some women stated that their husband’s first reaction was shock, because they had not planned for the pregnancy, their current children were still young, and/or they already had many children. After a while, these participants’ husbands were also happy. “He was also shocked, like me. After a while, he felt joy. At the same time, he does not have the energy to take on the responsibility of the house and the children when I am not present.” (P8, 37 years old, 7 children, intermediate school education)

Husband's support. A husband's positive attitude toward the news of pregnancy manifested in physical, emotional, and financial support of his wife during pregnancy. Fourteen of the thirty women stated that they received physical support from their husbands during pregnancy. This support included taking care of the other children and assisting with house work, "Alhamdulillah, my husband always supports me psychologically and physically and is with me and everything … When I am sick, he takes care of the house and the children . . ." (P16, 35 years old, 6 children, intermediate school education). Another woman said, "My husband did the house work and cooked the food when I was pregnant because my pregnancy was not stabilized with the first child. Now, also, he takes care of my daughter when I need." (P30, 24 years old, 1 child, high school education).

Women reported that having a supportive husband was a facilitator in their ability to attend prenatal care visits. Four women reported receiving financial support from their husbands so they could seek out better care from a private clinic, "He pays money for me to go visit the doctor who is good and specialized, although it is expensive." (P7, 26 years old, 3 children, high school education). Another woman stated: "my husband paid the expenses of the treatment. I also ask him when I need the money." (P12, 20 years old, 1 child, bachelor's degree education).

Finally, seventeen out of the thirty women expressed that their husbands provided psychological support during pregnancy. This support ranged from encouragement to attend prenatal visits to emotional support, such as offering reassurance when they needed it. Only one woman reported her husband's involvement during delivery. This woman reported that she did not attend any prenatal visits unless she was sick, and she stated that she preferred to deliver at home, where her husband was the only one with her during delivery. To prepare, her husband took his allocated one month off from work at the end of her pregnancy, so he could be present

when she delivered. She stated that his presence and psychological support were essential during delivery, "I want him to give me psychological support during giving birth. Also, because we have children, he tried to keep them away from the place where I gave birth." (P28, 42 years old, 10 children, intermediate school education).

Only one participant explained that she did not have her husband's support during pregnancy. This participant asked for khula[6] from her husband because he was uncaring and irresponsible. This was the one participant that was divorced. She mentioned that she had two sons with sickle cell anemia who needed continuous care and physician visits. Even when she was married it was her brother rather than her husband, who took care of her and her children. She explained that before the divorce, her husband knew about her pregnancy but did not care and refused to provide any support or accompany her to any prenatal visits.

> "He was not convinced of the PNC visits. He would not take me to the hospital. But my older brother did take me to the hospital. Originally, my husband at that time did not care about me or my children." (P20, 37 years old, 3 children, bachelor's degree education)

Husband's Engagement in Prenatal Care

Women mentioned that the government hospital in their area did not allow husbands to accompany them inside the clinic or in the delivery room, unless they were being cared for by a

[6]Khula is a procedure through which a woman can divorce her husband in Islam. Saudi law gives the right for married women to divorce their husbands. In this case, women must return the dowry paid to them by their husbands at the time of marriage. Most husbands object to khula at the court of appeal but judges ignore their objections and approve khula. Khula is granted when the continuation of marriage is impossible (Saudi Gazette, 2018).

male physician. The women's and men's waiting areas were separated, and men were not allowed to enter the women's waiting area.

> "This hospital has two separate waiting areas, one for women and one for men. Two Ob-Gyn clinics; the one on the female side did not permit men to attend with their wives, but they can enter if I visit the male doctor clinic located in the male section." (P29, 28 years old, 1 child, bachelor's degree education)

Another woman explained:

> "Entry is forbidden, and only hospital staff are allowed to enter the delivery room. Most government hospitals in Saudi Arabia do not allow anyone to enter with you to the delivery room. But private hospitals allow it, even if the pregnant woman bring with her the whole family into the delivery room." (P7, 26 years old, 3 children, high school education)

Another woman reported: "Men are not permitted to go upstairs (admission area and delivery room) because it is only for women... and in general most hospitals do not allow the husband or woman's relatives to enter the delivery room." (P10, 29 years old, 3 children, high school education). A few women further elaborated on their husband's involvement in prenatal care, stating their husbands' attendance was important for women in monitoring their health and the health of the baby. A primiparous woman stated that due to her and her husband's desire to see their child on ultrasound and to hear the heartbeat, they chose to attend a private clinic, which allowed her husband to stay with her during the prenatal visits. This couple made these decisions together, "in the private clinic, my husband and I can see our child, but here in this local hospital he was not allowed to enter with me, and the ultrasound was not good." (P3, 34 years old, 1 child, bachelor's degree education).

Three women wanted their husbands to attend prenatal care visits with them because they wanted their husbands to be aware of their health and their child's health. Another woman stated that her husband's presence in the clinic was crucial to her, "It is certainly important that my husband attend the clinic with me and follow my pregnancy and his son's health condition, and this is important for me." (P8, 37 years old, 7 children, intermediate school education). One woman mentioned that, after she had been diagnosed with placenta previa by a rural physician, she kept her health condition from her husband for fear of alarming him. However, because visiting the prenatal clinic in the city required her husband's presence, her physician revealed her condition to her husband and provided him critical information about her health, including potential complications concerning sexual intercourse. She explained how her husband adhered to the guidance provided at the clinic and helped her with following instructions.

> "I did not tell my husband (I have placenta previa) because I did not want him to be surprised by this news. But when we went to the clinic in the city hospital, they asked the husband to be present. They told him there. They gave him full information of the forbidden things, including sexual intercourse, and he abided by the detail so much that I wished he did not know. Because he was very careful." (P27, 37 years old, 2 children, associate degree education)

Women's Autonomy

Two gendered factors related to women's autonomy were identified as influencing prenatal care utilization: *decision making*, and *mobility*. Twenty-eight women participating in this study identified their husbands as the head of the household.

Decision making. Most participants reported they were the ones who had decided to attend prenatal care visits; however, their decision to attend was ultimately in the hands of their

husbands or male relatives who would be the ones to take them to the clinic. Women justified that they made this decision because they were more knowledgeable about the importance of seeing a healthcare provider during pregnancy and because they wanted reassurance about their health and the health of their unborn child. One woman reported, “I encouraged myself to go to the doctor, of course, I have to take care of myself and my baby’s health. I always go to all my appointments regularly.” (P4, 33 years old, 3 children, high school education).

In addition, some women expressed that they had the decision-making power to tell their husbands that they needed to visit the physician immediately. They expected their husbands to go with them and to be engaged at the healthcare facility. Women who irregularly attended prenatal care visits expressed that when they felt unwell or sick, they asked their husbands if they would take them to the clinic. One woman stated, “I said to my husband, I have to go because I was dizzy, and I felt tired a lot, and I told my husband to go with me.” (P9, 48 years old, 11 children, no formal education).

A few women disclosed their authority in making decisions. They reported that they had selected a non-local hospital to give birth in. For example, one woman mentioned that she chose to seek care from a hospital outside of the Faifa mountains because the hospital in her area was not well equipped to care for a preterm baby. She worried about having a preterm baby because she has a family history of premature birth. She believed that she was at risk for preterm birth of her baby. Her preferred hospital was one and a half hours away.

> “I asked my husband to open a file in the city hospital, in case I gave birth during the seventh or eighth month of pregnancy, I wanted to be there in the city hospital because there is a nursery for preterm infants” (P3, 34 years old, 1 child, bachelor’s degree education)

One of the participants reported that healthcare providers continued to seek male guardians' permission before performing invasive procedures on women, even though they knew women had the legal right to give consent to the procedures themselves. The woman justified this practice by stating that the male guardian did not mean to exercise control over the woman but rather was trying to protect the woman from harm that may come from unnecessary or dangerous treatment. She said, "It is true that the ministry issued an order, but like our region, we still take the husband's signature" (P15, 38 years old, 4 children, associate degree education). She continued,

> "But if the guardian refused to allow any surgical intervention for his wife, the doctor tries to explain to the male guardian the health status of the woman, and often the guardian agrees to the operation. It is not control over women's decisions, but fear of danger." (P15, 38 years old, 4 children, associate degree education)

One woman stated that she started her prenatal visits in the local rural hospital, but then, during the seventh month of her pregnancy, she traveled by car to a city hospital three and a half hours away from her residence because her husband refused to allow her to be examined or delivered by a male physician. He decided to take her to the city hospital, where a female physician could attend to her during labor. She agreed with this, so she discontinued her prenatal visits in the rural area and continued to travel to the city for the rest of her prenatal visits until delivery time.

> "....my husband refused to allow a male doctor to examine me during prenatal visits (at the local hospital). My husband told me that he did not want me to give birth here (at the local hospital) …. he wanted me to give birth in a city hospital where there was a female doctor." (P25, 29 years old, 2 children, associate degree education)

Mobility. Mobility limitations were pronounced in this rural community. Even if women decided to seek prenatal care, they lacked the freedom to do so on their own. The area's social norms prevent women from leaving home without their husband. If the husband is not available, he must give his wife permission to travel to healthcare facilities with other male relatives, such as a son, brother, or father. All women in the study reported that attending prenatal care with a husband or male relative was required. The women in this study expressed that even if they decided to seek prenatal care, they were not guaranteed to receive the care due to the constraints on their mobility. One woman expressed that her attendance of prenatal appointments or her use of other skilled maternal health services depended on the availability of her husband or male relatives to take her to the prenatal clinic. She stated, "If I want to visit my doctor, I'm not going to the hospital by myself. I cannot drive a car to the hospital, and I need my husband or a male relative to take me there." (P1, 23 years old, 3 children, bachelor's degree education).

The required presence of the husband limited women's access to care. Four women reported that their husband's unwillingness to take them to receive prenatal care prevented them from accessing adequate healthcare during pregnancy. One woman expressed that her husband's unwillingness to regularly take her to prenatal visits was a contributing factor to her not receiving consistent care:

> "Sometimes my husband is the one who encourages me to go to the doctor and advises me to visit the doctor and follow up on my pregnancy. He also sometimes feels lazy and says that since I visited the doctor last month that is enough." (P7, 26 years old, 3 children, high school education)

Another participant reported irregular prenatal care visits; she attended only three prenatal care appointments in her first trimester and then stopped going to visits. In her final month of

pregnancy, she attended four visits due to issues with the position of the baby. She stated that she could not visit the government clinic in the morning because her husband was sleeping, and it took time and effort to wake him up. Instead, they went to the private clinic in the evening when he was awake.

> "I do not like to visit a female doctor early in the morning, because my husband sleeps very late. I keep trying to wake him up until he wakes up, I felt tired of waking him up and I did not want to go to the doctor after all that effort. But appointments in the evening (in the private clinic), we are all awake and we can go. But I felt tired of the morning visits (in government hospital) that began from the middle of the eighth month of pregnancy, because my husband took a long time to wake him up." (P5, 23 years old, 2 children, high school education)

Husbands unavailability for visits led women to cancel appointments. Ten women reported that their husbands' work conditions prevented them from attending appointments. Some women avoided asking male relatives to accompany them to required visits when their husbands were unavailable because they did not want to bother them.

> "When I had an appointment, I coordinated on the basis of the presence of my husband and I went to the hospital……In the second month of pregnancy, I waited until my husband came from his work that had taken him away from home because he was not available at the time, and then I went to the hospital. I do not want to bother any one of my family, like my brothers and father, to take me to the hospital. If my husband is at work, I ask one of my brothers, but if I cannot find anyone, I will cancel the appointment." (P11, 32 years old, 3 children, intermediate school education)

Another participant reported that she had to wait until her son came home from school to take her to the clinic, because her husband did not drive. She mentioned that, during her previous pregnancies, before her son learned to drive, she often asked her father to accompany her. She sometimes skipped appointments because she felt reluctant to ask him to take her to the clinic.

> "My children go to school, and I have to wait until they come back before I find someone to take me to the clinic (my son). My husband does not drive the car, and this is my problem. My son is the one who drives me to the clinic. And Alhamdulillah [thank Allah], and now my eldest son is the one who drives me to the hospital and travels with me Alhamdulillah [thank Allah]. I was relieved when my son started driving. He was the one who took me to attend the doctor visits during my last pregnancy…. Previous pregnancies, my father was the one who drove me to the clinic, but sometimes I did not go to the doctor because I felt too shy to ask my father to take me there every time." (P8, 37 years old, 7 children, intermediate school education)

Another factor affecting the mobility of women in Faifa was their responsibility for household chores and childcare. Women with one or two children stated that they often took their children with them to visits or booked appointments while their children were in school. Others reported that their mothers or sisters took care of their children while they attended appointments. However, five women, who were housewives or working from home, with multiple children reported that their home and child care responsibilities prevented them from attending all their required prenatal care visits.

> "I am responsible for the children at home and their needs, and because I have young children at home, this would stop me from attending prenatal care visits …… Also, I did not go to the city hospital because it is far away. I have young children in school, and it is

difficult to leave them or take them all to the hospital" (P13, 30 years old, 4 children, no formal education)

Another woman reported,

> "I do not have the time and I am responsible for the house. I cannot leave my kids with my relatives because they have a home and children, they are busy with their responsibilities…. The second obstacle is to get out of the house, I have work at home that does not end, and when you finish the house work, the clinics are closed." (P8, 40 years old, 3 children, bachelor's degree education)

Discussion

To our knowledge, this study is the first to explore the influence of gender dynamics on rural Saudi women's access to prenatal care. Using a postcolonial feminist lens, our analysis of women's narratives indicates a positive relationship between husbands and their wives allowing for joint decision-making that enhances positive pregnancy outcomes. Husband's support during pregnancy was identified as a crucial factor in facilitating access to prenatal care. However, women reported that lack of mobility prevented them from receiving consistent prenatal care. Husbands' limited involvement in prenatal care during pregnancy was also disclosed as a challenge. Women noted that their husbands lack of engagement was associated with a non-male-friendly healthcare facility environment.

The involvement of the husband in prenatal care visits increased women's utilization of prenatal care and the uptake of interventions for a healthy pregnancy. Involvement in prenatal care also enables husbands to provide psychological support to their wives, increases their awareness of signs and symptoms that lead to maternal and child mortality, and makes them more likely to encourage their wives to use healthcare services (Mkandawire & Hendriks, 2018).

Husbands with a heightened awareness of their wife's health condition may relieve their wife of some of her workload during pregnancy to ensure she rests adequately to reduce the risk of complications during pregnancy and childbirth (Michael, Dan, & Othman, 2011).

It is crucial that husbands are well informed about prenatal care as they often make decisions on behalf of their wives. Being present at prenatal visits and interacting with healthcare providers gives husbands access to important information that would enable them to make informed decisions. Interaction with healthcare providers could enhance husbands' decisions to permit their wives to use prenatal care sufficiently in order to promote positive maternal and infant outcomes and to also provide them with the necessary resources and support including, transportation to the hospital, and payment of healthcare fees (Yargawa & Leonardi-Bee, 2015). Participation in prenatal care may also encourage a husband to give his wife freedom to move forward with any medical procedures that benefit her health and the child's health (Mohammed, Johnston, Vackova, Hassen & Yi, 2019).

Encouraging men to participate in a domain that has traditionally been occupied by women is risky, as men may appropriate power (Mbweza et al., 2008; Sternberg and Hubley, 2004). One study by Sahip and Turan reported that some women experienced pressure from their husbands to adopt specific behaviors recommended by healthcare providers, using this knowledge to "dominate decision-making about pregnancy, nutrition and infant care" (Sahip & Turan, 2007). However, men's involvement in maternal health is necessary to prevent maternal mortality. Interventions that promote men's engagement in any aspect of women's health including prenatal care should ensure that women's existing decision-making capacities are not inadvertently compromised. Husbands involvement in prenatal care should follow consultation with the women themselves. Healthcare providers could ask women privately which aspects of

their care they would like to be confidential. Efforts to involve men in prenatal care should intentionally address gender equality.

Consistent with existing literature (Vermeulen et al., 2016), women in this study reported that their husbands were not allowed to attend prenatal visits with them in the one hospital that serves residents living in the Faifa mountains. Changing hospital policies to allow men to attend prenatal care with their wives could facilitate greater adherence to the interventions provided at the clinic. Husbands' engagement in prenatal care visits may also reduce maternal stress and complications, encourage further social, financial, and logistical support, and promote shared decision-making (Kazemi, Sharifi, & Simbar, 2017). Husbands' involvement in prenatal care may also help women feel protected and secure (Redshaw & Henderson, 2013). There is evidence that women can significantly benefit from their husbands' involvement when seeking and receiving prenatal care (Roth & Mbizvo, 2001; Singh, Lample, & Ernest, 2014). Moreover, Saudi cultural tradition does not forbid a husband's attendance with his wife during prenatal visits or delivery (Alharbi et al., 2018). This study suggests facilitating and encouraging the husband's presence during visits at prenatal clinics across the country including in urban areas. It would be beneficial to families and communities to consider changing current hospital policies to allow a husband more access to areas of the hospital where their wife and children are being treated (Alharbi et al., 2018). To ensure cultural modesty norms are respected, separate spaces in the clinic or hospital could be created to allow a husband to participate in their wife's prenatal and birth experience without impinging on the privacy of other female patients. These strategies could include designating a separate entrance to the clinic for couples in order to protect the privacy of the other women in the waiting area.

Lack of autonomy (operationally defined as "lack of decision making" and "mobility constraints") is causally linked to poor utilization of maternal care by other rural women in Middle Eastern countries (Khawaja, Barazi, & Linos, 2007). In our study, we found that women had some decision-making power which they used to inform their husbands when they needed to visit the doctor. Women in the study shared that they had the knowledge necessary to make decisions that could enhance their health and the health of their baby. Other studies found that women with greater decision-making capacity are more likely to access the prenatal, delivery, and postnatal care services provided by healthcare facilities (Mistry, Galal & Lu, 2009; Rutaremwa, Akiror, & Kiconco, 2015). In Saudi culture, women often defer decisions to their father or husband because they believe men are better able to make the best choice or to a male or female physician because they respect their expertise (Al-Amoudi, 2017). A promising strategy to reduce risks that result from delays in providing access to prenatal care services would be to support men and women to make health decisions together.

In some Muslim families, women are not permitted to go outside the home alone and must be accompanied by a husband, father, or brother (called Mahram[7]) during their medical visit (Mumtaz & Salway 2009; Saleem, Allyala, Bowser, Gaumer, & Lippeveld, 2018). Women in this study recognized that their inability to travel to healthcare facilities independently could be a barrier to their attending necessary prenatal visits. Participants also expressed that because they depended on their husband's availability and willingness to take them to their prenatal

[7] Seekers Guidance Global Islamic Seminary (2009), stated that Mahram is unmarriageable kin with whom marriage or sexual intercourse would be considered illegal in Islam.

visits, they were often late in seeking services. Traditional Middle Eastern society continues to foster family and societal expectations that women acquire permission from their husbands for movement outside the home (Mumtaz, & Salway, 2005; Samari, Pebley, Bourque, Sweeney, & Wallace, 2015). Promoting women's independent mobility would increase their awareness of community healthcare services and enable them to gain the skills to navigate the healthcare system for themselves and their children, resulting in greater health-seeking behavior. Greater mobility and decision making could give women the capacity to access available sources of health promotion information as well as healthcare services (Anyait, Mukanga, Oundo, & Nuwaha, 2012; Saleem et al., 2018).

Women in this study also identified household chores and childcare responsibilities as factors that prevented them from attending prenatal care visits, mirroring other reports of women's experience in rural areas of Arab countries like Egypt, as well as western countries like Canada (Chiang, Labeeb, Higuchi, Mohamed, & Aoyama, 2013; Gottlieb, Belmaker, Bilenko, & Davidovitch, 2011; Heaman et al., 2014). The demands that housework and childcare made on women's time and energy was determined as a constraint that decreased the attention a woman dedicated to her own health (Tayebi, Zahrani, & Mohammad, 2013). One study found that in rural areas of Pakistan, women who live in smaller households and had fewer children under five years of age were more likely to attend the recommended prenatal care visits (Sahito, & Fatmi, 2018).

Finally, women in this study expressed that their husbands' positive attitudes toward childbearing manifested as physical, emotional, and financial support during their pregnancy. Similalry, studies conducted by Tiedje (2001) and Aborigo, Reidpath, Oduro, and Allotey (2018)

found that a husband's positive attitude and support can elicit positive results in a mother's desire to access prenatal care and adhere to health promoting activities to ensure a positive birth outcome (). Healthcare providers could capitalize on husband's positive attitudes toward childbearing by encouraging women to invite their husbands to join them during a prenatal visit to learn more about the progression of the pregnancy. Providers could explain to husbands that it is legal and beneficial for his wife to have the option to provide consent for necessary procedures if he is unavailable to do so, as delays could put both mother and infant at risk. Moreover, providers could invest in male presence in the waiting area by providing educational materials and counseling about warning signs of complications during pregnancy. Providers could also engage the waiting husband in birth preparedness arrangements, complication readiness, nutritional advice, and health promotion behaviors. Women in the study reported and field notes confirmed that men were not permitted in the labor room due to it being in the male-restricted area of the hospital. Further, the delivery room is communal, with several women laboring in adjoining beds separated by curtains. In order to enhance men's participation in maternal and infant health promotion in the rural areas of Saudi Arabia, we recommend transforming the physical infrastructure of traditional public healthcare settings to allow husbands to participate in prenatal, delivery and postnatal care services without breaching the privacy of other women.

Saudi Arabia is currently undergoing several major changes that include the recognition of women's ability to exercise their social rights, such as having a higher level of education, greater access to the labor market and political positions. The Government is also providing resources that would enable women to engage in various activities independently, including managing their own businesses. This time period constitutes an opportunity for scholars to

propose recommendations and interventions to policy makers aimed at improving maternal and child health including the health of pregnant rural Saudi women. Understanding the gender dynamics that influence rural women's access to prenatal care through the findings of this study serves as a good foundation for making such recommendations.

Community-based awareness of the involvement of men in prenatal care disseminated via social media and other forms of campaign is recommended, including incentivized health education programs. For example, workplace-based education for fathers in Turkey provided maternal education for expectant fathers in their workplace instead of at the healthcare facility. This campaign had beneficial effects including increased participation in prenatal visits to healthcare facilities, support for good nutrition during pregnancy, and assistance in childcare and housework (Sahip & Turan, 2007).

Most research on maternal health in the Saudi context has concentrated on either personal determinants (e.g. age, income, educational level) or external environmental determinants (e.g. infrastructure) that pose a challenge to women, overlooking the influence of decision-making on women's health (Al-hazmi, 2017; Alsahafi et al., 2016; El- Gilany, El-Wehady, & El-Hawary, 2008). To gain a more comprehensive picture of women's autonomy and their decision-making power, we suggest future research, including eliciting the perspectives of both men and women, as well as healthcare providers. We recommend the Ministry of Health to integrate the following as part of the information received during prenatal care visits: information on the importance of women's mobility, the benefits of joint decision-making, helping men to understand their role in maternal health, including supporting women with housework and care work.

Limitations

This study has some limitations. Participants were women who had come to the hospital for prenatal care. As a result, their opinions and views might not represent women who do not seek care from healthcare facilities. We did not collect information about how much women and their husbands earned as this would have been culturally inappropriate, yet income might be a factor that has an impact on the participants responses. Household income is an important indicator of women and children's health outcomes. Heaman, Gupton and Moffatt (2005) conducted a study on (what?), and found that lower incomes in women were associated with delayed prenatal care. , Similarly, in a study by Mortensen, Helweg-Larsen and Anderson (2011) lower income in women was found to be associated with adverse pregnancy and birth outcomes, such as stillbirth, preterm birth, birthweight, congenital anomalies, and infant death (. The investigators also found that income can help pregnant women purchase items to meet basic needs, such as food, medication, and transportation to healthcare services.

Conclusions

Our study is among the first to systematically explore the influence of gender norms in rural Saudi women's experience of accessing prenatal care. The findings suggest that a husbands' positive attitude toward childbearing; physical, emotional, and financial support during their wife's pregnancy; and willingness to share decision-making increased women's access to prenatal care. Improving women's access to prenatal care by leveraging on the support of men could accelerate progress in achieving SDG 3 and 5 targets.

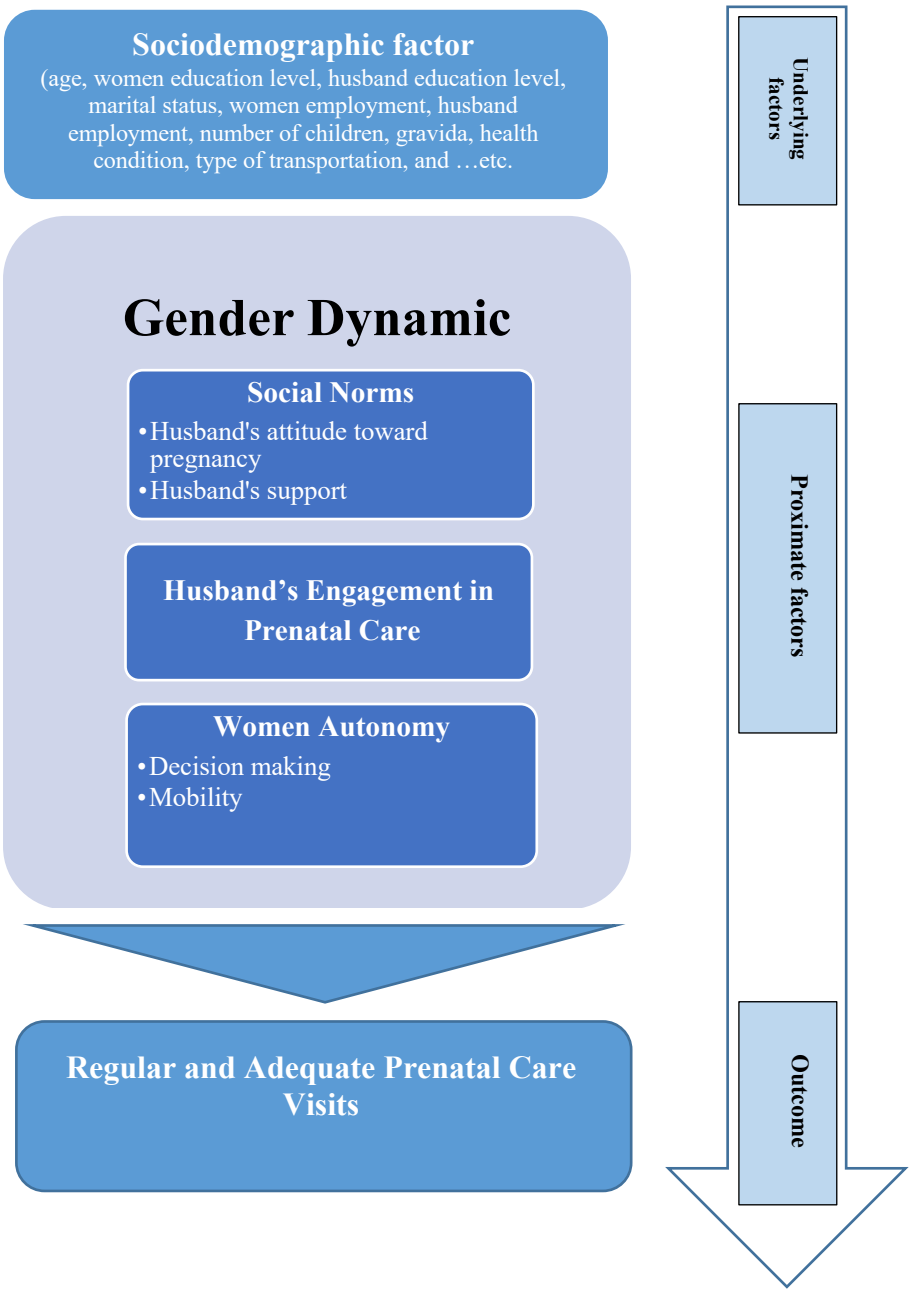

Figure 1. Thematic framework summarizing The Impacts of Gender Dynamics on Rural Saudi Women's Access to Prenatal Care

Table 2. Demographic data for women interviewed (n=30)

Variable	**Mean**
Age (20 – 48 y)	32.57
Number of PNC visits	7.46
Years of schooling	11.7
	n (%)
Marital Status	
Married	28 (93%)
Widow	1 (3%)
Divorced	1 (3%)
Tribe	
Al-Faifi	29 (96%)
Al-Shumrani	1 (3%)
Highest Level of Education	
No formal education	3 (10%)
Primary school	1 (3%)
Intermediate school	5 (17%)
High school	6 (20%)
Associate's degree	6 (20%)
Bachelor's degree	9 (30%)
Employment Status	
House wife	16 (53%)
Government sector	9 (30%)
Seller representative	2 (7%)
Dressmaker	1 (3%)
College student	2 (7%)
Highest Level of Education of Husband	
No formal education	1 (3%)
Primary school	4 (13%)
Intermediate school	6 (20%)
High school	12 (40%)
Associate's degree	3 (10%)
Bachelor's degree	4 (13%)
Husband Employment Status	
Government sector	14 (47%)
Private sector	1 (3%)
Business	8 (27%)
Unemployed	2 (7%)
Retired	4 (13%)

Student	1 (3%)
Head of the Household	
Husband	28 (93%)
Me	1 (3%)
Me and my son	1 (3%)
Household Size	
Mean	5.8
≤ 6	23 (77%)
> 6	7 (23%)
Number of Children	
Mean	3.5
≤ 4	24 (80%)
> 4	6 (20%)
Number of Miscarriages	
One miscarriage	9 (30%)
Two miscarriages	4 (13%)
Three miscarriages	1 (3%)
Number of Pregnancy	
≤ 6	25 (83%)
> 6	5 (17%)
When you found out you were pregnant?	
In the first month of pregnancy	15 (50%)
In the second month of pregnancy	13 (43%)
In the third month of pregnancy	1 (3%)
In the fifth month of pregnancy	1 (3%)
Average Distance to Healthcare Facility	
10 – 15 minutes	9 (30%)
16 – 30 minutes	21 (70%)
The Individual who Checked you during PNC	
General physician	12 (30%)
obstetrician gynecologist	18 (60%)
Gap between the Last Two Pregnancies	
1 - 5 years	21 (70%)
6 - 10 years	4 (13%)
First pregnancy	5 (17%)
Number of Admissions in Hospitals during Pregnancy	

One time	5 (17%)
Two times	4 (13%)
Three times	1 (3%)
Four times	1 (3%)
Chronic Health Conditions	
Asthma	3 (10%)
Diabetes	2 (7%)
G6PD deficiency	1 (3%)
Thyroid disorder	4 (13%)
Hypertension – Rheumatism- High blood cholesterol	1 (3%)
Smoking or Chewing Khat	
Yes	0 (0)
No	30 (100%)

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Manuscript 2: An Analysis of Factors Affecting Prenatal Care Access among Rural Saudi Women in the Faifa Mountains of Saudi Arabia

In this second manuscript, I report findings on the structural factors that impact pregnant women's ability to access prenatal care services. This manuscript meets the following aim of the original paper (whole dissertation), which is to analyze healthcare delivery system characteristics that prevent and/or assist pregnant women in accessing prenatal care services. Our analysis shows transportation as a factor that impacted women's prenatal care access. Healthcare provider characteristics also had implications for prenatal care access. In this manuscript, three themes are identified. The first theme is healthcare system characteristics and includes the subthemes *shortage of healthcare providers*, *equipment and resources*, and *waiting time.* The second theme, healthcare provider characteristics, includes the subthemes *attitudes and behaviors of healthcare providers* and *gender of healthcare providers.* The third theme is transportation and includes the subthemes *road conditions* and *distance.*

This manuscript is formatted based on the guidelines set by the *Maternal and Child Health Journal*, the intended journal of publication. In this manuscript, a brief overview provided of existing international and Saudi literature on structural determinants in access to prenatal care for rural women. A postcolonial feminist theory was employed to inform data collection and data analysis. Postcolonial feminist theory emphasizes the ideas that the knowledge embedded in the experiences of non-white, non-Western women is authentic and can be expressed by women themselves. A discussion of the implications of the findings for policy and practice is included.

An Analysis of Factors Affecting Prenatal Care Access among Rural Saudi Women in the Faifa Mountains of Saudi Arabia

Abstract

Objectives: Worldwide, rural women face a challenge with access to healthcare services and low quality of care. Pregnant women especially face greater risks in childbirth, and their infants are less likely to survive. Despite efforts to improve the quality of healthcare services provided to the rural population, the southern region of Saudi Arabia reports an infant mortality rate that is persistently higher than other regions in the country. The purpose of this qualitative inquiry was to analyze rural Saudi women's experiences with prenatal care access. *Methods:* A postcolonial feminist framework was used to situate women's perceptions of and experiences with access to prenatal care. ATLAS.ti software was used to help identify themes and thereafter, a thematic analysis was the method employed to analyze interview data from individual interviews with thirty Saudi rural women. *Results*: The analysis revealed structural factors that impacted access to prenatal care. We categorized these factors as: (1) healthcare system characteristics, (2) healthcare provider characteristics, and (3) transportation factors. Major impediments to prenatal care access reported included a shortage of healthcare providers, lack of diagnostic tools, limited laboratory tests, provider attitudes and behaviors, absence of female doctors, and road conditions. *Conclusions for Practice:* Future interventions should consider all these factors to enhance utilization of prenatal care services by rural Saudi women living in the Faifa mountains. The utility of a postcolonial feminist perspective to inform this study is our centering the voices of women in informing policy related to prenatal care access and healthcare interventions that would enhance healthcare access.

Keywords Saudi Arabia. Rural women. Prenatal care. Access. Providers. Transportation

Significance

What is already known on this subject? There are disparities between the Saudi population who live in rural areas and the population living in urban areas in utilizing prenatal care (Almalki, Fitzgerald, & Clark, 2011). Existing research in Saudi Arabia has heavily focused on identifying factors that impact access to prenatal care in urban areas, but to our knowledge, there has been little investigation into factors influencing prenatal care access in the rural areas. *What does this study contribute?* Rural women reported facing major structural barriers in seeking prenatal care. These findings provide knowledge on important considerations for improvement by informing practice and policy in order to facilitate access to prenatal care for pregnant women living in rural Saudi communities.

Introduction

Complications through pregnancy and childbirth are the main reason for death and disability among women of childbearing age in developed and developing countries (Studnicki & Fisher, 2018). The Center for Disease Control and Prevention (CDC) reported that maternal mortality rate increased in the United States from 18.8 deaths per 100,000 births to 23.8 deaths per 100,000 births between 2000 and 2014 (Studnicki & Fisher, 2018). It is estimated that 20-50% of these deaths are due to avoidable causes, such as hypertensive disorders of pregnancy, hemorrhage, infection, and other cardiovascular conditions (Studnicki & Fisher, 2018). Compared to the U.S., the maternal mortality rate in Saudi Arabia in 2015 was 12 deaths per 100,000 births (Central Intelligence Agency [CIA], 2017), which is less than the U.S. maternal mortality. However, Saudi Arabia has higher rates of maternal mortality compared to the UAE and Kuwait, with the UAE at 6, and Kuwait at 4 deaths per 100,000 live births, respectively (CIA, 2017).

Overview of Saudi Arabia

Saudi Arabia is an Arab state situated in what is considered western Asia with an estimated population of 31,742,308 (CIA, 2017). Of this population, 16% are residents of rural areas (World Bank [WB], 2018). Saudi Arabia is heavily dependent on petroleum for its economy, which accounts for approximately 87% of the country's budget revenue, 42% of GDP, and 90% of export earnings (CIA, 2017). Healthcare services in Saudi are free of charge to all citizens and expatriates working in public institutions (Walston, Al-Harbi, & Al-Omar, 2008). The healthcare sector in Saudi Arabia is represented by three healthcare players. First, the Ministry of Health (MOH) is a regulatory body for healthcare services and activities, providing 60% of healthcare services with a total of 274 hospitals (41,835 beds) and 2,325 primary healthcare centers (Aljuaid, Mannan, Chaudhry, Rawaf, & Majeed, 2016). Second, under the regulation of the MOH, Quasi-Government healthcare facilities, affiliated with the military and universities, provide 18% of services (Almalki et al., 2011; Colliers International [CI], 2018; Ministry of Health [MOH], 2016). These Quasi-Government healthcare facilities account for a total of 39 hospitals and provide services to military and university employees and their dependents (MOH, 2016). Third, the private healthcare sector, also governed by the MOH, provides 22% of self-paid healthcare services, with a total of 152 hospitals (17428 beds) (Almalki et al., 2011; MOH, 2016).

In Saudi Arabia, access to healthcare has generally improved in recent decades; however, this improvement to access has also inadvertently resulted in many challenges for healthcare facilities, healthcare professionals, and other stakeholders (Aljuaid et al., 2016). Challenges include shortages in healthcare professionals, increased medical errors, long waiting times, and underutilization of electronic health record systems (Aljuaid et al., 2016). Most specialized,

private, and government healthcare facilities with highly skilled and qualified personnel and advanced technology and equipment are in large cities (Almalki et al., 2011). Rural areas of Saudi Arabia are different, as there is limited or nonexistent specialized care. Disparities in health outcomes between rural and urban populations are a result of inadequate healthcare professionals, medical resources, equipment, and supplies, which negatively influence the quality of care among rural pregnant women compared to their counterparts in urban areas (Almalki, 2014; Almalki et al., 2011; Wakerman *et al*., 2008). The residents of rural areas thus continue to experience poor health outcomes, even though efforts have been made to improve the quality of healthcare services in cities and large communities, leaving rural communities at a disadvantage (Almalki et al., 2011).

Inadequate or inappropriate prenatal care during pregnancy might lead to poor health outcomes, including low birthweight, prematurity, and increased risk of maternal and infant mortality (Tayebi, Zahrani, & Mohammad, 2013). Maternal mortality has long-term social and economic implications for the affected families as well as the broader society. The effects of maternal mortality on society are an increased number of orphans and single parent households (Molla, Mitiku, Worku, & Yamin, 2015). In addition, poor birth outcomes can have long term consequences for individuals, families, and communities. For example, babies who are born with a low birth weight have higher rates of rehospitalization, childhood illnesses, and developmental problems (Gupta, de Wit & McKeown, 2007). Babies who are born in low-income rural households face greater challenges as families may not be able to afford transportation or medical related costs (Enweronu-Laryea, Andoh, Frimpong-Barfi & Asenso-Boadi, 2018; Larson, 2007). A study by Enweronu-Laryea and others reported that low-income families suffer great financial loss as a result of missing working days due to their child's hospitalization

(Enweronu-Laryea et al., 2018). Premature births have major financial implications. In 2015, the annual cost of premature births to the U.S socially and economically was approximately $26.2 billion each year (March of Dimes, 2019). Often, preterm birth is the primary cause of long-term disabilities in children such as hearing loss (March of Dimes, 2019). Major and minor birth defects among live birth infants can also cause economic and emotional suffering for families. Maternal and infant health complications can be avoided through the provision of comprehensive prenatal care that targets all aspects of women's needs during pregnancy. Available, accessible, and affordable comprehensive prenatal care services for all pregnant and postpartum women includes physical healthcare, health education, nutrition, and psychosocial support to ensure better health outcomes for mothers and babies (Daniels, 2011).

There is limited literature about access to urban and some rural prenatal care in the Central, Western, and Eastern regions of Saudi compared to other regions. These studies clarified barriers that urban women face when seeking prenatal care including availability of transportation, work conditions, long waiting times, and poor healthcare system (Alanazy, Rance, & Brown, 2017; Alsahafi et al., 2016). There is, however, a lack of knowledge about access to prenatal care in the rural areas of Saudi, including the Jazan province. The Faifa mountains, located in the Jazan province, with a population of 60,000 (Okaz, 2012), further lack healthcare facilities. Within this province there are only six clinics providing basic prenatal care and one hospital for delivery services, including ten beds for admission, one delivery room with three beds, two operating rooms and three ambulances that service all departments, and no ICU. This hospital also has two obstetrics and gynecology clinics but only one clinic that operates.

Few studies have reported on the difficulties that rural Saudi women experience and strategies to improve maternal health outcomes in rural environments. This qualitative study was

undertaken to explore the prenatal care seeking experiences of rural Saudi women who live in the Faifa mountains. Our analysis of findings begins to address this gap in the literature. In this paper, we report specifically on structural factors including, healthcare system characteristics, healthcare provider characteristics, and transportation that all impact rural pregnant women's access to prenatal care in the Faifa mountains of Jazan province.

Methods

This study used individual in-depth interviews to explore the structural factors that impact access to prenatal care from the perspective of rural Saudi women. Qualitative methods were used to gain in depth and detailed interpretations of how the healthcare system and other structural factors impact women's health during pregnancy and their experiences in accessing and utilizing prenatal care.

Philosophical Framework

A postcolonial feminist framework was used to guide the process of participant recruitment, data collection, and data analysis. Postcolonial feminism contests traditional western feminist discourse that universalizes women's experiences particularly in the global south without acknowledging the heterogeneity of women across race, class, and ethnic lines (Mohanty, 1988). Postcolonial feminist theory also seeks to examine the influence of historical, sociocultural, political, and economic factors that shape women's experiences and to create a space where women's voices can inform health and social policy. Women are at the center of issues regarding access to prenatal care, and they thus possess the necessary knowledge as well as the solutions that would lead to transformational change.

Setting and Recruitment

Thirty individual in-depth interviews were conducted with participants living in the Faifa mountains in Saudi Arabia. We conducted the study in this rural area from January to April 2019Recruitment took place at the Faifa General hospital and primary healthcare centers of Faifa. Participants were recruited from the obstetrics/gynecology department clinic and admissions unit. The study employed purposive sampling to recruit participants. Snowball sampling was also utilized as a strategy for recruitment to improve sample diversity. All participants met the eligibility criteria, which were to be Saudi, 18 years or older, living in the Faifa mountains of the Jazan province of Saudi Arabia, speak Arabic, and identify themselves as having been pregnant in the last two years or postpartum. Both postpartum women and women who had delivered within the last two years were selected to reduce recall bias. There were no pregnant women participated in this study. A snowball approach was used, so women who had already been interviewed were asked to refer others they knew who met the eligibility criteria. The participants could choose to conduct their interviews either within or outside the healthcare facilities. Twenty-seven interviews took place in a private location at a healthcare facility where participants felt most comfortable, while three interviews were conducted in participant homes.

Data Collection Procedure

Approval was obtained prior to conducting the study from the Human Subjects Committee from both the University of Wisconsin-Milwaukee's Institutional Review Board and the Saudi Institutional Review Board. All participants provided written, informed consent. A semi-structured interview guide was used to ask thirty women about their individual experiences accessing prenatal care. This semi-structured interview guide was written in English and

translated into Arabic. All interviews were conducted in Arabic by the first author. Twenty-three of the interviews were digitally recorded and transcribed verbatim by the first author in the Al-Fayfiyah dialect,[8] before translation into English. Seven participants were not comfortable being recorded and were concerned that their anonymity may be compromised. They refused to be audiotaped as they felt it would violate a cultural expectation of modesty. These seven interviews were thus written in the Al-Fayfiyah dialect by a local transcriber. The transcriber was a local female nurse who was trained to understand issues of confidentiality. For the participant who did not wish for their interviews to be recorded, the transcriber sat in on the interview to write down questions and answers directly into the Al-Fayfiyah dialect. The first author then translated these transcribed interviews into English. All interviews lasted one and a half to two hours in duration. Basic demographic information was also collected from all participants. As a token of thanks for their valuable time, all participating women received gift cards for cell phone minutes' worth 20 Riyal Saudi ($5.33 U.S. dollar) at the end of their interviews.

Data Analysis

All transcripts were reviewed for completeness, de-identified, and kept on a password-protected personal computer for confidentiality purposes. A software program (ATLAS.ti) was used to manage textual data, codes, memos, and data searches. Transcripts were analyzed using the tenets of thematic analysis. Thematic analysis consists of five steps, as described by Ritchie, Lewis, Nicholls, and Ormston (2014). During the first step, the data is reviewed following interview transcription by reading all the interview transcripts and identifying topics related to the research purpose. Second, a preliminary code is assigned to the data to label the content.

[8] Al-Fayfiyah dialect is believed to be a dialect of Himyaritic, which is considered a Classic form of Arabic belonging to the Arabic language.

Third, these codes are sorted into themes and sub-themes. Fourth, the themes identified in the third step are reviewed and refined. Finally, appropriate extracts are selected for explication of the analysis.

Credibility, dependability, confirmability, and transferability were established to ensure that the data was trustworthy (Guba & Lincoln, 1994). Credibility was achieved by ensuring that all the participant experiences were described accurately by using in-depth interviews, field notes, and observations to attain data triangulation (Nowell, Norris, White, & Moules, 2017). Data confirmability was achieved by keeping reflective journals throughout the research process. Data transferability was ensured through collection of participant demographic information and other data that helped contextualize the women's narratives. Finally, dependability was accomplished by documenting the research process and decision-making, and through ongoing liaison and consultation with other scholars, who served as members of the dissertation committee (Nowell et al., 2017).

Results

Sample Description

Participant demographics are presented in Table 1. All (N=30) of the participants reported that they were from the Faifa tribe. Mean participant age was 33 years. Twenty-nine of the participants were from the Faifa tribe and one person was from the Al-Shumrani tribe. Approximately 16 of the participants were housewives; nine women were working as a teacher or school administrators in government affiliated institutions; two women worked in the private sector as seller representatives; one woman worked as a dressmaker; two women were students in college. On average, the participants had eight prenatal care visits. The number of children women had ranged from one child to eleven children. On average, the women had four children.

Nine women worked in the government organizations as teachers and school administrators; two women worked in the private sector as seller representatives; one woman worked as a dressmaker; two women were students in college; 16 women identified as housewives. The average number of years of schooling for the total sample was 12 years. The twenty-eight married women reported that their husband acted as the head-of -household; the divorced woman reported that she was the head of her household, while one woman who was widowed reported that she shared the head-of-household role with her eldest son.

Major Themes

The overarching theme of this manuscript is structural factors that impacted women's access to prenatal care. These themes were identified as follows: *"healthcare system characteristics", "healthcare provider characteristics",* and "*transportation"*.

Theme 1: Healthcare system characteristics. The theme *"healthcare system characteristics"* describes factors identified within the healthcare facility itself that affected the delivery of prenatal care services to meet the health needs of pregnant women. Women in this study described situations in which they encountered the following three factors in the healthcare system: *"shortage of healthcare providers*", "*equipment and resources*", and "*waiting time.*" Most participants sought prenatal care at the general hospital, which can be up to an hour drive away from where they live. Participants did not seek care from primary healthcare centers near their residency because they felt that these facilities were not equipped with specialized providers (such as obstetric gynecologist [ob-gyn]), diagnostic tools and adequate laboratory testing equipment.

Shortage of healthcare providers. Shortages in health care staff can have negative implications for utilization of prenatal care services. Lack of healthcare providers to provide

prenatal care services was frequently discussed, and most participants highlighted that healthcare facilities in their area did not have enough obstetricians/gynecologists (ob-gyns) and most of the time, no ultrasound specialist. The physicians in this area practiced both fields as OB-GYNS. Women stated that unavailability of these specialized personnel worsened their health conditions or delayed their ability to get care on time. Three women experienced debilitation as a result of such delays, including having stillbirth, delivering a preterm baby, and getting type 2 diabetes as a result of untreated gestational diabetes in pregnancy. One woman who had experienced a stillbirth stated:

> I was bleeding a week before the seventh month of pregnancy. I went to the emergency department. The emergency doctor checked me because the ob-gyn was not available. They did not do any tests or anything to determine the cause, but they told me that it was possible that I had been injured. They did not do any examination. I was discharged from the emergency unit and sent home. Alhamdulillah [thank Allah], the bleeding stopped, and I forgot about the bleeding. A week later I went to the delivery department and the unavailability of ob-gyn doctor caused me to lose my baby. (P1, 23 years old, 3 children, bachelor's degree education)

The healthcare facility in the region was not equipped with healthcare providers qualified to manage a high-risk pregnancy. Seven women had high-risk pregnancies. Four women had thyroid disease, one woman had diabetes, one woman had G6PD, [9] and one woman had multiple chronic health conditions, including diabetes, hypertension, rheumatism, high blood, and hyperlipidemia. Women reported that the healthcare facilities in the area did not have

[9] G6PD: a defect in an enzyme called glucose-6-phosphate dehydrogenase that causes red blood cells to break down prematurely.

endocrinologists. They had two choices for managing their chronic conditions in pregnancy. They could either travel to a city hospital or accept the low quality of care provided in their rural area. For example, a woman decided to travel to a city hospital in Riyadh to manage her diabetes because the local rural hospital had no personnel who specialized in diabetes. It took almost two hours driving from her place of residence to Jazan airport and then almost 45 minutes by airplane to Riyadh.

> I've come to this hospital before and they've missed my diabetic treatments. So, I decided to go to Riyadh city to be treated by an endocrine consultant. I used to previously come here to be treated for diabetes and they usually refer me to a medical doctor who is not specialized in diabetes. (P23, 37 years old, 3 children, associate degree education)

The participant also reported that she had never had diabetes previously, but the inability of the physician to diagnose and manage her gestational diabetes during pregnancy contributed to her later developing type 2 diabetes.

> I was not diabetic at all. But, with my second pregnancy, I had gestational diabetes. The local hospital here did not discover that during my pregnancy.... But after I delivered my baby, I had dizziness and something abnormal. I was in the city, and I went to the hospital there. They did the lab tests and they found out that I had diabetes. The doctor said that I had gestational diabetes and that it continued after I delivered my baby. (P23, 37 years old, 3 children, Associate degree education)

Due to a lack of specialized healthcare providers, healthcare providers often provided care in areas not related to their specialty, which potentially impacts the quality of care received. Most participants received prenatal care from general physicians because the ob-gyn was on vacation and the second ob-gyn only saw women who had high-risk pregnancies. Twenty-seven women

mentioned that the general physician and ob-gyn were the ones who performed the ultrasound. If they were unsure of a diagnosis or women with health issues, they were asked to go to other healthcare facilities with specialized physicians and to bring back a report on the same day. Alternatively, if the woman only came for a regular prenatal visit, they could return on another day for their regular prenatal visit. One woman explained that the general physician had performed the ultrasound for her and misdiagnosed her condition. This misdiagnosis caused emotional distress for this woman:

> The female doctor (general doctor) in this hospital performed the ultrasound. She told me at that time that she was not an ultrasound specialist and that she was not sure if I had a tumor. She advised me to go to a hospital and have an ultrasound specialist check it. I was terrified by her diagnosis that I had a tumor. I went to a private hospital, they told me that I had a small cyst and not a tumor. (P3, 34 years old, 1 child, bachelor's degree education)

Equipment and resources. Healthcare facilities that are equipped with enough resources and equipment facilitate access to timely and quality prenatal care and reduce the risk of poor pregnancy outcomes. All primary healthcare centers in the region did not perform ultrasound procedures, so women had to travel to the general hospital for an ultrasound. The unavailability of ultrasound machines in primary healthcare centers led to an unmanageable number of pregnant women at the general hospital. This overcrowding caused an increase in missed ultrasound appointments. One woman said,

> The doctor decided to do ultrasound, but because of the overcrowding, I did not wait and went home…. I waited and waited and waited and then I decided to leave, and I said no

need to do an ultrasound. My baby is (Insha Allah) [if Allah wills] healthy and well. (P3, 34 years old, 1 child, bachelor's degree education)

Eleven women reported that the limited availability of quality ultrasound machines prevented them from attending prenatal care visits at the hospital. The lack of quality ultrasounds pushed some women to seek this procedure at private clinics that had advanced machines. The distance to the private clinics varied and ranged from 30 minutes to one hour depending on the women's area of residence. One woman stated that the low-quality ultrasound gave incorrect results.

> Honestly, their ultrasound is very very bad. They tell you that the fetus is here, but you do not see anything because everything on the screen is black. I go to a private hospital and pay 300 riyals[10] to see the child's condition exactly. Even when the doctor looks at the screen, he said fetus size is large, I asked him to explain to me how you see on the screen that the size of the fetus is large. However, the result of their ultrasound came different from the result of the ultrasound in the private hospital. It was different in some data, such as their result here that I was 38 weeks pregnant and the result from the private hospital said I was 41 weeks pregnant (they were correct). So, their machines here are very bad. (P7, 26 years old, 3 children, high school education)

In addition, the general hospital lacked laboratory tests and needed to send samples to the central hospital, which is about 54-miles away. Obtaining the test results thus often took a long time. The physicians had two options. They could either order treatment for women based primarily on physical examination or they could wait for the tests results before treating the pregnant woman. Ordering treatment without the laboratory results or delaying treatment due to waiting for results can both negatively impact pregnancy outcomes.

[10] 300 Saudi Riyal equal to 80 U.S dollars

Waiting time. Long waiting times placed a strain on women's access to prenatal care. The prenatal care clinic at the hospital serves the highest numbers of pregnant women in the area and additionally, provides care for women who are not from the Faifa mountains. However, this hospital has two obstetrics and gynecology clinics, but only one clinic in operation. When women arrive at the clinic, they wait for the physician until they are called. After the physician visit, they must wait for the ultrasound. If women need a lab test, they must wait for almost two hours to get the results and thereafter talk to the physician for treatment. Sixteen women stated that long waiting periods for receiving prenatal care was an obstacle. Women also expressed that sitting in the waiting area for such long periods was exhausting. Most women complained about the wait time for lab results. Some women reported that they went to the private clinic to avoid congestion and long wait times.

> Honestly, in this hospital makes the patient tired and wait for long time. I used to go to this local hospital and wait until I feel bored. I decided to pay money and go to the private clinic to do the lab tests and the ultrasound and make sure of everything… the problem here is the patient wait time for the laboratory and ultrasound. On my last visit to this hospital, I arrived at 9:00 am and I saw the doctor at 2:00 pm. (P7, 26 years old, 3 children, high school education)

Another woman stated:

> I hate waiting. If I am very sick or have a sick child, I go to a private hospital (an hour away from her residency) because there is not a long wait. But if I am in good health or have a doctor's appointment, I can wait. (P10, 29 years old, 3 children, high school education)

The participants identified several causes of long wait times, including physicians being busy. Physicians are engaged with other work, like performing operations, having a lecture, or doing a ward round, as well as having too many women who needed to be served. Long waiting times sometimes led to women dismissing the visit and going home.

Theme 2: Healthcare provider characteristics. The theme *"healthcare provider characteristics"* describes factors related to healthcare provider capacity to deliver quality healthcare to pregnant women. These factors included "*attitudes and behaviors of healthcare providers"* and *"gender of healthcare providers."*

Attitude and behavior of healthcare providers. The participants explained that physicians, ob-gyn, and nurses constituted the providers of their prenatal care. Twenty-five women reported experiencing a lack of sympathy or psychological support and attention from the physician. Other women expressed concern that the physicians focused on checking pregnant women physically while ignoring their emotional needs: "Sometimes the patient needs psychological attention…. the ob-gyn doctor, it's true that she' s skilled but she always scowls. But the patient needs psychological attention and a smile." (P23,37 years old, 3 children, Associate degree education).

Most women stated that they did not find a difference in communicating with Saudi or non-Saudi nurses. They mentioned that they did not have any difficulties in communication with foreign nurses because all nurses spoke Arabic. "There are nurses who treat you well, and some who treat you badly, no matter their nationality. I do not have a problem of communication or talking with foreign nurses." (P3, 34 years old, 1 child, bachelor's degree education).

Some women preferred to be treated by Saudi nurses who were from their region because those nurses spoke their dialect and understood their cultural beliefs and practices. One woman

stated that a nurse who was from her region had better care because she provided more emotional care than the foreign nurse:

> My delivery with the third child, there was a Saudi nurse with me. She treated me well in the delivery room. She was holding my hand until I finished giving birth. But the foreign nurse only did her job and did not care what I wanted or felt. But the Saudi nurses, I feel that they appreciated me and asked me if I needed anything. (P1, 23 years old, 3 children, bachelor's degree education)

Lack of information from healthcare providers concerned women a lot. Women explained that physicians did not provide information about the specific health problems they faced, why they ordered a specific intervention and their health and baby's health condition. In addition, women were not given the chance to clarify concerns or to ask questions. One woman said:

> I hope doctors will improve how they deal with the patient… they do not talk to the patient or nothing. Even at the time of ultrasound, the doctor or specialist did not explain to me what was on the screen. I tried to look at the screen and I did not know what was on the screen. I remembered the time I asked doctor when she did the ultrasound for me… I was asking her, and she did not respond to my questions. But I discovered that she had written everything behind the paper when I went to primary care center. The female doctor there told me the condition of the fetus and that I have to go back to doctor after a month. If that female doctor in the primary care center had not told me I would not know what the results of the ultrasound were and also, I would not know I had an appointment with doctor. (P5,23 years old, 2 children, high school education)

Another woman wondered why healthcare providers did not provide adequate information to pregnant women or educate them during their visits.

> They did not inform the patient and give her information about her state of health or how to care for the child. I do not know why they might not have such a skill. It is assumed that they educate the mother. Especially if the mother is pregnant with her first child, the doctor should give her information about the way the child is carried and how to breastfeed. But in this hospital, they do not do so. They leave this task to the mother and she must learn from her surroundings. (P28, 42 years old, 10 children, intermediate school education)

One woman stated that the physician did not pay attention to her complaint, which worsened her condition:

> There is a little negligence. For example, they do not refer the patient quickly or checking the condition of a patient quickly. For example, I am now suffering from dizziness and I also had this dizziness five years ago. When I went to the doctor, he says there is no problem and you are good. And I asked them to transfer me to another hospital because I want to know what I have. I am tired of this dizziness, I cannot stand up for few minutes, I cannot. I still do not know the reason. (P16, 35 years old, 6 children, intermediate school education)

Another woman expressed that she was disappointed with the physician's lack of attention to her condition. She believed that the way she was treated caused her to deliver a preterm baby: "The first child born in the sixth month…. During my first pregnancy, I visited the doctor here. I only saw unconcern from them. Especially because my situation was high risk. I did not feel that caring and I was at the time in labor in the sixth month of pregnancy… There was a male doctor at the time… he did not pay any attention to the seriousness of my situation." (P20, 37 years old, 3 children, bachelor's degree education).

Some women were satisfied with the care they received from a specific general physician who was friendly and respectful. Women explained that they did not attend prenatal care visits when this physician was not available.

> I feel that Dr. (A) is good-hearted, at least she delights you with good words… She talks to you and wants to know if you have problems, how your health is and what you feel. She reassures you at least by talk… Previously, I did not go to visit Dr. (B) because her treatment is not good, and I did not want her. But I waited until Dr. (A) returned and I started my prenatal visit with her. (P17, 28 years old, 2 children, intermediate school education)

Women reported feeling humiliated and disrespected by providers. They specifically noted shouting and the use of insulting language. One woman said that she was visiting the city clinic for her entire pregnancy, and that the physician there told her she would give birth naturally. But when she went to the local rural hospital, the physician there said that she needed a cesarean section, which is not what she desired. So, the physician and this woman ended up having a verbal battle. She explained:

> But the dialogue between me and him became stubborn. The doctor said that 'you want to sit here in the hospital, I swear you will do the cesarean section. If you do not want to give birth here, 'face off'.' and I went to the city hospital. (P20, 37 years old, 3 children, bachelor's degree education)

Lack of physical privacy in the clinic was another issue that women reported. Women were challenged in maintaining their privacy during visits and examinations. The clinic had a nurse and two general physicians with staff and patients who were allowed to enter and leave the room anytime during the patient's visit.

Gender of healthcare providers. At the health facilities that women attended, all prenatal care was provided by female nurses, but the physician who provided care could be male or female. All the women stated that they preferred to be treated by female physicians during prenatal care visits because they felt embarrassed exposing their bodies and having vaginal examinations conducted by male physicians. Some women expressed that they would accept treatment by a male physician if there were no female physician, but they felt uncomfortable and upset after being examined by a male physician.

> There is a male doctor, but I do not like to be treated by him. It is so embarrassing to allow a male doctor to examine me and especially do an examination for my private area. I preferred a female doctor but in the case of an emergency and if a female doctor is not present and the male doctor is available, I will accept that, but I will not be comfortable. (P1, 23 years old, 3 children, bachelor's degree education)

Another woman stated that:

> It is important to visit a female doctor during pregnancy. I remember, in my previous pregnancy, a male doctor examined me while giving birth, but I was embarrassed and ashamed during the examination. I was in labor pain and I was not conscious, but after that I was so upset that I let him to examine me. (P17, 28 years old, 2 children, bachelor's degree education)

Some women refused to be treated by male physicians. One woman said that most pregnant women, when they found out that the clinic had only male physicians, would leave the clinic without being seen. Some women explained that they preferred female physicians because they better understood the experience of pregnancy and were also kind.

> The female doctor is very kind with the patient and also is a skillful doctor. She understands our feelings. But the male doctor does not understand our feelings and tiredness because he is a male and he does not know what the pregnant women feel and suffer. This male doctor is a man, and he has no sense or feelings. (P26, 40 years old, 3 children, bachelor's degree education)

Theme 3: Transportation. All women used cars as their mode of transportation to the healthcare facilities. The average drive to their local primary healthcare center or hospital ranged from 15 to 30 minutes by car. Four women reported the longest distance they had to drive was one hour when they attended some prenatal visits from Sabya city hospitals. Eight women reported that the longest distance they had to drive was three hours where they sometimes attended prenatal care from Abha city hospitals or delivered there. Two women who had high-risk pregnancies took almost two hours driving from their place of residence to Jazan airport and then almost 45 minutes by airplane to the city of Riyadh. Women explained transportation challenges in two different ways: *"road conditions*" and "*distance."* All participants reported using cars as their mode of transportation.

Road conditions. Road conditions were an important issue for the rural women who lived in areas with rough terrain. Thirteen women reported that unpaved and curvy mountain roads prevented them from seeking care in a timely manner. "I did not go to the clinic every month. Maybe every two months, I go to the doctor. Because I suffer from motion sickness and always, I vomited." (P13, 30 years old, 4 children, no formal education). "The roads are bad… they are full of potholes and the roads are very narrow. It cannot accommodate a car and large truck next to each other." (P21, 45 years old, 6 children, primary school education)

Distance. Participants expressed that the road conditions worsened during rainy season, preventing them from utilizing care.

> The place where I live is in a valley. If a water stream comes down the street during the rainy season, it ruins the road, which prevents us to cross it. This may prevent pregnant women from going to the clinic. Disruption of the road because of a flood during the rainy season happens. (P4, 33 years old, 3 children, high school education)

The maximum time it took them to reach the local hospital was an hour. Challenges with transportation delayed women in attending visits. Such delays in care sometimes led to unmet health care needs, which accumulated and worsened pregnancy outcomes. One woman stated:

> The reason is that previously I gave birth to one of my children on the way, and I did reach the hospital. And it was in the car. I felt pain in the morning, and I gave birth to the baby before I reached the local hospital. When I arrived, they put my baby in a nursery for care because he was not okay. (P8, 37 years old, 7 children, intermediate school education)

Fourteen women said that long driving distances to prenatal clinics was an impediment in attending prenatal care visits regularly. Driving time to the hospital increased during traffic and foggy periods. Traffic congestion started at 6:30 am to 7:30 am when employees travel to work and students go to school. Traffic jams occurred again in the afternoon, from 1 pm to 2 pm, when both employees and students headed home. Traffic congestion also repeatedly occurred during official vacation, when many visitors came to the area. One woman explained: “The distance of the hospital from the house is another problem, for example, it is about an hour away. And also, the time increases during traffic.” (P29, 28 years old, 1 child, bachelor’s degree education). Another woman said: “I hope they build a hospital other than this site, so everybody can reach it.

Sometimes it takes an hour or half an hour if there is fog." (P21,45 years old, 6 children, primary school education).

Discussion

The aim of this study was to explore rural Saudi women's experiences with access to prenatal care. Consistent with other studies, shortage of healthcare providers, lack of resources, and long waiting times affected quality of care (Huaynate et al., 2015). Positive healthcare provider attitudes and behaviors and provision of care by female physicians played an important role in prenatal care utilization. Transportation factors, such as distance and road conditions, also contributed to rural women's experiences with access (Gabrysch, Cousens, Cox, & Campbell, 2011; McLaren, Ardington, & Leibbrandt, 2014).

Prenatal care access is a pressing challenge for rural women around the world. Rural women face barriers due to provider shortages, challenges with transportation, and lack of healthcare resources (Strasser, 2003). Even in countries where the majority of the population are located in rural areas, resources tend to be concentrated in urban areas (Strasser, 2003). In this study the major factor within the healthcare system was the lack of specialized healthcare providers, including ob-gyns. Inadequate numbers of ob-gyns have been reported as a reason for delay in providing care during emergencies (Cham, Vangen, & Sundby, 2007). This study found that this rural area lacks healthcare providers who are able to manage high-risk pregnancies and chronic health conditions during pregnancy, such as diabetes, thyroid disorder, or GPD6. This is consistent with the global literature which shows that healthcare providers attempting to meet the health needs of women in rural environments are often challenged particularly when they have to address chronic conditions in pregnancy requiring complex care beyond their ability and resources available (Humphreys et al., 2003). Lack of diagnostic tools, such as ultrasound and

limited laboratory services, were also important factors. Like most countries around the world, including industrialized nations, there is a disparity in the availability of healthcare services in rural areas of Saudi compared to urban areas. This has important implications for maternal-infant health (Al-Mazrou, Alhamdan, Alkotobi, Nour, & Farag, 2008). It has been reported that approximately 40% to 65% of primary healthcare centers in Saudi have no laboratories (Al-Khaldi, Al-Ghamdi, Al-Mogbil, & Al-Khashan, 2017). Finally, waiting time often increases due to the shortage of healthcare providers, and increased patient population.

Another important factor affecting rural women within healthcare facilities was the interactions between women and healthcare providers. Women are more likely to attend prenatal care visits when healthcare providers have positive attitudes and behaviors. Most of the participants felt that their physicians were less concerned about the psychological aspect of care, did not respond to their questions, did not treat them with respect and dignity, and ignored them. Such behaviors and attitudes have implications for whether or not women even access prenatal care. This finding is consistent with evidence across other regions including Africa, Asia, Middle East and Latin America (Mannava, Durrant, Fisher, Chersich, & Luchters, 2015). The current study findings, which were based on a sample population located in the southern region of the country, however, contradict the findings from Alfaqeeh and others (2017), which showed that rural and urban populations in the central region of Saudi had positive experiences with their physicians. This was different from what was reported by women in our study who lived in rural areas of the southern region. Many studies clearly show that establishing positive rapport with pregnant women can improve attendance of the recommended number of prenatal care visits. Poor provider communication skills (including lack of respect and harsh treatment) result in low

quality of care and decreased patient desire to return to the clinic (Birmeta, Dibaba, & Woldeyohannes, 2013; Ndwiga, Warren, Ritter, Sripad, & Abuya, 2017).

Gender preferences on the part of the healthcare provider were also highlighted in this study. Other studies in the Middle East report that lack of female physicians hinders women's use of appropriate and timely healthcare (Anwar, Green, & Norris, 2012; Chiang, Labeeb, Higuchi, Mohamed, & Aoyama, 2013). Pregnant Muslim women seek out prenatal care from obstetric female physicians and prefer to have females present during delivery (Attum & Shamoon, 2019). Ideally then, women should be cared for by a female clinician and nurse. If having a same-sex provider is impossible, a female nurse, staff, or female relative should always be present during examinations by and communication with male providers. In the case of male providers, as well as female providers examining women, it is important for the provider to explain the physical exam steps to the woman especially when clothing needs to be removed (Attum & Shamoon, 2019). It should be noted that treatment by a male provider during emergency or lifesaving situations is acceptable to Muslim women (Attum & Shamoon, 2019).

The last factor affecting women was transportation. Findings from this study add to the existing literature which indicates that Saudi women living in mountainous terrain face difficulties related to poor road conditions. Weather conditions also appear to be a significant factor preventing women from seeking care. The weather in Jazan is hot and dry, but the Faifa mountains are very cold in winter and moderate during the summer season (Jazan University [JU], 2015). The Jazan mountains consist of rough terrain with roads that have steep drop-offs, tight curves and can mostly accommodate only one car. This sometimes causes congestion on the roads, which can affect travel time to the clinic. Even though the roads are paved, they are in poor condition with a lot of potholes due to landslides caused by rains and floods. Additionally,

when it is foggy, it is difficult to see while driving. Fog occurs more during winter time (Saudi Tourism, 2019). Some houses are far away from the road, so people have to walk long distances in order to reach the main road. Transportation is a contributing factor to poor pregnancy outcomes, so reducing travel distances and time would positively increase utilization of healthcare services and decrease infant mortality rates (Adinew & Adinew, 2018; Karra, Fink, & Canning, 2017).

Our findings suggest that policy makers should consider implementing policies and interventions to increase prenatal care use by rural Saudi pregnant women by tackling the issues we discuss. There is also need for more obstetricians and gynecologists, diagnostic tools, and laboratory expertise as well as a specialized healthcare centers where high risk pregnancies can be managed. Our findings highlight some of transportation challenges that could be solved using telehealth to meet healthcare needs without having to travel to a health facility as well as the use of medical air transport in emergency situations to provide care for rural women (Rechel et al., 2016). The Ministry of Health in Saudi Arabia has a 24-hour reporting system including, email, mail, and phone number, where patients can report if they feel they have been ill-treated or if they believe that they have received substandard care from healthcare providers (MOH, 2019). The local hospital also provides contact information of the hospital manager, which is supposed to be accessible to all patients. The local hospital also has an employee who checks patients in the admission department to see if they have any questions or complaints.

We suggest that healthcare facilities make sure that all women who attend prenatal care clinics are knowledgeable about and have access to the reporting system. Any undesirable or unprofessional behaviors by healthcare professionals needs to be followed up and addressed promptly as such behaviors have implications on health outcomes for pregnant women

particularly in rural areas where options as well as resources are limited. Healthcare professionals need to be held accountable by not only their employers but also by the professional bodies governing their practice in the country. There is a need for policy intervention to address any system issues that amplify and perpetuate undesirable behaviors by healthcare professionals (Grissinger, 2017). These major system issues include problems that affect work overload, budgeting, staffing, and environmental stressors. Addressing these would assist in reducing negative interpersonal relationships between providers and patient. A welcoming clinic environment would also help increase women's attendance of prenatal care. Friendly staff, open communication, effective education, transparent treatment and responsive care would empower women to take control of their health and is crucial in making prenatal care an enjoyable and worthwhile experience (Adeyinka et al., 2017; Novick, 2009).

Future studies should seek to include women who are not attending prenatal care at all and to include the perspectives of healthcare providers, husbands and male guardian perspectives. Investigating these different perspectives could help add to our understanding about the complex factors that impact women's access to prenatal care. The impact of structural factors on women's healthcare access has not been adequately explored in Saudi literature. This study used a postcolonial feminist framework to analyze the factors impacting rural women's access to prenatal care. Rural Saudi women's narratives about structural impediments provide an opportunity to identify areas for improvement through policy development and implementation of appropriate health interventions.

Study Limitations

There are some limitations to this study. First, women were recruited from hospitals and primary healthcare centers, which could exclude women who do not use prenatal care. Therefore,

there is no information on women who do not attend any prenatal care at all. Second, this study did not include information about how much women and their husbands earned as we were concerned about the cultural appropriateness of the question. Individual income is an important indicator of women and children's health outcomes. Income can help pregnant women purchase items to meet basic needs, such as medication, transportation to healthcare services, (Mortensen, Helweg-Larsen, Andersen, 2011), and seeking access to quality healthcare services.

Conclusion

To our knowledge, this is the first study to document the views of rural Saudi women in the Jazan mountains. The broad scope of our findings reflects structural determinants that influence whether or not Saudi rural women use prenatal care services and to what extent they use these services. The major factors identified are related to healthcare system characteristics, healthcare provider characteristics, and transportation. The identified barriers and facilitators have led to a number of recommendations that will inform changes in policy and practice to help improve prenatal care utilization in this area. Future research needs to focus on including providers' and male guardians' perspectives and comparisons between rural and urban women's experiences with prenatal care to optimize the health of pregnant women and their children.

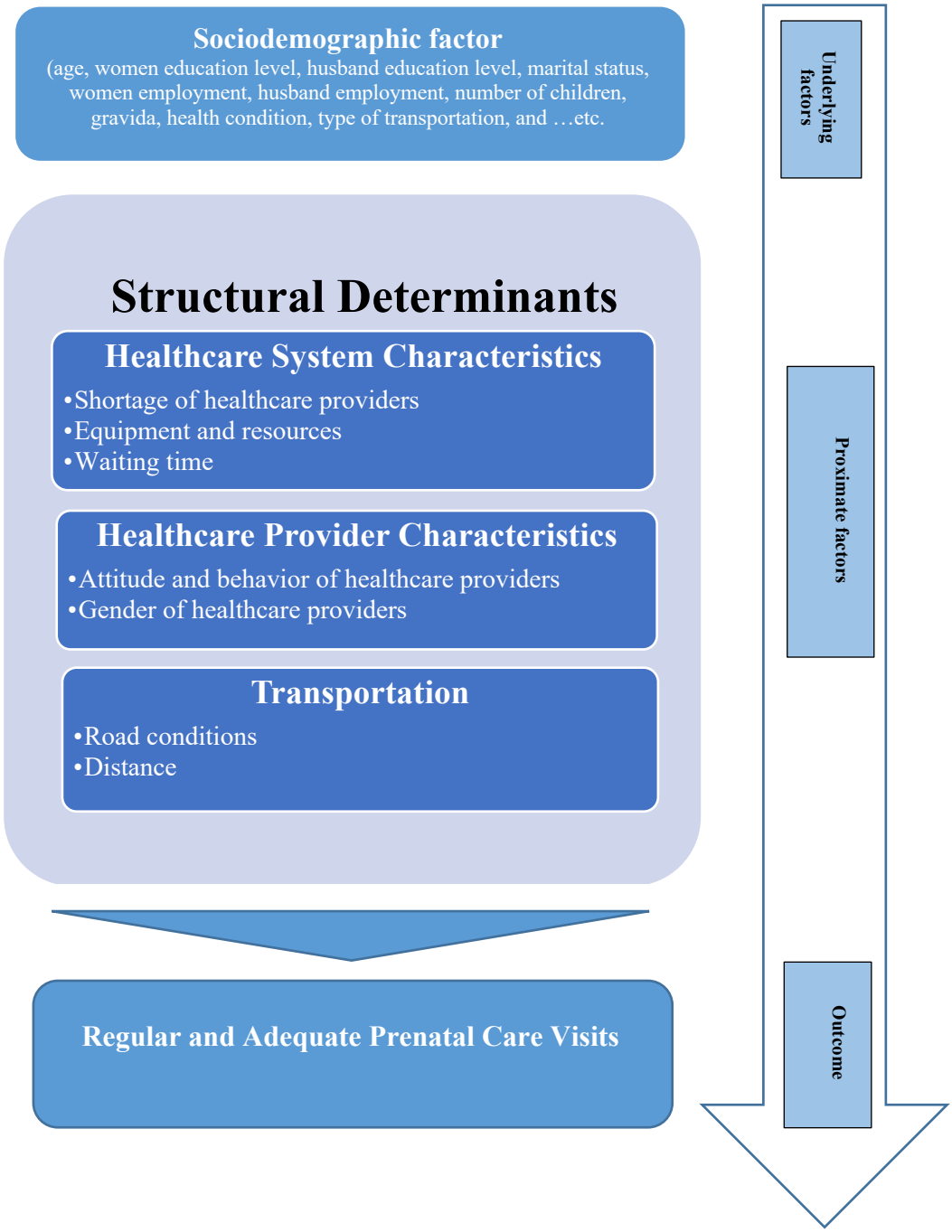

Figure 1. Thematic framework summarizing The Structural Determinants in Access to Prenatal Care for Rural Women

Table 3. Demographic data for women interviewed (n=30)

Variable	**Mean**
Age (20 – 48 y)	32.57
Number of PNC visits	7.46
Years of schooling	11.7
	n (%)
Marital Status	
Married	28 (93%)
Widow	1 (3%)
Divorced	1 (3%)
Tribe	
Al-Faifi	29 (96%)
Al-Shumrani	1 (3%)
Highest Level of Education	
No formal education	3 (10%)
Primary school	1 (3%)
Intermediate school	5 (17%)
High school	6 (20%)
Associate's degree	6 (20%)
Bachelor's degree	9 (30%)
Employment Status	
House wife	16 (53%)
Government sector	9 (30%)
Seller representative	2 (7%)
Dressmaker	1 (3%)
College student	2 (7%)
Highest Level of Education of Husband	
No formal education	1 (3%)
Primary school	4 (13%)
Intermediate school	6 (20%)
High school	12 (40%)
Associate's degree	3 (10%)
Bachelor's degree	4 (13%)
Husband Employment Status	
Government sector	14 (47%)
Private sector	1 (3%)
Business	8 (27%)
Unemployed	2 (7%)
Retired	4 (13%)

Student	1 (3%)
Head of the Household	
Husband	28 (93%)
Me	1 (3%)
Me and my son	1 (3%)
Household Size	
Mean	5.8
≤ 6	23 (77%)
> 6	7 (23%)
Number of Children	
Mean	3.5
≤ 4	24 (80%)
> 4	6 (20%)
Number of Miscarriages	
One miscarriage	9 (30%)
Two miscarriages	4 (13%)
Three miscarriages	1 (3%)
Number of Pregnancy	
≤ 6	25 (83%)
> 6	5 (17%)
When you found out you were pregnant?	
In the first month of pregnancy	15 (50%)
In the second month of pregnancy	13 (43%)
In the third month of pregnancy	1 (3%)
In the fifth month of pregnancy	1 (3%)
Average Distance to Healthcare Facility	
10 – 15 minutes	9 (30%)
16 – 30 minutes	21 (70%)
The Individual who Checked you during PNC	
General physician	12 (30%)
obstetrician gynecologist	18 (60%)
Gap between the Last Two Pregnancies	
1 - 5 years	21 (70%)
6 - 10 years	4 (13%)
First pregnancy	5 (17%)

Number of Admissions in Hospitals during Pregnancy	
One time	5 (17%)
Two times	4 (13%)
Three times	1 (3%)
Four times	1 (3%)
Chronic Health Conditions	
Asthma	3 (10%)
Diabetes	2 (7%)
G6PD deficiency	1 (3%)
Thyroid disorder	4 (13%)
Hypertension – Rheumatism- High blood cholesterol	1 (3%)
Smoking or Chewing Khat	
Yes	0 (0)
No	30 (100%)

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Manuscript 3: An analysis of the Sociocultural Determinants of Prenatal Care for Rural Saudi Arabian Women in Jazan Province

In this manuscript, I describe the initial dissertation findings, which are collated under a sociocultural determinants theme. I specifically analyze how these factors act to prevent or facilitate rural Saudi women's access to prenatal care. It is formatted based on the author's guidelines for the *Journal of Transcultural Nursing*, the intended journal of publication. This manuscript demonstrates a summary of pertinent literature on the effects of cultural beliefs and traditional practices on the use of prenatal care and the importance of prenatal care. Further, this manuscript describes postcolonial feminist methodology as well as the data collection and data analysis process followed by a report of the findings using women's narratives. In the final section, I discuss the results, including an analysis of the findings and implications for research and practice.

An analysis of the Sociocultural Determinants of Prenatal Care for Rural Saudi Arabian Women in Jazan Province

Abstract

The purpose of this paper is to discuss the influence of sociocultural determinants on access to prenatal care in rural Jazan. Understanding these determinates is an important step towards improving the health of mothers and their infants.This manuscript is part of a qualitative study that sought to explore rural Saudi women's experiences in accessing prenatal care services. The study was informed by a postcolonial feminist framework. Thirty rural Saudi women who live in the Faifa mountains participated in individual in-depth interviews. Based on the analysis, we categorized sociocultural barriers into two major themes: (a) women's knowledge and practices related to prenatal care; and (b) cultural beliefs and practices. Improving women's prenatal literacy and awareness of the importance of prenatal care encourages them to attend early and regular visits. Additionally, open and nonjudgmental communication with women allows providers to effectively communicate about herbal and medication use and provide culturally sensitive education about complications.

Keywords: Prenatal care, knowledge, culture, belief, traditional practice

An analysis of the Sociocultural Determinants of Prenatal Care for Rural Saudi Arabian Women in Jazan Province

Prenatal care is a set of services that includes the provision of proper advice and information to women and their families to ensure that mothers and infants are in good health during pregnancy, delivery, and postnatal recovery (Daniels, 2011). Prenatal care is a key strategy for reducing maternal morbidity and mortality because it provides an opportunity to identify pregnancy complications and treat them early (World Health Organization [WHO], 2004). The WHO prenatal model recommends a minimum of eight prenatal visits to a skilled provider during pregnancy, with the first visit scheduled in the first trimester (up to 12 weeks of gestation), two visits scheduled in the second trimester (at 20 and 26 weeks of gestation) and five visits scheduled in the third trimester (at 30, 34, 36, 38 and 40 weeks) (WHO, 2016). A women's decision to access care during pregnancy can be influenced by multiple factors, including one's cultural beliefs and traditional practices.

Sociocultural determinants of health are often enduring and pervasive, rooted in context (Okolocha, Chiwuzie, Braimoh, Unuigbe, Olumeko, 1998). The literature demonstrates the impact of sociocultural practices and other factors on access to skilled healthcare personnel in rural areas (Bayisa, Tatiparthi, & Mulisa, 2014; Budhwani, Hearld, & Harbison 2015; Byford-Richardson et al., 2013; Nisar, Aurangzeb, Dibley & Alam, 2016). Sociocultural practices and factors include the socioeconomic status of women (Budhwani et al., 2015); a bias towards traditional birth attendants (Byford-Richardson et al., 2013); the fear of being diagnosed with complications during pregnancy; fearing the side-effects of medications (Nisar et al., 2016); and use of herbs during pregnancy to treat ailments and to improve health status during pregnancy, birth and postpartum care (Bayisa et al., 2014). There is, however, a paucity of research on

sociocultural determinants that result in the underutilization of prenatal care specifically in rural Saudi Arabia.

Globally, there are disparities between urban and rural areas in access to maternal and child healthcare services (WHO, 2015). The Saudi maternal mortality rate is ranked 133rd amongst 184 countries and infant mortality rate is ranked 108th among 225 countries (Central Intelligence Agency [CIA], 2016). A majority of infant mortality in Saudi Arabia occurs in the southern region, particularly Jazan city. Problematically, the infant mortality rate in the Jazan region is higher than other Saudi regions (General Authority for Statistics [GaStat], 2018). In 2017, the overall infant death rate in Jazan was 3.85 per 1,000 live births, significantly higher than Makkah Al-Mokarramah (at 2.32), Riyadh (at 2.12), and Al-Sharqiyah (at 2.90) (GaStat, 2018). The Faifa mountains are, however, not included in the regional and national census because they are combined with the Gazan city census, making it difficult to ascertain infant and maternal mortality rates in the area.

The Saudi Arabia health care system provides free healthcare services to all Saudi citizens and expatriates working in the public sector. These services are primarily offered through the Ministry of Health and boosted by other governmental health facilities. The health care system is largely publicly funded at about 75%, with out of pocket expenditures at about 25% (Walston, Al-Harbi, & Al-Omar,2008). Physicians and nurses provide prenatal care at primary healthcare centers and hospitals (Al-Ateeq & Al-Rusaiess, 2015; Habib, Hanafi, & El-Sagheer, 2011). Pregnant Saudi women are eligible for free prenatal care in primary healthcare centers, and are referred to the hospital for some procedures, such as ultrasounds, or for managing high risk pregnancies; all deliveries take place in hospitals (Fayed, Wahabi, Mamdouh, Kotb & Esmaeil, 2017). However, rural pregnant Saudi women, like their rural

dwelling counterparts around the world, live in poor resourced areas where there are shortages of qualified healthcare providers and other resources that would enhance their socioeconomic status (Blumenthal & Kagen, 2002; United Nations [UN], 2012; WHO, 2015).

As is the tradition in most societies around the world, Saudi women are primarily responsible for child care and household chores. However, traditions are changing as Saudi women acquire education and thereafter seek and obtain employment outside the home (El-Gilany, El-Wehady, & El-Hawary, 2008).

The effects of women's knowledge on the importance of prenatal care and the effects of cultural beliefs and traditional practices on prenatal care service utilization among rural women in the Jazan region are often overlooked in research. This study contributes to the growing body of literature and provides valuable knowledge for healthcare providers and policymakers. To promote access to prenatal care in the rural regions of Saudi, contextual research is needed to catalogue local community practices and belief systems, allowing maternal health promotion to be appropriately tailored to local contexts. This qualitative study was undertaken to examine the prenatal care experiences of rural Saudi women. Our analysis of findings forms the basis of this paper and helps us understand rural women's experiences with prenatal care access within a given sociocultural context.

Methods

Design

This study involved an exploratory, qualitative methodology design to explore the influence of knowledge about the importance of prenatal care and cultural beliefs and traditional practices on rural Saudi women's decisions to access prenatal care. A postcolonial feminist lens was used to analyze rural Saudi women's perspectives and experiences in accessing prenatal

care. Additionally, the postcolonial feminist lens allows for narratives that help uncover issues inherent in the social structures which play out in women's lives (Denzin & Lincoln, 2011).

Theoretical Framework

Postcolonial feminist theory, which informed this study, challenges the assumption of universality in analyzing the experiences of women. The theoretical framework focuses on gender roles without taking into account how gender intersects with other aspects of women's lives such as class, race and ability, to mention a few (Vanner, 2015). This theoretical framework was valuable in analyzing the experiences of rural Saudi women because it allowed for an analysis of the multiple identities that women embody which informs their experiences of prenatal care access. Deeply exploring women's sociocultural contexts through qualitative inquiry also enabled the investigators to gain insight into the complexities of existing health disparities and deferential access to resources (Khan et al., 2007). Creating transformative and emancipatory knowledge through postcolonial feminist theory allows investigators to decolonize the research process by deconstructing the power embedded in traditional approaches and to create a space where the voices of women participating in this study can inform health policy (Denzin, Lincoln, & Smith, 2008).

Sample and Setting

We conducted the study in the rural area of Jazan in Saudi Arabia known as the Faifa mountains from January to April 2019. Rural Saudi women were recruited from Faifa General hospital and two primary healthcare centers in Faifa. This study employed purposive and snowball sampling to recruit participants and improve the diversity of the sample. Saudi women 18 years of age and older, living in the Faifa mountains of the Jazan Province of Saudi Arabia, and who spoke Arabic were eligible to participate. Postpartum women and women who had

delivered within two years were selected because they were currently experiencing or had recently experienced the phenomenon under investigation and were best able to provide detailed information.

The Faifa General Hospital and primary healthcare centers were selected as settings for recruitment because they provided access to potential participants. Interviews were conducted within and outside of these healthcare facilities depending on participant preferences. Twenty-seven interviews were conducted face-to-face in the healthcare facilities and three interviews were conducted at the home of the participants.

Data Collection and Analysis

Data were collected through audio-recorded in-depth individual interviews with eligible women. Demographic data were also collected to help contextualize women's lives. Twenty-three of the interviews were audiotaped once consent had been obtained. The audio recordings were transcribed into Al-Fayfiyah dialect[11] verbatim before translating them into English. Seven participants refused to have their voices audio-recorded during the interviews, for these seven women, their interviews were written down in the Al-Fayfiyah dialect by a local transcriber. When participants were asked to elaborate on their concerns, they stated that they were worried about their personal privacy and their preferences were respected. Participants who declined to be audiotaped expressed that taping would violate a cultural expectation of modesty and feared that their anonymity would be compromised. The interviews lasted approximately one and a half to two hours.

[11] Al-Fayfiyah dialect is believed to be a dialect of Himyaritic. Himyaritic along with Classical Arabic both belong to the Arabic language.

Transcribed interviews were then analyzed using a software program (ATLAS.ti) and the five steps of the thematic framework analysis method were applied. The first step to this analysis method is familiarization with the data following transcription. The data were reviewed and topics relevant to the research question were identified (Ritchie, Lewis, Ormston, & Nicholls, 2014). Then, an initial thematic framework was constructed by generating codes relevant to the research aims and objectives (Ritchie et al., 2014). Next, the codes were collated, and all relevant data were extracted (Ritchie et al., 2014). After that, an indexing process was used to incorporate themes and subthemes into a table with two columns, in which one column represented the transcript and the other column conveyed the thematic reference (Ritchie et al., 2014). Finally, the data were reduced and refined into evidence for representation in the findings section (Ritchie et al., 2014).

Data trustworthiness includes four criteria: credibility, dependability, confirmability, and transferability (Guba & Lincoln, 1994). By fulfilling these criteria, the researcher establishes rigorous, accurate, and meaningful data that reflects participant perspectives (Guba & Lincoln, 1994). To establish credibility and provide adequate evidence to support the phenomenon's resulting description, triangulation was applied through the use of not only in-depth interviews, but also field notes, and observations (Nowell, Norris, White, & Moules, 2017). Data confirmability was enhanced using reflective journals. Dependability was established by discussing the research process and making decisions with other scholars, in this case, scholars who formed the dissertation committee (Nowell et al., 2017).

Ethical Consideration

The study was approved by the University of Wisconsin-Milwaukee's Institutional Review Board and the Saudi Institutional Review Board before commencing. Women were

informed verbally and in written format about the nature of the study, their participation, potential risks and benefits, their right to withdraw from the interview or withhold information, and confidentiality. Consent was obtained from each participant before beginning the interview. The data were deidentified to minimize the risk of a breach in confidentiality. As a token of thanks for their valuable time, all participating women received gift cards for cell phone minutes' worth 20 Riyal Saudi ($5.33 U.S. dollar) at the end of their interviews.

Results

Participants

In this study, thirty rural Saudi women were interviewed. The age of the participants ranged from 20 to 48 years with a mean of 32.6 years. Table 1 presents the sociodemographic characteristics of the participants. The participants attended an average of eight prenatal care visits per pregnancy. Nine women worked in the government organizations as teachers and school administrators; two women worked in the private sector as seller representatives; one woman worked as a dressmaker; two women were students in college; 16 women identified as housewives. Nine women had a bachelor's degree, but most women had a high school diploma or less. The average number of years of schooling for the total sample was 12 years. The number of children women had ranged from one child to eleven children and on average the women in the sample had four children. Twenty-eight married women reported that their husbands were the head of the household.

This manuscript focuses specifically on the role of sociocultural factors in rural Saudi women's access to prenatal care. Two major themes were identified. The first theme was women's knowledge and practices related to prenatal care and includes the subthemes *knowledge about prenatal care visits* and *seeking prenatal care*. The second theme, cultural beliefs and

practices, includes the subthemes: *past experiences,* and *forbidden practices and herbal use*. All of these played a role in women's decisions to seek prenatal care. All themes and subthemes are summarized in Figure 1.

Theme 1: Women's Knowledge and Practices Related to Prenatal Care

Subtheme 1.1: Knowledge about prenatal care visits. Low levels of knowledge about the value of prenatal care contributed to the participants irregular prenatal care visits. Twenty-three women reported that they began prenatal care in the first trimester of pregnancy; four women in the second trimester of pregnancy; three women in the third trimester of pregnancy. Women with little or basic information and familiarity with the importance of attending prenatal care were less likely to seek adequate and regular prenatal care. All of the women were aware of the importance of visiting a prenatal clinic, but the perceived level of importance varied. Most of the women understood the basic benefits of prenatal care, which was reflected in their description of the reason they visited the prenatal clinic: " to reassure myself and my child" (P24), "to check on my health and health of the fetus" (P1),"to check the pulse of the fetus" (P6), "to know when is the time of birth [expected date of confinement] " (P8), and "to know if I was pregnant or not" (P2). They, however, were unable to identify the benefit of visits in relation to recognizing and addressing pregnancy complications. Eight multiparous women and two primiparous women were more aware of the benefits. Three women had secondary levels of education, three had diplomas in nursing, and four had a bachelor's degree. The more formally educated participants provided examples for why women attend prenatal clinics: "to avoid any complications or bleeding" (P4), "to reassure myself of the position of the placenta or determine if there is a problem in the umbilical cord" (P7), "to avoid problems, such as pre-eclampsia" (P15), and "to avoid lowering the fetus water [amniotic fluid] level" (P29).

Few women reported the importance of regular use of medication supplements, such as "vitamins, folic acid, iron and calcium" (P12) for boosting their health and for normal growth of the unborn baby. Twenty-one of women indicated irregular use of supplementation during pregnancy, some believing that supplements were not beneficial, one stating "I was given folic acid, iron and calcium, and [thought that] maybe I do not need it" (P18). A participant mentioned that many women in the community incorrectly believe that pregnancy supplements increase fetal weight, which can lead to cesarean section, saying that "there is a widespread idea that they should not take supplements so as not to increase the weight of the fetus and can deliver normally" (P27). In addition, few understood that attending appointments helped in managing pregnancy symptoms, such as nausea, vomiting and other health issues that could arise during pregnancy. One participant said, "Abdominal pain and back pain were the reason I went to the hospital." (P1). None of the women mentioned attending prenatal clinic for nutritional information, only fourteen women who experienced iron deficiency anemia received nutritional advice "on the things I included in my diet and what things I should eat more of" (P11).

Subtheme 1.2: Seeking prenatal care. Women's beliefs about the timing and reasons to seek care were identified as a barrier to receiving appropriate care. Eight women believed that there was no need to adhere to the scheduled prenatal monthly visits for varied reasons. First, they believed that accessing prenatal care is only necessary in the case of illness, complications, or during delivery. The health problems that caused women to seek treatment at a prenatal care clinic were iron deficiency anemia symptoms, such as dizziness and fatigue. Fourteen women experienced iron deficiency anemia. Seven women reported experiencing fatigue during pregnancy. Nine women experienced dizziness related to iron deficiency anemia and low blood pressure. A multiparous woman who had given birth at home mentioned that she did not seek

care during pregnancy until she suffered from a hemorrhoid so painful that she believed it was caused by untreated chronic constipation. Another woman went to the hospital in the eighth month of pregnancy for treatment of symptoms she was experiencing. She stated:

> In the eightieth month of pregnancy, I went to the doctor clinic because I was dizzy. They said that I had a drop in the blood level, which blood level was 6 [hemoglobin level was 6]. At the time I visited the doctor and when my condition improved, I did not visit the doctor again. My fetus is moving in my womb and I am in good condition, so why should I go to the doctor? I will only go to the hospital at the time of birth. (P9).

A primiparous woman reported that there was no need to visit the physician every month "if the doctor has told the pregnant woman that she and the fetus are in good health" (P14). One woman mentioned that prenatal care is important for a sick woman or if the woman wanted to know the cause of a problem. She believed that, if the woman and her fetus were healthy, she did not need to regularly visit the physician unless she had a health issue. She also stated that she did not need to attend the clinic "because they extract woes of the world" (P2), meaning that healthcare providers at the clinic tended to identify health problems that she believed she did not have. Two multiparous women reported that they only sought prenatal care for obtaining pregnancy supplements. One woman started attending prenatal care visits during the third month of pregnancy as her nausea and vomiting were ending and the fetal development stage was starting. She visited the physician during the third month of pregnancy to receive supplements, such as iron pills and folic acid, then revisited the clinic "every two or two and a half months if my pills [pregnancy supplements] run out" (P19). The second woman went to the clinic in the fourth month of pregnancy to obtain iron pills; and she believed that "In the last month of pregnancy, I felt is necessary to go regularly to the doctor, to know when it is time to give birth" (P8).

Theme 2: Cultural Beliefs and Practices

Identified traditional maternal practice subthemes included: *Past experiences,* and *forbidden practices and herbal use*. There were many cultural practices surrounding pregnancy that were observed frequently by participants. Women reported that both traditional and modern practices influenced their health during pregnancy and their prenatal visits.

Subtheme 2.1: Past experiences. Physicians provided prenatal care in the clinic while nurses assisted the physician in providing care, such as measuring vital signs and weight. Nurses also prepared equipment for the examinations. Women with a history of pregnancy or labor complications showed a tendency to seek prenatal care because they understood the potential risks associated with delayed or irregular care during pregnancy. Other women expressed that hearing about the poor experiences of other women with certain physicians made them hesitant to receive prenatal healthcare, especially with that specific physician. One woman stated that poor experiences or interactions with physicians made her fearful that she would experience the same situation:

> If you ask any woman about that doctor, they will tell you that he is bad or treated her poorly. I used to flee from him, first because he is a man and second because his treatment is rough. He gets angry when you say no or nothing. And I felt that if he said anything to me, I would cry because of fear. But, when I entered the hospital and met him, he treated me well and he was not like what others had said about him. (P5)

Also, the women frequently stated that distrust of physician interventions influenced their decision to seek care. Some said that a specific physician was notorious for always ordering a cesarean section. Most women stated that they believed that a cesarean section was not necessary because they had delivered normally at the hospital without complications after the physician

told them it was not possible to deliver without a cesarean section. In addition, one woman stated that problems with a past medical encounter during her first pregnancy led her to the decision not to attend the prenatal clinic during her following pregnancies. She chose to visit a physician only one time to check on her and the baby's health, and only visited the clinic to refill her prescription supplement every two months:

> I was very sick with my first pregnancy… I was suffering during that pregnancy. I was receiving IV fluids and injections. This experience affected me psychologically. So, every time I got pregnant …. I go to the hospital to get the supplements or refill only. (P19)

Another woman stated that her previous experience with pregnancy complications prompted her to regularly visit the physician during pregnancy: "I have to take care of myself. Always I go to all my appointments regularly… I am afraid of health problems because I suffered from bleeding during my pregnancy with my eldest daughter. I got anemia that time." (P4)

Subtheme 2.2: Forbidden practices and herbal use. Some women reported taking precautions during pregnancy to avoid miscarriage or stillbirth, such as avoiding lifting heavy objects, climbing stairs, excessive physical activity, and doing a lot of domestic work. They were also encouraged to eat raisin, dates, beets and fruits to increase their hemoglobin levels and to reduce or prevent iron deficiency anemia. In addition, women mentioned the effectiveness of special herbs like sage, mint, and chamomile during labor. Women claimed that these herbs eased and helped accelerate labor and cleansed the womb. They used herbs in no specified amount. They also used herbs when they felt contractions were easing during labor to accelerate delivery. Specific herbs were used after delivery to assist with cleaning the uterus from products

of conception. One woman said, “I used, during my first pregnancy, a thyme drink. I drank it on the last month because it helps to speed up the birth.” (P6)

Another woman said,

> One of the drinks I was advised to drink during childbirth was a cinnamon and cumin drink…. I have used a pineapple drink with castor oil after the opening of the cervix and it worked, within seven hours I delivered my baby. (P1)

Women reported the use of herbs based on advice from family or the internet, yet though some women did not use herbs or follow advice on what to eat or drink during pregnancy. Some women stated that their sisters and family members had prepared herbal drinks but did not know if they had any effect: “I have been given a warm mint drink to facilitate and accelerate my birth and chamomile and anise.” (P8). Another woman stated: “women in community said to avoid drinking cinnamon or honey, particularly during the first trimester because it causes miscarriage. However, I do not like cinnamon, and I avoid the use of honey to avoid miscarriage.” (P29)

Discussion

This study explored the influence of cultural beliefs, traditional practices, and knowledge about the importance of prenatal care on rural Saudi women’s decisions to access prenatal care. Postcolonial feminist theory, which was used as a framework to inform the study provided an opportunity to develop a deeper appreciation for rural Saudi women’s experiences and allowed for a deeper awareness and consideration of women’s perspectives on access to prenatal care. Most of the participants were uninformed about services and informational resources that could be provided to them during prenatal care. Conversely, mothers reported accessing prenatal services when they experienced a pregnancy complication and to promote positive birth outcomes. A study done in Abha city in Saudi Arabia found that women with appropriate

knowledge about the importance of prenatal care were more likely to visit a clinic during pregnancy (Alshabanah, Almohayya, Saeed, & Alahmari, 2018). Another study reported that the desire for a healthy baby and no birth complications to be a strong motivator to seek care (Johnson et al., 2003).

Physicians and nurses should provide the necessary health education to women in the community to increase awareness about the importance of prenatal care, to improve prenatal care use and quality of care. Evidence among rural women shows that attending four or more prenatal visits increases knowledge about obstetric danger signs and enables implementation of preventative measures to address pregnancy-related complications such as anemia (Ensor et al., 2014; Hijazi, Alyahya, Sindiani, Saqan, Okour, 2018; Nisar & White, 2003). Learning about obstetric complications, such as severe bleeding and abdominal pain, was associated with later use of a facility for delivery and greater utilization of prenatal care services (Ensor et al., 2014; Hijazi et al., 2018). This study also found that women with a higher level of education are better informed about the value of prenatal care. This is consistent with the literature, which shows that higher maternal education leads to better maternal child health (Karlsen et al., 2011).

The current study found that a lack of comprehensive knowledge about the importance of prenatal care and the services offered during care can influence a women's decision to attend prenatal care. Some women did not pursue prenatal care on time or regularly, but always intended to do so "at some point." For example, some women chose to seek care only when "something was wrong" or to "refill the supplements prescription." Absence of pregnancy problems was stated as a reason given for late attendance (Kawungezi et al., 2015). Women's decision to seek a specific physician was influenced by other women's experiences with that physician. The narratives of other women in a community could negatively influence pregnant

women's prenatal care attendance. Similarly, women's narratives could also motivate other women to visit a specific physician or nurse if such narratives regarding both the healthcare provider and the healthcare facility were positive. In this study, we found that some women believed that they only required folic acid when they were in the fetal period, i.e., when the neural tube closes around 4-5 weeks following conception. Yet, the Centers for Disease Control and Prevention (CDC) (1992) reported that defects in the neural tube tend to occur within the first month following conception, before most women are aware that they are even pregnant. As a policy response, the US Preventive Services Task Force (USPSTF) (2017) recommends that women who are planning to become pregnant should take a daily supplement containing 0.4 to 0.8 mg of folic acid at least one month prior to conception and continue this dose throughout their first trimester. It may be ideal for women of child bearing age in rural Saudi Arabia to take folic acid if they know that they are likely to get pregnant. However, 18 out of 30 women in our sample had an unplanned pregnancy, which may preclude initiation of preventative measures. In the event where pregnancies are unplanned, it might be useful to have women start prenatal care earlier in first trimester and take folic acid to enhance infant health outcomes.

Experiencing complications in pregnancy and during labor caused some women to be more diligent about seeking prenatal care while for others it did not. A majority of the women interviewed stated that experience with pregnancy complications during delivery motivated them to seek care regularly. Similarly, Respress and others (2017), found that pregnant women with a history of hypertension and diabetes were more likely to seek prenatal care due to their high risk for pregnancy and birth complications, (e.g. premature delivery, placenta abruption, and preeclampsia) (Respress et al., 2017). In our study, we found that women sought informational

support during pregnancy, from family members who had experienced pregnancy and from the internet. This finding is consistent with Kridli and others (2013).

Women in our study indicated that physicians and nurses did not provide them with adequate information when they had concerns or questions about their pregnancy during their clinical encounters. Novick (2019) presented a strong recommendation for providing opportunities for patients to ask questions about any concerns during healthcare visits (Novick, 2009). Our findings suggest that healthcare providers should modify their interactions with women to include the provision of comprehensive care, sharing of experiential knowledge, and allowing women access to healthcare providers as needed. In rural areas especially, there is a need for a creatively established system that allows for communication with providers when women have questions and concerns. For example, women could call or text providers when they have concerns, which would allow for consultations with skilled personnel instead of relying only on other women in the community.

An important finding identified in this study is the use of herbs during pregnancy and while women are in labor. Cumin, chamomile, cinnamon, cumin, oregano, beet, raisin, sage and dates were used by women in this study. Mothers used herbs to promote a healthy pregnancy, to induce labor, and to shorten the duration of labor. A concern about using the herbs is that they had no recommended safe dosage or frequency of use during pregnancy. Mothers were not able to clearly articulate how the different herbs worked to achieve the intended goal. Similarly, other studies found that the use of herbs occurs with recommendations from family, friends, and information from the internet. Often, this use of herbs occurs without consultation with healthcare providers (Al Essa et al., 2019; Al-Ghamdi et al., 2017). A study conducted in Jordan found that women who used dates in pregnancy were more likely to experience spontaneous

labor and were less likely to require Pitocin for augmentation of labor compared to women who did not use dates in pregnancy (Al-Kuran, Al-Mehaisen, Bawadi, Beitawi, & Amarin, 2011; Razali, Mohd Nahwari, Sulaiman, & Hassan, 2017). Despite the reported benefits of some herbs, use of herbs during pregnancy has not been tested through clinical. Herbs could potentially serve as a health hazard for both mother and infant (Marcus & Snodgrass, 2005). Use of herbs during pregnancy and delivery without guidance from the healthcare provider could be problematic. Without an accurate dosage or understanding of the affect of the herb places the women potentially at risk for miscarriage and preterm labor. Higher dosages may result in uterine hyperstimulation in labor that could negatively affect fetal outcomes. Even herbs that have been classified as safe to use during pregnancy can be detrimental when used excessively (Kee, Hayes, McCuistion, 2014).

Our findings suggest that providers need to ask in-visit questions during assessment and document familiarize themselves with the use of herbs that are being used by women in the community. Healthcare providers who are knowledgeable about the herb can include discussions of herb intake in their healthcare visit assessments, observations and note in women's records for purposes of follow-up. Additionally, providers need to become knowledgeable about the efficacy of these herbs, potential risks, potential drug – herb interactions, complications, and key principles to follow in the administration of herbs during pregnancy. Nonjudgmental interactions between healthcare providers and participants would facilitate the women to open up on herbs used, amount, and frequency. Being nonjudgmental with pregnant women could provide an opportunity to assess the potential risks and open opportunities for therapeutic communication to address the potential risks of harmful practices during pregnancy and advise on which herbs to avoid. Both women and the general community should be educated to improve their awareness

about the effects of herbs and the importance of seeking guidance from healthcare providers. Needless to say, there is an urgent need for research in this area to help determine how prevalent herbal use is among pregnant women, to identify the more common herbs that women ingest and how these impact maternal infant health outcomes in pregnancy, during labor and post-partum.

Limitations

There are some limitations to this study. First, women were recruited from hospitals and primary healthcare centers, which could exclude women who do not use prenatal care. We thus have no information on women who do not attend any prenatal care at all. Second, this study found that the use of herbs was widespread among the women interviewed; however, women we did not explore the exact amount, duration, and efficacy of the consumed herbs as understanding the use of herbs among women was not necessarily one of our goals in the implementation of the study. Rather, it was a finding we were not expecting. In retrospect, taking into account the widespread use of herbs among women in our sample, and the importance of understanding herbal use among childbearing women, we realize how important this information is to healthcare providers. We nevertheless, believe that the information we provide here serves as a foundation for other scholars to pursue this line of research in an effort to improve birth outcomes for rural Saudi women. Lastly, this study did not include information about how much women and their husbands earned as we were concerned about the cultural appropriateness of the question. Information about women's socioeconomic status is always useful for researchers in their analysis of women's health concerns as it provides us with a clear picture of women's limitations in terms of access to resources. Even though we did not collect this information from women, we still have a good picture of the issues around healthcare access and limited access to

resources particularly in the healthcare environment, for rural Saudi women based on other data we were able to collect.

Implications for Future Research and Practices

Further studies are needed to help us understand the role of male guardians and husbands, in Saudi society. Additional studies are also needed with various healthcare providers, including physicians and nurses, to incorporate their views as well. The findings of this study suggest that improving knowledge of prenatal care is one avenue to increase health seeking behavior. Knowledge can be shared in the prenatal clinic and waiting area, but also through community spaces where childbearing women, their husbands, and the general community are found. Further studies should examine the effectiveness of different interventions to improve the prenatal care knowledge of women and their communities and to evaluate the content of prenatal education and its cultural relevance.

Conclusion

In this study, we sought to understand how prenatal healthcare literacy, cultural beliefs, and traditional practices influence rural Saudi women's decisions to access prenatal care. The findings indicate that women's lack of awareness about prenatal care services and herbal use could impact their health, as well as their babies' health. Through women's narratives, healthcare providers, health policymakers, and researchers could gain insight into what would assure positive experiences with prenatal care and for women to actively participate in care.

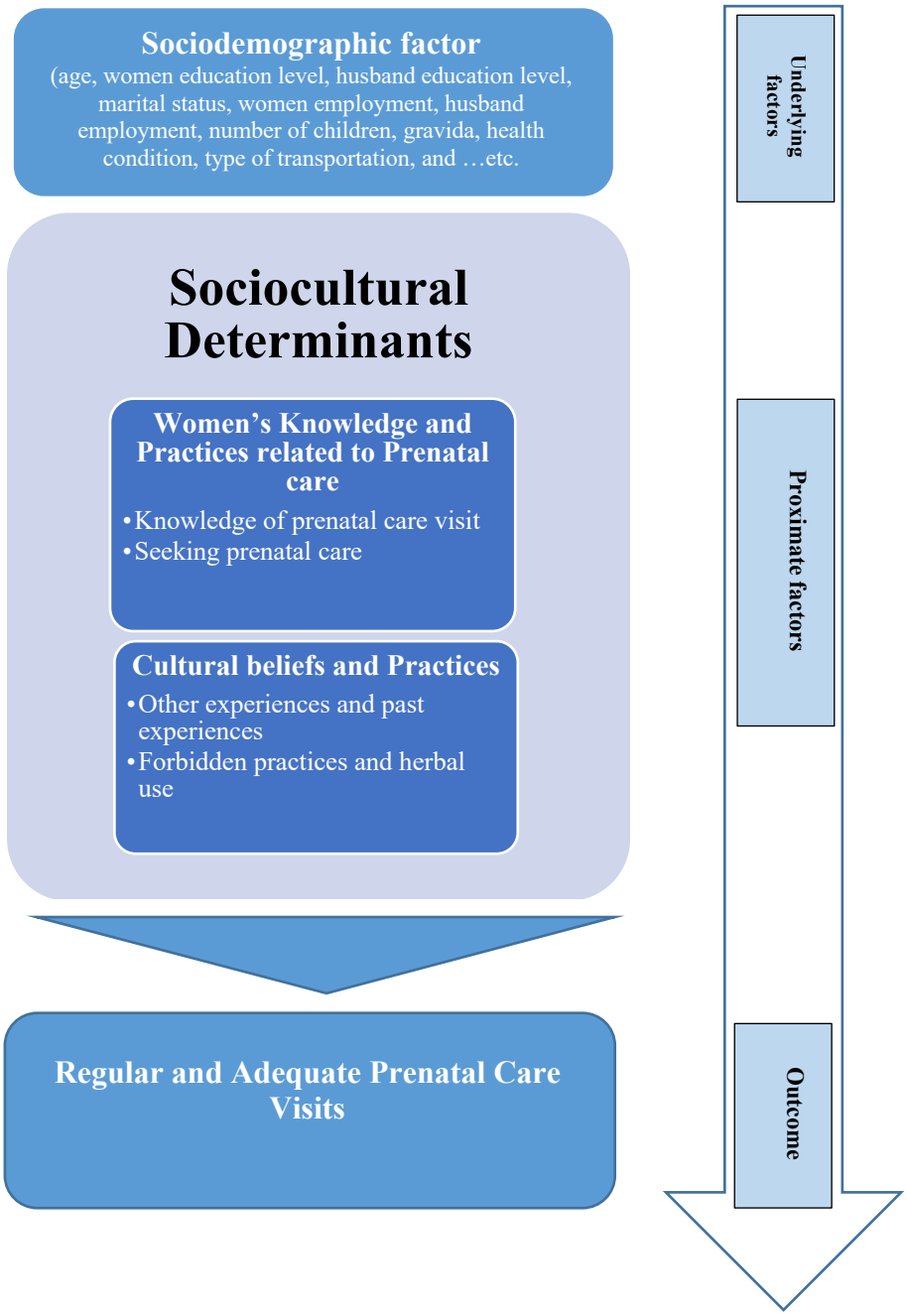

Figure 1. Thematic framework summarizing the Influence of Sociocultural Determinants on Rural Saudi Women's Access to Prenatal Care

Table 4. Demographic data for women interviewed (n=30)

Variable	**Mean**
Age (20 – 48 y)	32.57
Number of PNC visits	7.46
Years of schooling	11.7
	n (%)
Marital Status	
Married	28 (93%)
Widow	1 (3%)
Divorced	1 (3%)
Tribe	
Al-Faifi	29 (96%)
Al-Shumrani	1 (3%)
Highest Level of Education	
No formal education	3 (10%)
Primary school	1 (3%)
Intermediate school	5 (17%)
High school	6 (20%)
Associate's degree	6 (20%)
Bachelor's degree	9 (30%)
Employment Status	
House wife	16 (53%)
Government sector	9 (30%)
Seller representative	2 (7%)
Dressmaker	1 (3%)
College student	2 (7%)
Highest Level of Education of Husband	
No formal education	1 (3%)
Primary school	4 (13%)
Intermediate school	6 (20%)
High school	12 (40%)
Associate's degree	3 (10%)
Bachelor's degree	4 (13%)
Husband Employment Status	
Government sector	14 (47%)
Private sector	1 (3%)
Business	8 (27%)

Unemployed	2 (7%)
Retired	4 (13%)
Student	1 (3%)
Head of the Household	
Husband	28 (93%)
Me	1 (3%)
Me and my son	1 (3%)
Household Size	
Mean	5.8
≤ 6	23 (77%)
> 6	7 (23%)
Number of Children	
Mean	3.5
≤ 4	24 (80%)
> 4	6 (20%)
Number of Miscarriages	
One miscarriage	9 (30%)
Two miscarriages	4 (13%)
Three miscarriages	1 (3%)
Number of Pregnancy	
≤ 6	25 (83%)
> 6	5 (17%)
When you found out you were pregnant?	
In the first month of pregnancy	15 (50%)
In the second month of pregnancy	13 (43%)
In the third month of pregnancy	1 (3%)
In the fifth month of pregnancy	1 (3%)
Average Distance to Healthcare Facility	
10 – 15 minutes	9 (30%)
16 – 30 minutes	21 (70%)
The Individual who Checked you during PNC	
General physician	12 (30%)
obstetrician gynecologist	18 (60%)
Gap between the Last Two Pregnancies	
1 - 5 years	21 (70%)
6 - 10 years	4 (13%)

First pregnancy	5 (17%)
Number of Admissions in Hospitals during Pregnancy	
One time	5 (17%)
Two times	4 (13%)
Three times	1 (3%)
Four times	1 (3%)
Chronic Health Conditions	
Asthma	3 (10%)
Diabetes	2 (7%)
G6PD deficiency	1 (3%)
Thyroid disorder	4 (13%)
Hypertension – Rheumatism- High blood cholesterol	1 (3%)
Smoking or Chewing Khat	
Yes	0 (0)
No	30 (100%)

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CHAPTER V: DISCUSSION AND IMPLICATIONS

Introduction

The purpose of this qualitative study is to understand the experiences of Saudi women in accessing prenatal care services in the rural area of the Jazan region of Saudi Arabia. Findings from the women's narratives are divided into three major themes (gender dynamics, structural determinants, and sociocultural determinants). This chapter is a synthesis of the findings reported in the three manuscripts. Here, I highlight some of the most important findings of the study. The chapter also includes a discussion on the study implications. The chapter concludes with a discussion of the recommendations for future research. There are plans for dissemination of the study findings at research conferences and in scientific journals. A postcolonial feminist lens informs the discussion and recommendations in an effort to contribute to meaningful change in the healthcare system as well as in society more broadly.

Synthesis of Findings

The fundamental aim of the dissertation study was to center the voices of rural Saudi women and to create transformative knowledge based on increased awareness of the challenges faced by rural women. Using a postcolonial feminist lens, our analysis uncovered major factors influencing women's access to prenatal care produced by sociocultural and structural contexts. Three major themes that were identified from our analysis include gender dynamics, structural determinants, and sociocultural determinants.

Gender Dynamics

In the first manuscript, I provide a picture of how gendered power relations affect prenatal care access and the healthcare service utilization in the Faifa mountains. The findings show that access to prenatal care is influenced by social norms associated with pregnancy,

husbands' engagement in prenatal care, and women's autonomy. It was found that some social norms in the rural Saudi communities of the Fiafa mountains are important assets in improving the utilization of healthcare services during pregnancy. In this study, most women stated that they had a positive relationship with their husbands, depicted by husbands' provision of physical, psychological, and financial support throughout their pregnancy. Despite these supports, husbands were unable to attend prenatal visits with their wives because of the physical structure of the hospitals that is not male friendly. Involvement of husbands in prenatal care visits is important because it increases women's utilization of prenatal care and the uptake of interventions for a healthy pregnancy (Michael, Dan, & Othman, 2011; Mkandawire & Hendriks, 2018; Sahip & Turan, 2007). Finally, women in this study reported that even if they decided to seek prenatal care, they were not guaranteed quality care due to the gender dynamics involved in their mobility. Women who could not obtain health services a private clinic, often delayed the initiation of prenatal care or did not utilize prenatal care at all.

Structural Determinants

In the second manuscript, I discuss barriers related to healthcare system characteristics, healthcare provider characteristics, and transportation. Lack of specialized healthcare personnel such as Ob-Gyn specialists negatively affects pregnancy outcomes. Physicians skilled in the management of high-risk pregnancies and chronic healthcare conditions during pregnancy are limited in rural areas. Rural women without access to specialists in high risk pregnancies (e.g. diabetes, thyroidism, or GPD6), are at greater risk of receiving insufficient prenatal care and experiencing negative outcomes.

A second impediment faced by pregnant women is receiving care from healthcare providers with negative attitudes and poor communication skills. Undesirable dynamics between

the pregnant women and their healthcare provider results in women avoiding prenatal care. Mannava, Durrant, Fisher, Chersich, & Luchters (2015) found similar responses in their research conducted across other regions in Africa, Asia, and the Middle East (. Rural Saudi women in this study reported that they prefer to receive healthcare by female providers. Several studies in the literature report that limited availability of female physicians deters women's use of appropriate and timely prenatal care (Anwar, Green, & Norris, 2012; Chiang, Labeeb, Higuchi, Mohamed, & Aoyama, 2013). Factors contributing to pregnant women limited use of prenatal care include poor road conditions and long traveling times to clinics; Recent investigations by Adinew and Adinew (2018) and Karra, Fink, and Canning (2017) found that transportation barriers were often cited as impediments to prenatal care access and a contributing factor to poor pregnancy outcomes. The investigators found that poor transportation led to rescheduled or missed appointments and insufficient use of prenatal care.

Sociocultural Determinants

Data analysis was conducted using a postcolonial feminist lens. A postcolonial feminist perspective led us to an analysis that uncovered and enabled us to deeply understand the sociocultural influences that impact women's lives and ultimately, their health outcomes. The theme *sociocultural determinants* represent major factors that play an important role in rural Saudi women's access to prenatal care. Subthemes identified under this theme were (a) knowledge and practices related to prenatal care, and (b) cultural beliefs and practices.

In our study, we found that rural Saudi women have some information about the importance of prenatal care but not the necessary comprehensive knowledge. Lack of knowledge about prenatal care could negatively impact prenatal care access (Alshabanah et al., 2018). Women who are pregnant need to be aware of the benefit of prenatal care in identifying the signs

and symptoms of potential complications during pregnancy to prevent complications. Women's prenatal care attendance was influenced by their past experiences as well as by other women's experiences. The latter served as a major influence on women's use of herbs during pregnancy, in labor and delivery, and postnatally without consultation with healthcare providers. Some herbs were utilized during labor to facilitate and ease delivery, and specific herbal drinks were used after delivery to cleanse the uterus. Some women did not know what herbs they were taking which is problematic. They were also unaware of the amount they were taking. Herbal use during pregnancy has not tested through clinical trials, and some herbs could potentially be hazardous to the health of mothers and their unborn babies (Marcus & Snodgrass, 2005).

Policy and Practice Implications

In the following section, I will discuss practice, and research implications that align with the Saudi Arabian government's commitment to achieving the sustainable development goals (SDGs) related to maternal and child health.

Policy Implications

Our synthesis of the study findings shows the intersection of multiple realities that negatively or positively influence the lives of rural Saudi women. The findings of this study exemplify real life stories of rural women and deepen our understanding of the context in which women access prenatal care in rural areas of Saudi Arabia. This depth of understanding enables us to respond to rural women's unique needs, which are different from the needs of urban dwelling women. This qualitative dissertation yields important knowledge useful for developing workable interventions that would improve prenatal care access for rural Saudi women.

The improvement of prenatal care in rural Saudi Arabia could be achieved by empowering women and restructuring the healthcare system. Saudi Arabia is currently

undergoing major changes. This period presents an opportunity for scholars to propose recommendations and interventions aimed at improving maternal and infant health.

As a result of the cultural and structural barriers identified in the provision of prenatal care services in the rural healthcare system, health care planners should consider ensuring culturally sensitive care that is more responsive to women's needs. The Ministry of Health should also ensure that maternal healthcare services are more accessible to rural women through creative interventions such as hotlines, walk-in services, and community clinics run by female obstetricians/gynecologists. Additionally, prenatal care education and counseling should be established at primary healthcare centers and involve husbands in the provision of education and consultation. Involving husbands during prenatal care visits could help increase their knowledge and understanding of the importance of prenatal care and their wives' needs during pregnancy (Davis et al., 2018). Since most Saudi men maintain a significant role in decision making in the domains of private life, their role is highly influential in women's health care seeking behaviors. Husbands can play and important role in encouraging women to attend prenatal care and can also provide the necessary supports to their wives during pregnancy (Michael, Dan, & Othman, 2011).

Saudi Arabia recognizes that midwives contribute effectively to providing quality of care and cost-effective maternity services for women, children, and families across the country in addition to other healthcare providers (Saudi Commission for Health Specialties [SCFHS], 2014). The literature found that utilizing midwives is an effective approach to ensure women have a safe and emotionally satisfying experience during prenatal, childbirth, and postnatal periods. Women express greater satisfaction when the caregiver is a midwife during the prenatal period (Rodríguez & des Rivières-Pigeon, 2007). Currently, Saudi Arabia has started to offer an

SCFHS, an accredited postgraduate diploma in midwifery for nurses who hold a bachelor's degree in nursing (SCFHS, 2014). An advanced program to educate and train midwives is also offered.

There is limited information on the history of midwifery in Saudi Arabia. The Ministry of Health in Saudi Arabia started a midwifery diploma program in the 1980s (Altaweli, 2015). This program was discontinued in 2012 because the regulation of all midwifery diploma education was moved from the Ministry of Health to the Ministry of Higher Education, which only oversees bachelor's degrees in nursing (Altaweli, 2015). Midwifery in Saudi Arabia is recognized as an integral part of the nursing profession. Healthcare facilities in Saudi Arabia vary when it comes to job descriptions of nurses, nurse-midwives, and midwives. Some facilities require midwifery qualifications in order to work in a midwife position, while others allow nurses to practice midwifery, which is the situation in the rural hospitals where we conducted this study (Altaweli, 2015). The majority of Saudi nurses working in the antenatal, labor and delivery, and postnatal departments are not trained as midwives. Other facilities recruit midwives under a nursing title and do not allow them to independently practice their midwifery skills and knowledge or conduct deliveries; only physicians can do this (Altaweli, 2015).

In Saudi Arabia, there are about 175 Saudi midwives; most of them working in governmental facilities, while around 5000 non-Saudis work as midwifes but in private facilities (Al Dosari, 2018). The need for midwives in Saudi Arabia is estimated to be close to 11,000 individuals (Al Dosari, 2018). Having well-trained midwives from the same culture who are familiar with pregnant women's needs, culture, beliefs, practices, language, religion, and diet would benefit women and their families. There is an urgent need for policy makers to expand the midwifery educational program and practice in the country as this specialty has many benefits

for maternal child health. This can also be achieved by providing awareness about midwifery as a specialty in schools and social media to attract more students into the midwifery program, and also by offering educational and professional growth within this specialty.

Practice Implications

Our findings suggest that healthcare providers should ask women directly about their preferences and needs and adjust care accordingly. It is strongly recommended in the literature that healthcare providers give women the opportunity to ask questions and provide explanations related to any concerns women have during their prenatal visits (Grissinger, 2017). Women value interpersonal relationships (Novick, 2009). Nurses have an important role to play in advocating for women who access healthcare in their healthcare setting and enhancing women's experiences with care during pregnancy by minimizing internal and external barriers (Novick, 2009). For example, measures can be taken such as reducing waiting time, fostering positive relationships, promoting a welcoming and culturally-sensitive environment, and offering educational opportunities for women and their husbands during waiting time (Novick, 2009).

Improving prenatal care access using community-based interventions. The knowledge gained through this dissertation research could be used in the development of community-based interventions. Community-based interventions are crucial for effective universal access to healthcare and especially for improving maternal and neonatal health. Such interventions include home visits and mobile clinic programs (Elmusharaf, Byrne, & O'Donovan, 2015).

Home Health Care (HHC) services are expanding in Saudi Arabia at a rapid pace in order to meet the need of growing population of older adult and those with chronic illnesses (Al-Surimi, Al-Harbi, El-Metwally, & Badri, 2019). To our knowledge, there is no evidence

indicates that HHC services are provided for pregnant women. The home visiting program for example in rural Pakistan is performed by regional volunteer health care providers and involves nurses visiting women in their homes to provide services and information to mothers in order to improve health care behaviors and minimize preterm delivery, low birth weight, enhance infant development, and increase use of prenatal care (Bhutta et al., 2011). The positive health outcomes associated with participation in home visits are linked to significant healthcare savings for the government because they reduce health care costs. For example, some home visiting services have been able to reduce the costs of neonatal intensive care among participants by mostly reducing the incidence of preterm birth (Elmusharaf et al., 2015).

Home visits also involve promotion of birth and newborn care preparedness through home-based prenatal care facilitated by female community health workers (Elmusharaf et al., 2015). In this study, we found that rural Saudi women preferred to deal with female healthcare providers as opposed to male healthcare providers. At the same time, in our study, we found that in this particular rural area there is a shortage of healthcare providers especially healthcare providers that were female. Recruiting female community health workers would help to decrease the work overload of healthcare providers who work in healthcare facilities. Home visits would be beneficial for rural Saudi women in enabling them to receive adequate and regular care during pregnancy, which is culturally appropriate, especially for those women who cannot travel to a health facility without their husbands.

In addition, trained female health workers could arrange group sessions within the community to provide education on prenatal care, the importance of institutional delivery, newborn care, detection of warning signs and promoting health-seeking behavior (Bhutta et al., 2011). In Pakistan, for example, trained lady health workers (LHWs) from different communities

were able to identify all pregnant women in their area and deliver basic prenatal care and maternal health education to them. LHWs successfully facilitated women's access to healthcare facilities during pregnancy and after delivery (Bhutta et al., 2011; Elmusharaf et al., 2015).

Female community health workers (CHWs) would serve to improve quality of care by making healthcare access more desirable, promote community engagement, and increasing knowledge and awareness, thereby encouraging women to seek timely care (Byrne, Hodge, Jimenez-Soto, & Morgan, 2014). Female CHWs are often members of communities who are physically and culturally accessible to pregnant women (Byrne et al., 2014). The government could support female CHWs by funding training and educational programs that could build the skills and capacity to manage chronic diseases and reduce childbirth complications (Byrne et al., 2014).

The other approach that could be beneficial for pregnant women who live in the Faifa mountains is a mobile clinic program. Mobile clinic programs have successfully been implemented internationally in both developing and developed countries to maximize access to prenatal care in rural areas. Medical vans provide on-site care before, during, and after pregnancy to women with limited or no access to healthcare facilities (O'Connell, Zhang, Leguen, & Prince, 2010; Phillips et al., 2017). This approach has the potential to address many of the barriers identified in this study related to sociocultural issues, gender dynamics, and structural factors. These barriers include road conditions, geographic distance, long waiting times, quality of healthcare providers, and women's personal barriers (child care and the need for their husband to accompany them). Mobile clinics could be equipped with fetal monitors, diagnostic laboratory equipment, refrigerated medical storage, private exam areas, and an external TV for educational purposes. Mobile clinics have successfully saved money by

preventing expensive emergency care and by providing preventative, regular, and timely care (U.S. Department of Health & Human Services & Office of Minority Health [U.S DHHS], 2018). Additionally, mobile clinics minimize hospital readmission rates and save on health costs by avoiding hospital expenses in treating pregnancy complications (U.S DHHS, 2018).

Further Research Recommendations and Conclusion

Future research is needed to actively discover potential solutions and develop effective strategies to enhance access to prenatal care by rural women. In this study we did not identify any evidence to rule out the potential relationship between age, level of income, social class, and number of prenatal care visits attended. So, there is a need for further research in this area. The findings of this study also suggest the need for a larger scale investigation across Saudi Arabia, as little is known about access to prenatal care in rural Saudi Arabia with regard to the influence of sociocultural context and structural factors.

In conclusion, to better understand prenatal care access by rural Saudi women in the Faifa mountains, this qualitative study was performed to provide a deeper understanding of rural prenatal care experiences and to gain insight into the factors that influence women's ability to attend recommended prenatal care visits. In this study chapter, I discussed challenges and facilitators that rural Saudi women experience during pregnancy when attending prenatal care visits and how women navigate these challenges. Using a postcolonial feminist lens assisted in deconstructing women's experiences by using their own voices, which can direct meaningful change taking into account women's lived experience and their realities. Using postcolonial feminist theory, we analyzed the women's experiences with respect to the cultural context in which women live their lives without judgment and without engaging in a comparative analysis with women based in Western nations.

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APPENDIX A: Study Informational Sheet and Interview Guide

Topic: Factors Influencing the Access to Prenatal Care

Welcome and Introduction

Hello, my name is Faten Alfaifi, and I am conducting a study as part of my dissertation exploring barriers and facilitators to prenatal care. Thank you for your interest in this research and your willingness to participate. Your participation in this research is voluntary, and you reserve the right to withdraw from the research at any time. If you choose to participate, I will interview you and I will ask you a series of questions on the topic of prenatal care. Interviews may be recorded using audio recording devices. Recordings will assist with accurately documenting your responses. You have the right to refuse the audio recording. Audio-recordings of the interview will be kept on a password-protected computer. After the interview recording is typed it will be destroyed. The typed transcription will be coded and kept on a password-protected computer. Refusing the recording does not mean you cannot participate in the study. I will not include any information in any report I may publish that would make it possible to identify you.

You have the right to ask questions about this research study and to have those questions answered by me before, during or after the research. If you don't want to answer a particular question, just say "I don't want to answer that". If you want to withdraw from the study, just say "I want to withdraw from the study". If you do not understand a question or something that is brought up in the interview, just say "I do not understand this question or this part". The interview will take approximately two to three hours of your time. All information you provide will be kept strictly confidential and will not be shared with anyone other than me, the chair of the dissertation committee Dr. Lucy Mkandawire-Valhmu, the committee members, and other students from my university (University of Wisconsin-Milwaukee) - both graduate and undergraduate who are interested in research with women. You can stop the interview at any time. The information gathered in this study will be used to inform prenatal care services at your local hospitals and the Saudi Ministry of Health. Please take a moment to complete the consent forms to participate in the research.

Ice breaker:
Questions:

1. How is your pregnancy going?
    - What health concerns have you had during this or your last pregnancy?

2. What was the length of time between when you knew you were pregnant and the first prenatal care visit?
3. Who encouraged you to get prenatal care?
4. What made you decide to seek prenatal care?
    - What drives you to get prenatal care?
    - Why is it important, do you think?
    - How many visits did you attend till now?
5. What have your experiences been like with prenatal care?
6. What are the main resources that assist you during pregnancy to ensure a healthy pregnancy?
    - What about visiting a healthcare provider during pregnancy?
    - Who else do you see in the community for prenatal care or for any kind of care related to your pregnancy?
7. How you feel about your pregnancy? What were your reactions and feelings and others' reactions when they received this news?
    - When did you tell the father of the baby?
    - What was the father's reaction?
    - When did you tell your family and friends?
    - What were their reactions?
    - What influenced you to become pregnant? (is the pregnancy planned/ unplanned, accepted/unaccepted, wanted/unwanted, and expected/unexpected?)
8. What advice did other women give you and recommend you do during pregnancy?
    - What are traditional treatments, home remedies or practices did they encourage you to use during pregnancy? And why do you use them?
9. What is your husband's attitude towards ANC?
    - How does your husband support you in attending prenatal care?
10. What about (community, family and friends); how are they supportive during your pregnancy? (physical, psychological and financial)
11. What would stop you from attending ANC?
12. Who takes care of children, of any elderly or disabled persons while you attend your prenatal visits?
13. What does the relationship between you and your provider and other staff look like?
14. What are other things that assist or prevent you from attending prenatal care you would like to share with me that I have not asked about?
15. In the last few minutes: What do you think could improve prenatal care services?

Thank you again for participating, if anything comes up that you believe may be relevant to the research feel free to contact me at 0583821156 or at falfaifi@uwm.edu

APPENDIX B: Demographic Questions

ID #---------- **Date----------**

Instructions: When answering the questions, please answer honestly and truthfully, provide responses based on your experience as pregnant women. Please, provide the appropriate answer.

1. What is your age?

   ----

2. What is your marital status?

   ----

3. What is your tribe?

   ----

4. What is the highest level of school you attended?

   ----

5. What is your husband's educational level (if applicable)?

   ----

6. What is your husband's occupation (if applicable)?

   ----

7. What is your present occupation?

   ----

8. Who is the head of your 1household?

   ----

9. How many people live in your household?

   ----

10. How many living children do you have?

---

11. How many miscarriages have you had?

---

12. How far along were you when you found out you were pregnant?

---

13. How many months/weeks (pregnant) are you?

---

14. How many times have you been pregnant?

---

15. How far is the nearest healthcare facility from your house?

---

16. How do you travel to this facility?

---

17. How many prenatal care visits did you attend?

---

18. Who examined you during your prenatal check-ups?

---

19. What was the interval between your last pregnancy and your current pregnancy?

---

20. How often do you smoke or use Khat?

---

21. How many hospital admissions have you had during this pregnancy?

---

22. Do you have chronic health conditions?

---

23. Who decided you should attend prenatal care visits?

24-Hour Diet Recall

What did you eat and drink in last 24 hours?

Food Item	Amount	Time Consumed

APPENDIX C: Field Notes Guide

Location:

Date:

Observation Start time: **End time:**

1- Appearance

Physical appearance of women attending prenatal care clinic:

Number of staff in clinic, and specialty

2- Verbal behavior and Interactions

Between staff and women (language, gender, tone of voice, how long, staff specialty, dynamics of interaction)

Interactions of women in their homes with children, and with other family members

3- Dynamics in the clinical site

Number of women in the waiting area

Length of stay in the waiting area

Length of visit with healthcare provider

Women are alone or accompanied (by whom)

4- Physical environment

Description of Healthcare facilities (name, numbers of prenatal care clinic, waiting area)

Geographical features of the Faifa mountains

Researcher reflections:

How I feel (views, my feelings or thoughts in terms of how I felt in the setting)

APPENDIX D: Institutional Review Board Approval Letters

UNIVERSITY of WISCONSIN
UWMILWAUKEE
Department of University Safety & Assurances

Melody Harries
IRB Administrator
Institutional Review Board
Engelmann 270
P. O. Box 413
Milwaukee, WI 53201-0413
(414) 229-3182 *phone*
(414) 229-6729 *fax*

http://www.irb.uwm.edu
harries@uwm.edu

New Study - Notice of IRB Expedited Approval

Date: December 3, 2018

To: Lucy Mkandawire-Valhmu
Dept: Nursing

CC: Faten Alfaifi

IRB #: 19.111
Title: Women's Experiences of Prenatal Care: Voices of Rural Saudi Women in Faifa Mountains

After review of your research protocol by the University of Wisconsin – Milwaukee Institutional Review Board, your protocol has been approved as minimal risk Expedited under Category 6 & 7 as governed by 45 CFR 46.110.

In addition, your protocol has been granted **Level 2** confidentiality for Payments to Research Subjects according to UWM Accounting Services Procedure: 2.4.6.

This protocol has been approved on **December 3, 2018** for one year. IRB approval will expire on **December 2, 2019**. If you plan to continue any research related activities (e.g., enrollment of subjects, study interventions, data analysis, etc.) past the date of IRB expiration, a continuation for IRB approval must be filed by the submission deadline. If the study is closed or completed before the IRB expiration date, please notify the IRB by completing and submitting the Continuing Review form found in IRBManager.

This study may be selected for a post approval review by the IRB. The review will include an in person meeting with members of the IRB to verify that study activities are consistent with the approved protocol and to review signed consent forms and other study related records.

Any proposed changes to the protocol must be reviewed by the IRB before implementation, unless the change is specifically necessary to eliminate apparent immediate hazards to the subjects. It is the principal investigator's responsibility to adhere to the policies and guidelines set forth by the UWM IRB, maintain proper documentation of study records and promptly report to the IRB any adverse events which require reporting. The principal investigator is also responsible for ensuring that all study staff receive appropriate training in the ethical guidelines of conducting human subjects research.

As Principal Investigator, it is your responsibility to adhere to UWM and UW System Policies, and any applicable state and federal laws governing activities which are independent of IRB review/approval (e.g., FERPA, Radiation Safety, UWM Data Security, UW System policy on Prizes, Awards and Gifts, state gambling laws, etc.). When conducting research at institutions outside of UWM, be sure to obtain permission and/or approval as required by their policies.

Contact the IRB office if you have any further questions. Thank you for your cooperation and best wishes for a successful project.

Respectfully,

APPENDIX E: Consent Form

Standardized Adult Informed Consent

University of Wisconsin – Milwaukee Consent to Participate in Research

Study Title: Women's Experiences of Prenatal Care: Voices of Rural Saudi Women in the Faifa Mountains.

Person Responsible for Research:
Student PI: Faten Y. Alfaifi, RN, MSN, PhD candidate, University of Wisconsin – Milwaukee School of Nursing
PI: Lucy Mkandawire - Valhmu, RN, MN, PhD, Associate Professor
University of Wisconsin, Milwaukee, College of Nursing

The student PI is a doctoral student at University of Wisconsin, Milwaukee and the PI is the chair of the dissertation committee who will oversee the study.

Study Description: The purpose of this research study is to understand the experiences of Saudi women in accessing prenatal care services in rural areas in the Jazan region of Saudi Arabia, using semi-structured interviews. Approximately 30 -50 women will participate in this study. If you agree to participate, you will be asked to participate in a face to face interview with the researcher to discuss your experience with prenatal care in the Faifa Mountains. The interview questions will ask about diet, previous pregnancies, and current pregnancies. This will take approximately two to three hours of your time.

<u>If you agree to participate you will be asked to</u>

- Provide demographic information: it is basic information about you such as age, educational level, and income level. This information will remain confidential. No identifying information will be collected from you.
- Participate in an interview. This interview will be digitally audio recorded if you allow me to do so. The purpose of recording the interview is to make sure that I record your responses accurately.
- If you refuse to be recorded, a transcriber will join us during the interview to help write down your answers while I am listening to your responses. If you are not comfortable with having the recording interviewed and you are also not comfortable having a transcriber present, we will not be able to continue with the interview. You have the right to not continue with the interview if you are uncomfortable being recorded and having a transcriber present.

  Risks / Benefits: Risks that you may experience from participating are minimal. There are no foreseeable physical risks and no foreseeable social risks. There are no costs for participating. There are no benefits to you other than to further research on women's experiences with prenatal care in the Faifa Mountains.

You will be provided snacks during the interview. As a small token of thanks for your valuable time, you will receive a gift card (phone card) worth 20 Riyal Saudi ($5.33) at the end of the day of the interview. Even if you are not able to complete the interview or withdraws from the research, you will receive the compensation.

Confidentiality: All information collected about you during the interview will be kept confidential to the extent permitted by law. We may decide to present what we find to others or publish our results in scientific journals or at scientific conferences. No information that identifies you personally will be released. Only the student PI, the chair of the dissertation committee Dr. Lucy Mkandawire-Valhmu, the committee members, and UWM students - both graduate and undergraduate - who do research with women will have access to the information. However, the Institutional Review Board at UW-Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review this study's records. We will collect demographic data. Digital audio recordings will be made, transcribed, and destroyed. Transcriptions of the recordings and interview will be kept on a password protected computer. All information collected for this study may be kept for three years for future use and then it will be destroyed. The PI, Dr. Lucy Mkandawire- Valhmu, the committee members, the Institutional Review Board at UW- Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review this study's records.

Voluntary Participation: Your participation in this study is voluntary. You may choose not to take part in this study, or if you decide to take part, you can change your mind later and withdraw from the study. You are free to not answer any questions or withdraw at any time. Your decision will not affect any present or future healthcare provided to you. There are no known alternatives available to participating in this research study other than not taking part.

Who do I contact for questions about the study: For more information about the study or study procedures, contact Faten Y. Alfaifi Saudi XXXXX

Who do I contact for questions about my rights or complaints towards my treatment as a research subject? You can contact the Saudi Review Board in Arabic at XXXX. You would need to speak in English if you contact the UWM IRB at XXXX

Research Subject's Consent to Participate in Research:
To voluntarily agree to take part in this study, you must be 18 years of age or older. By signing the consent form, you are giving your consent to voluntarily participate in this research project.

_____

Name of Participant (print)

_____

Signature or Thumb Print of Participant

Name of Husband (print)

Signature or Thumb Print of Husband/Husband of participant, if applicable

Research Subject's Consent to Audio Recording:

Date _____

It is okay to digitally audio record me while I am in this study and to use my digitally audio recorded data in the research.

Please initial: ____Yes ____No

Name of Researcher obtaining consent (print)

Signature of Researcher obtaining consent Date

APPENDIX F: Recruitment Script

After the patient visit and permission, the nurse will refer the patient to the researcher.

The Researcher:

AL Salaam Alaikum,

My name is Faten Alfaifi, and I am a doctoral student in the School of Nursing at University of Wisconsin Milwaukee. I am conducting a research study exploring barriers and facilitators to prenatal care. I am approaching every woman whose Saudi, 18 years of age or older, and have been pregnant in the last 2 years or here for a six-week postpartum checkup. If you meet these criteria or know someone who could be a part of this study. you or the one who meet these criteria are/is invited to participate in the study.

This research is separate from the care you are receiving here and whether or not you decide to hear more about the research won't affect your care. There is nothing in particular about you, personally, that made me ask you to participate.

If the woman does not meet the eligibility criteria: (Thank you for your time, if you know someone who meet the eligibility criteria please provide her with my contact information XXXX

If the participant meets the eligibility criteria: If you agree to participate in this study, you are invited to participate in answer series of questions on the topic of prenatal care.

The interview is anticipated to take no more than three hours. Participation in this study is voluntary. Your identity as a participant will remain confidential during and after the study. Interviews may be recorded using audio recording devices. Recordings will assist with accurately documenting your responses. You have the right to refuse the audio recording. Audio-recordings of the interview will be kept on a password-protected computer. After the interview recording is typed it will be destroyed. All information you provide will be kept strictly confidential and will not be shared with anyone other than me, the chair of the dissertation committee Dr. Lucy Mkandawire-Valhmu, the committee members, and other students from my university (University of Wisconsin-Milwaukee) - both graduate and undergraduate who are interested in research with women. Based on your preference, interview will be conducted within or outside of healthcare facility or at your home if this is more convenient for you.

If you have questions or would like to participate, please contact me at XXXX

Thank you for your time,

APPENDIX G: Recruitment Script in Arabic

سيناريو التعيين

بعد انتهاء المراجعة من الزيارة سوف تقوم الممرضة باخبارها بوجود باحثة ترغب في مقابلتها اذا كان لديها وقت
الباحثة:
السلام عليكم
انا فاتن الفيفي طالبة دكتوراه بكلية التمريض بجامعة وسكانسون بملواكي . انا اعمل الان على بحث لاستكشاف العوائق والتسهيلات التي تواجهها الحامل للحصول على الرعاية الطبية اثناء الحمل واحتاج مشاركة في بحثي تكون سعودية عمرها ثمانية عشر عاما او اكثر كانت حامل خلال السنتين الماضيتين او تكون في زيارة ما بعد الولادة. إذا كانت تنطبق عليك هذه الشروط او تعرفين احدا تنطبق عليها هذه الشروط فانت او من تنطبق عليه هذه الشروط مدعوة للمشاركة في هذا البحث.
هذا البحث ليس له علاقة بالرعاية التي تحصلين عليها هنا وسواء وافقت او رفضت المشاركة في البحث لن يؤثر ذلك على الرعاية التي تحصلين عليها. لا يوجد شيء محدد جعلني اختارك.
اذا لم تستوف المراجعة شروط المشاركة في البحث : شكرا لوقتك . اذا تعرفين احدا تنطبق عليه هذه الشروط ارجو تزويدها لهذا الرقم للتواصل معي :XXXX او على البريد الالكتروني : XXXX
اذا استوفت المراجعة شروط المشاركة في البحث : إذا وافقتِ على المشاركة ، سيُطلب منكِ المشاركة في مقابلة وجها لوجه مع الباحثة لمناقشة تجربتك مع الرعاية الصحية اثناء الحمل.
سيستغرق ذلك ما يقرب من ساعتين إلى ثلاث ساعات من وقتك. مشاركتك في هذه الدراسة تطوعية. سوف اقوم بتسجيل المقابلة صوتيا حيث أن هذه التسجيلات ستساعد في توثيق إجاباتك بدقة. سيتم الاحتفاظ بالتسجيلات الصوتية للمقابلة على جهاز كمبيوتر محمي بكلمة مرور. سوف أقوم بكتابة ما ورد في هذه التسجيلات و من ثم سأقوم بإتلاف التسجيل الصوتي. سيتم ترميز النسخ المكتوبة وحفظها على جهاز كمبيوتر محمي بكلمة مرور. لديك الحق في رفض التسجيل الصوتي اذا كنت لا ترغبين في ذلك. رفضك للتسجيل الصوتي لا يعني أنكِ لا تستطيعين المشاركة في البحث. سيتم الاحتفاظ بجميع المعلومات التي سوف تقدميها بسرية تامة، الأشخاص المخولين بالاطلاع على هذه المعلومات هم: فاتن الفيفي ، ورئيسة لجنة الأطروحة الدكتورة لوسي ، وأعضاء اللجنة ، و بعض طلاب جامعة وسكانسون بملواكي الذين لديهم بحوث في مجال المرأة. لك الخيار في تحديد مكان المقابلة سواء داخل المستشفى او خارجها او في منزلك.
اذا كان لديك اي سؤال او ترغبين في المشاركة ارجو التواصل معي على الرقم: XXXX او على البريد الالكتروني : XXX

APPENDIX H: Consent Form in Arabic

المواصفات القياسية المعتمدة للبالغين
موافقة للمشاركة في البحث لجامعة وسكانسون – ميلواكي

عنوان الدراسة: تجارب النساء مع الرعاية الصحية اثناء الحمل: آراء النساء السعوديات في جبال فيفاء.
الشخص المسؤول عن البحث:
الباحث الرئيسي: الطالبة فاتن يحيى الفيفي (ممرضة مسجلة ، ماجستير في التمريض) ، مرشحة للدكتوراه بجامعة وسكانسون - بملواكي كلية التمريض
رئيس لجنة الأطروحة: لوسي مكندوير RN، MN، PhD، Associate Professor

الباحثة طالبة دكتوراه في جامعة وسكانسون ، ميلواكي. رئيسة لجنة الأطروحة الدكتورة لوسي وهي التي ستشرف على الدراسة.

وصف الدراسة: الغرض من هذه الدراسة هو فهم تجربة المرأة السعودية في الحصول على خدمات الرعاية الصحية أثناء الحمل في المناطق النائية بمنطقة جازان بالمملكة العربية السعودية من خلال اجراء مقابلات شبه منظمة. عدد المشاركات في هذه الدراسة يتراوح من ثلاثون الى خمسون مشاركة.
إذا وافقتِ على المشاركة، سيُطلب منكِ المشاركة في مقابلة وجها لوجه مع الباحثة لمناقشة تجربتك مع الرعاية الصحية اثناء الحمل في جبال فيفاء. **أسئلة المقابلة ستشمل أسئلة عن تغذيتك وعن حملك السابق و الحالي**. سيستغرق ذلك ما يقرب من ساعتين إلى ثلاث ساعات من وقتك.
إذا وافقت على المشاركة فسوف يطلب منك الاتي:
• سيتم جمع معلوماتك الديموغرافية **وهي عبارة عن معلومات اساسية عنك مثل العمر و المستوى التعليمي و مستوى الدخل**. وسوف تكون هذه المعلومات سرية بحيث لا يتم التعرف عليك.
• سيتم تسجيل المقابلة صوتيا بعد الحصول على موافقتك والهدف من هذا التسجيل لكي يتم تدوين اجاباتك بدقة.
• في حالة رفضك لتسجيل المقابلة صوتيا سيتم توفير كاتبة لتدوين اجاباتك اثناء المقابلة بينما انا استمع الى اجاباتك. وفي حال رفضك للتسجيل الصوتي ولوجود الكاتبة فلك الحق في عدم اجراء المقابلة.

المخاطر / الفوائد: المخاطر التي قد تواجهينها بسبب المشاركة في البحث قليلة جدا. لا توجد مخاطر جسدية ولا اجتماعية متوقعة. لا توجد تكاليف للمشاركة. لا توجد فوائد بالنسبة لك سوى المساهمة في اجراء الأبحاث حول تجربة النساء مع الرعاية الصحية في جبال الفيفا.
سيتم تقديم وجبات خفيفة خلال المقابلة كتعبيرعن الشكر والامتنان لوقتك الثمين، ستحصلين على بطاقة شحن مسبقة الدفع بقيمة عشرون ريال في نهاية المقابلة. انسحابك من المقابلة لا يمنع حصولك على بطاقة الشحن.

السرية :جميع المعلومات التي تقدمينها اثناء المقابلة سوف تبقى سرية. ربما يتم عرض النتائج من هذا البحث الى الاخرين او يتم نشر هذه النتائج في الجرائد والمؤتمرات العلمية. لن يتم الإفصاح عن أي معلومات تحدد هويتك. الأشخاص المخولين بالاطلاع على هذه المعلومات هم: فاتن الفيفي ، ورئيسة لجنة الأطروحة الدكتورة لوسي ، وأعضاء اللجنة ، و بعض طلاب جامعة وسكانسون بملواكي الذين لديهم بحوث في مجال المرأة. ربما يتم مراجعة سجلات هذه الدراسة من قبل لجنة أخلاقيات البحث بجامعة ويسكانسون بميلواكي او المؤسسات الفدرالية مثل مكتب حماية حقوق المشاركين بالبحوث. سنقوم بجمع البيانات الديموغرافية. سيتم إجراء تسجيلات صوتية رقمية وتدوينها ثم تدميرها. سيتم الاحتفاظ بنسخ من التسجيلات والمقابلات على جهاز كمبيوتر محمي بكلمة مرور. قد يتم الاحتفاظ بالمعلومات التي تم جمعها لهذه الدراسة لمدة ثلاث سنوات لاستخدامها في المستقبل ثم يتم تدميرها. يمكن أن تقوم رئيسة لجنة الاطروحة الدكتور لوسي مكندوير وأعضاء اللجنة وبعض طلاب جامعة وسكانسون بملواكي الذين لديهم بحوث في مجال المرأة و لجنة أخلاقيات البحث بجامعة وسكانسون بملواكي أو المؤسسات الفدرالية مثل مكتب حماية حقوق المشاركين بالبحوث بمراجعة سجلات هذه الدراسة.

المشاركة تطوعية: مشاركتك في هذه الدراسة تطوعية. يمكنك اختيار عدم المشاركة في هذه الدراسة. إذا قررت المشاركة ، يمكنك تغيير رأيك لاحقًا والانسحاب من الدراسة. لك كامل الحرية في عدم الإجابة عن أية أسئلة أو الانسحاب في أي وقت. لن يؤثر قرارك على أي رعاية صحية حاضرة أو مستقبلية مقدمة لك. الطريقة الوحيدة للمشاركة في هذه الدراسة هي اجراء المقابلة.
لمزيد من المعلومات حول الدراسة: يرجى الاتصال بفاتن الفيفي على **الرقم XXXX**

للشكاوي أو الاستفسار عن حقوقي كمشارك: يرجى الاتصال بلجنة أخلاقيات البحث السعودي باللغة العربية على الرقم XXXX و للتواصل باللغة الانجليزية يرجى الاتصال بلجنة اخلاقيات البحث بجامعة وسكانسون بملواكي على الرقم XXX

موافقة على المشاركة في البحث:
للمشاركة في هذه الدراسة ، يجب أن يكون عمرك 18 عامًا أو أكثر. من خلال توقيع نموذج الموافقة ، فأنت تعطين موافقتك على المشاركة طواعية في هذا المشروع البحثي.

اسم المشاركة :
التوقيع أو بصمة المشاركة :

اسم الزوج :
توقيع أو بصمة الزوج :

موافقة المشاركة على التسجيل الصوتي :
تاريخ :
لا بأس في تسجيلي صوتيا واستخدم بياناتي الصوتية المسجلة في البحث.
الاسم : _____ نعم _____ لا

اسم الباحث :
توقيع الباحث :
التاريخ :

APPENDIX I: Demographic Questions in Arabic

الأسئلة الديموغرافية

رقم # ---------- **التاريخ** ----------

التعليمات: عند الإجابة على الأسئلة ، يرجى الإجابة بصدق وأمانة ، وتقديم ردود على أساس تجربتك كحامل. من فضلك ، قدمي الإجابة المناسبة.

1. كم عمرك؟
2. ما هي حالتكِ الإجتماعية؟
3. ما هي قبيلتك؟
4. ما هو مستواكِ الدراسي؟
5. ما هو مستوى زوجك التعليمي (إن وجد)؟
6. ما هي وظيفه زوجك (إن وجدت)؟
7. ما هو مهنتك الحالية؟
8. من هو رب الأسرة؟
9. كم شخص يعيش في منزلك؟
10. كم عدد أطفالك؟
11. كم مره أجهضتي؟
12. في أي شهر أو أسبوع أكتشفت أنكِ حامل؟
13. في أي شهر / أسبوع من الحمل؟
14. كم مره حملتي؟
15. ما هو أقرب مركز للرعاية الصحية من منزلك؟
16. ما هي طريقه المواصلات التي تستخدمينها للذهاب إلي المركز الرعاية الصحية أو المستشفي؟
17. كم عدد زيارات الرعاية التي قمتي بها أثنا، الحمل؟
18. من الذي فحصك خلال زيارات الرعاية ؟
19. ما هي الفترة الفاصلة بين حملك الأخير وحملك الحالي؟
20. كم مرة تدخنين أو تستخدمين القات؟
21. كم مره تنومتي في المستشفى خلال هذا الحمل؟
22. هل لديك حالة صحية مزمنة؟
23. من قرر أن تحضري زيارات الرعاية االطبيه أُثنا، الحمل؟

تسجيل حمية ال24 ساعة

ماذا أكلتي و شربتي في خلال ال24 ساعة الماضية؟

الغذاء	الكميه	الوقت

APPENDIX J: Study Informational Sheet and Interview Guide in Arabic

دليل مقابلة شبه منظمة

الموضوع: العوامل المؤثرة في الوصول إلى رعاية ما قبل الولادة

ترحيب ومقدمة

مرحباً، اسمي فاتن الفيفي ، وأنا أقوم بإجراء دراسة كجزء من أطروحة بحثي عن العوائق و التسهيلات التي تواجه الحامل للحصول علي الرعاية الطبية أثناء الحمل بمنطقه فيفاء . أشكرك على اهتمامك بالبحث ورغبتك في المشاركة. مشاركتك في هذا البحث تطوعية ، ولكِ كامل الحق في الإنسحاب من البحث في أي وقت. إذا اخترت المشاركة، فسوف اطرح عليك بعض الأسئلة المسجلة حول موضوع الرعاية الطبية للحوامل.

سوف اقوم بتسجيل المقابلة صوتيا حيث أن هذه التسجيلات ستساعد في توثيق إجاباتك بدقة. سيتم الاحتفاظ بالتسجيلات الصوتية للمقابلة على جهاز كمبيوتر محمي بكلمة مرور. سوف أقوم بكتابة ماورد في هذه التسجيلات ومن ثم سأقوم بإتلاف التسجيل الصوتي. سيتم ترميز النسخ المكتوبة وحفظها على جهاز كمبيوتر محمي بكلمة مرور. لديك الحق في رفض التسجيل الصوتي اذا كنت لا ترغبين في ذلك. رفضك للتسجيل الصوتي لا يعني أنكِ لا تستطيعين المشاركة في البحث. في حالة نشر البحث لن يتم ادراج ايه معلومات تؤدي الى التعرف عليكِ مطلقاً.

لديك كامل الحق في طرح أية أسئلة أو استفسارات حول هذه الدراسة البحثية ولديك الحق في أن أقوم بالإجابة على هذه الأسئلة قبل أو أثناء أو بعد البحث. إذا كنتي لا ترغبين في الإجابة عن سؤال معين ، يمكنك القول " لا أريد الإجابة علي هذا السؤال". و إذا كنت تريدين الإنسحاب من هذه الدراسة في أي وقت، يمكنك القول "أريد الإنسحاب من الدراسة". عندما تواجهين سؤالا أو جزئية غير واضحة خلال هذه المقابلة يمكنك القول " هذا السؤال أو هذه الجزئية غير واضحة ". المقابلة تستغرق ما يقرب من ساعتين الى ثلاث ساعات من وقتك.

سيتم الاحتفاظ بجميع المعلومات التي سوف تقدميها بسرية تامة، الأشخاص المخولين بالاطلاع على هذه المعلومات هم: فاتن الفيفي ، ورئيسة لجنة الأطروحة الدكتورة لوسي ، وأعضاء اللجنة ، و بعض طلاب جامعة وسكانسون بملواكي الذين لديهم بحوث في مجال المرأة.

يمكنك إيقاف المقابلة في أي وقت. ومع ذلك، آمل أن تشاركي بهذه الدراسة حيث أن المعلومات التي سوف تقدميها في غاية الأهمية لصحة الحامل بالمناطق النائية بالسعودية. سيتم استخدام المعلومات التي تم جمعها في هذه الدراسة لإبلاغ خدمات الرعاية السابقة للولادة في المستشفيات المحلية ووزارة الصحة السعودية. يرجى تخصيص بعض الوقت لإكمال نماذج الموافقة للمشاركة في البحث.

تمهيد الموضوع:

الأسئلة:

1. كيف حال حملك؟
   - ما هي المشاكل الصحية والمزمنة التي تعانين أو عانيت منها اثناء الحمل؟
2. متى اكتشفت إنك حامل؟ في أي (اسبوع أو شهر) بدأتي الرعاية الطبية أثناء الحمل؟
3. من الذي قام بتشجيعك للقيام بالزيارات الطبية أثناء فترة الحمل؟
4. ما الذي جعلك تقررين الحصول على الرعاية الطبية في هذا الوقت؟
   - ماهي الأسباب التي جعلتك تقومين بالزيارة الطبية أثناء الحمل؟
   - لماذا الرعاية للحوامل الطبية مهمة؟
   - كم عدد الزيارات التي قمت بها حتى الان؟
5. تحدثي عن تجربتك مع الرعاية الطبية للحوامل؟

6. ماهي الاشياء التي تعتقدين انها جعلت حملك صحي وسليم؟
   - ما أثر زيارة الطبيب على صحة الحمل؟
   - من هم الأشخاص الذين قدموا لك المساعدة أو الرعاية أثناء فترة الحمل؟
7. ما هو شعورك وماذا كانت ردة فعلك عندما علمت بأنك حامل؟ وماهي ردة فعل الاخرين عندما علموا بأنك حامل؟
   - متى أخبرت زوجك بالحمل؟
   - كيف كانت ردة فعله تجاه هذا الخبر؟
   - متى أخبرت عائلتك وصديقاتك بالحمل؟
   - كيف كانت ردة فعلهم تجاه هذا الخبر؟
   - ما الذي جعلك تفكرين بالحمل؟ (هل الحمل مخطط له / غير مخطط له، متقبل / غير متقبل، مرغوب / غير مرغوب، متوقع / غير متوقع)
8. ما النصائح والتوصيات التي قمن بتقديمها لك الأخريات أثناء الحمل؟
   - ما هي العلاجات التقليدية والعلاجات المنزلية والممارسات التي شجعنك على استعمالها أثناء الحمل؟ ولماذا قمت باستخدامها؟
9. ما هو رأي زوجك تجاه الرعاية الصحية المقدمة للحوامل؟
   - ما الدعم الذي يقدمه أو قدمه زوجك لكي تحصلي على الرعاية الصحية؟
10. كيف يقوم (مجتمعك وعائلتك وصديقاتك) بدعمك أثناء الحمل؟ (جسديا، نفسيا، ماديا)
11. ما العوامل التي تمنع حصولك على الرعاية الطبية؟
12. من الذي ينوب عنك في رعاية الاطفال، كبار السن، ذوي الاحتياجات الخاصة أثناء ذهابك لزيارة طبية؟
13. كيف تصفين العلاقة بينك وبين طبيبك او طبيبتك، والعلاقة بينك وبين أفراد الطاقم الصحي الاخرين؟
14. ما الأشياء الأخرى التي تساعدك أو تمنعك من الحصول على الرعاية الطبية وترغبين بإضافتها؟
15. فيما تبقى لدينا من دقائق، ما الأشياء التي قد تحسن من الخدمات الطبية المقدمة للحوامل؟

أشكرك مرة أخرى على المشاركة، إذا ظهر أي شيء تعتقدين أنه قد يكون ذو صلة بالبحث لا تترددي في التواصل معي على

الرقم/XXXX
الايميل/ XXXX

CURRICULUM VITAE
Faten Yahya Alfaifi
2019

EDUCATION

- **University of Wisconsin – Milwaukee**
  PhD in nursing
  Dissertation: Experiences of women accessing prenatal care: Voices of Saudi Women in Faifa Mountains
  Expected Graduation Date: August 2019

- **Oklahoma City University – Kramer School of Nursing**
  Master's degree of Nursing Administration
  Project: Evidence-based educational program for improving cultural competency among nurses at Jazan university hospital in Kingdom of Saudi Arabia
  Graduation Date: December 2014

- **King AbdulAziz University**
  Bachelor of Science in nursing
  Graduation Date: May 2008

LICENSURE

Registered Nurse – Saudi Board of Nursing

NURSING EXPERIENCE

- **One-year Internship, Jazan, Kingdom of Saudi Arabia**
  October 2008 - September 2009

  Faifa General Hospital
  Worked in medical, surgical, obs-gyne, and pediatric units
  ER, OR, and blood sample departments
  King Fahed Hospital, Abu Arish
  Worked in adult intensive care and pediatric intensive care Unit

TEACHING EXPERIENCE

Jazan University, College of Nursing, Kingdom of Saudi Arabia

- **Demonstrator**
  August 2009 – August 2015
  Performed teaching activities in lab and class for the nursing students
  Worked as students' supervisor during students' clinical practice
  Participated in curriculum development for the Department of nursing
  Participating in management of nursing college resources
- **Lecturer**
  Aug 2015 – present
  Attaining Mater and PhD degree

RESEARCH EXPERIENCE

- ***Teaching Today's Students for Tomorrow's America*** Health Resources and Services Administration (HRSA) Nurse Education, Practice, Quality and Retention (NEPQR) Interprofessional Collaborative Practice (IPCP) and Interprofessional Education (IPE) Cooperative Agreement under grant number UD7HP28542, for $1,337,115 (2015 - 2018)
    - Project assistant

- ***The University of Wisconsin-Milwaukee Institute for Urban Health Partnerships Primary Care Behavioral Health (PCBH)* Project.** U.S. Department of Health and Human Services Health Resources and Services Administration (HRSA) under grant number UD7HP30930, for $ $999,950 (2017 - 2019)
    - Project assistant

PRESENTATION

Alfaifi, F., Kelber, S., Buseh, A., Snethen, J., Thongriwan, V. (2017). *Stigma and Mental Health Help-Seeking Behavior Decisions among Undergraduate Students Attending a Large Midwestern Urban University.* Poster session presented at Eta Nu 3 rd Annual poster Symposium. (November 16). Milwaukee, WI.

Alfaifi, F., Kelber, S., Buseh, A., Snethen, J., Thongriwan, V. (2018). *Stigma and Mental Health Help-Seeking Behavior Decisions among Undergraduate Students Attending a Large Midwestern Urban University*. Poster session presented at the MNRS 42nd Annual Research Conference. (April 13-15). Cleveland, OH.

Zabler, B.**,** Ryan, K.T., Franklin, S., Welch, G., & **Alfaifi, F**. (2018). *Teaching Today's Students for Tomorrow's America (TTSTA): An interprofessional collaborative practice and education model to improve primary care for refugees.* Our City of Nations (OCON) Conference - Arriving, Surviving, Thriving: Journey from New to Neighbor. Concordia University Wisconsin, School of Pharmacy. Mequon, WI.

Faltinson, M., Zabler, B., Turner, W., & **Alfaifi, F**. (2018). *Prenatal care coordination (PNCC): A beneficial program for pregnant refugees.* Poster session presented at the Medical College of Wisconsin 4th Annual Community Spring Engagement Conference. (April 26-27). Milwaukee, WI.

CERTIFICATIONS

- A Data Security & Privacy
- Collaborative Institutional Training Initiative (CITI Program) IRB Biomedical, and Social & Behavioral Combined Researchers
- Culturally Competent Nursing Care
- The National Institutes of Health (NIH) Office of Extramural Research, the NIH Web-based training course "Protecting Human Research Participants"
- 10th Annual Caring Across Cultures Conference

- Beyond Putting Out Fires: “Strategies for Leading in Turbulent Times” conference
- 9th Annual Nurse Educator Conference “Powerful Teaching Tools for Every Setting”
- 1st Emergency in Nursing Symposium
- Healthcare Providers at Risk Symposium
- The Saudi International Medical Education Conference
- 4th Applied Medical Sciences Student’s Meeting
- Center for Toxicology and Chemistry legitimacy, Saudi Arabia
- World Diabetic Day

HONORS AND AWARDS

- **Scholarship of Saudi Arabia’s Government, Ministry of Higher Education**
  2011- 2012 studying English scholarship
  2013-2014 master’s degree scholarship
  2015-2019 Ph.D. degree scholarship
- Outstanding BSN Graduate
- Outstanding MSN Graduate
- 2018 Induction to Sigma Theta Thau Nursing Honor Society
- 2019 Sigma Theta Thau Outstanding PhD Student Performance Award
- 2019 Sigma Theta Thau funds for Research $1000

MEMBERSHIP

- Sigma Theta Thau- Eta Nu Chapter, Member