

**The Lived Experience of South Asian Women with Gestational Diabetes Mellitus**

by

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## **ABSTRACT**

Factors that influence differentially managed gestational diabetes mellitus (GDM) and variances in adherence to GDM guidelines among the South Asian women were investigated using a qualitative design. There is a lack of descriptive literature related to this topic and subsequently the need for a better understanding to provide optimal care for this population of women. A phenomenological approach provided the research approach to generate descriptive knowledge of women's lived experience of managing and adhering to GDM guidelines. Thus, the purpose of this research was to understand the lived experiences of South Asian women managing GDM. The research question guiding the study was: What is the lived experience of managing GDM for women of South Asian descent? The results from this research study will assist health care providers to understand the experiences of South Asian women and how their experience affects their ability to effectively manage GDM. Findings from this study will aid in developing and implementing strategies that can raise awareness and contribute to successful management of GDM among this population. The overall aim is to contribute such knowledge to assist with the development of population-specific intervention strategies to enable these women to successfully manage GDM.

## **PREFACE**

This thesis is submitted for partial fulfillment for the degree of Master of Science in Nursing at the University of British Columbia. The work presented henceforth was conducted at the Diabetes and Pregnancy Clinic at the Jim Pattison Outpatient Care and Surgery Centre in Surrey, BC. This project and associated methods were approved by the University of British Columbia's Research Ethics Board [certificate #H14-02652].

I was the lead investigator, responsible for all major areas of concept formation, data collection and analysis, as well as composition of the thesis. Dr. Suzanne Campbell was the research supervisor on this project and was involved in the concept formation process and contributed to manuscript edits. Dr. Helen Brown and Ms. Elsie Tan were also involved in the early stages of concept formation and editing the manuscript.

This work is original, to the best of my knowledge, except where acknowledgements and references are made to previous work.

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I would also like to acknowledge the participants in this study for sharing their experiences. Their individual experiences provided insight and contributed to my knowledge, as well as providing a basis for integration into practice. This study would not have been possible without their participation.

My gratitude also goes to the Diabetes and Pregnancy Clinic at Jim Pattison Outpatient Care and Surgery Centre. I would like to thank Tamara Robertson and the staff for their assistance with recruiting participants for this study.

## **DEDICATION**

This thesis is dedicated to my family. I would not have been able to complete this project without all of their love, support, and encouragement.

To my grandma for always guiding and reassuring me with her words of wisdom.

To my grandpa for teaching me the value of kindness and hard work.

To my mom for keeping me grounded and teaching me to be patient with myself.

To my dad for teaching me not everything is easy, but is achievable if you work hard.

To my brother for encouraging me to strive for my goals and dreams.

Thank you.

## **Chapter 1. THE RESEARCH IN CONTEXT**

### **1.1 Background**

When working at a diabetic clinic at a large tertiary hospital in the Vancouver Lower Mainland, I observed there was poor management of Gestational Diabetes Mellitus (GDM) among some women visiting the clinic. The endocrinologists and nurses classified these patients under the category of “poor management” based on the fact that their blood glucose levels were not being maintained as per the guidelines determined by the Canadian Diabetes Association and endocrinologists at the clinic. In my professional practice I noticed that women from different ethnicities manage GDM in various ways. Specifically, I observed that differential management of GDM is more common among South Asian women than any other ethnic group visiting the clinic. Based on knowledge that South Asian women giving birth account for 50% of the births within this tertiary hospital (Cahute, 2012), and that the South Asian population is the fastest growing immigrant population and second largest visible minority in Canada (Sohal, 2008), I chose to further explore the experience of living with GDM for South Asian women attending this large Vancouver Lower Mainland hospital.

### **1.2 Purpose and Research Question**

South Asian women are at high risk for developing GDM (Canadian Diabetes Association, 2013; Mocarski & Savitz, 2012; Makgoba, Savvidou, & Steer, 2011; Shah, Chiu, Amin, Ramani, Sadry, & Tu, 2010; Aljohani, Rempel, Ludwig, Morris, Cheang, Murray, Bruce, & Shen, 2008). Women’s perception, in terms of understanding the potential risks and severity of the GDM illness, will influence their personal involvement in effectively managing GDM (Anderberg, Berntorp, & Crang-Svalenius, 2009; Aljohani et al., 2008; Carolan, Gill, & Steele, 2012; Jones, Roche, & Appel, 2009). Factors, such as personal and social influences, are also

important to consider as they can affect the management of GDM for these women and indicate potential areas for interventions. Before interventions can be implemented, however, it is important to first understand the experiences that contribute to the management of GDM for South Asian women.

The purpose of this study was to understand the lived experiences of South Asian women with GDM with the goal of improved management. The research question guiding the study was: What is the lived experience of managing GDM for women of South Asian descent? Findings from this study will aid in developing and implementing strategies that can raise awareness and contribute to successful management of GDM among this population.

### **1.3 Literature Review**

The most common medical complication of pregnancy is Gestational Diabetes Mellitus (GDM) (Vyas, Chaudhary, Ramiah, & Douglass, 2012; Anderberg, Berntorp, & Crang-Svalenius, 2009; Aljohani, Rempel, Ludwig, Morris, Cheang, Murray, Bruce, & Shen, 2008; Rosenberg, Garbers, Lipkind, & Chiasson, 2005; Berger, Crane, & Farine, 2002). Although multiple personal and contextual factors shape the incidence of this disease in pregnancy, ethnicity has been identified as one of the most influential risk factors associated with acquiring this pregnancy-related illness (Jiwani, Marseille, Lohse, Damm, Hod, & Kahn, 2012; Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011; Gonzalez, Mlinarevich, Michalski-Rimington, Cornbleet, Stoller, Anderson, & Levy, 2005; Verheijen, Critchley, Whitelaw, & Tuffnell, 2005). A number of studies indicate that ethnicity is a risk factor for GDM, especially for South Asian women; among South Asian women, there is an 80% increased risk of GDM (Vyas, Chaudhary, Ramiah, & Douglass, 2012; Hedderson, Darbinian, & Ferrara, 2010; Ratner et al., 2008; Hunsberger, Rosenberg, & Donatelle, 2012). More specifically,

women of South Asian descent have been recognized as being at high risk for developing GDM. The literature indicates ethnicity related factors include higher rate of physical inactivity, obesity, and an inadequate consumption of fruits and vegetables, compared to other populations (Aljohani, et al., 2008; Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011; Canadian Diabetes Association, 2013; Makgoba, Savvidou, & Steer, 2011; Mocarski & Savitz, 2012; Public Health Agency of Canada, 2011b; Vyas, Chaudhary, Ramiah, & Douglass, 2012). However, the aforementioned risk factors may pertain more to the social determinants of health and socioeconomic status, rather than ethnicity.

South Asian women have the highest rates of GDM in the US; South Asian women comprise 11% of GDM cases in the US compared to 4% among the Caucasian population (Vyas, Chaudhary, Ramiah, & Douglass, 2012). However, the prevalence of GDM in South Asian women in Canada is largely unknown. Of particular importance in terms of the Canadian context is the expectation that the South Asian population is expected to grow to between 3.2 million to 4.1 million compared to 1.3 million in 2006 (Statistics Canada, 2010); these statistics provide sufficient grounds to further explore the topic through research.

There is also evidence that a combination of environmental and behavioral factors and genetic predisposition influence the development of GDM (Vyas, Chaudhary, Ramiah, & Douglass, 2012; Hedderson, Darbinian, & Ferrara, 2010; Misra & Ganda, 2007; Zargar et al., 2004). While ethnicity has been predominantly used to explain personal and lifestyle factors related to the development of GDM, there are contextual factors that have been relatively unexamined in research. The classification of risk as ‘ethnic’ may be missing important influences that may have more to do with economics, migration experience, family dynamics, among other factors known to impact pregnancy. Based on existing studies, there is a critical

need to explore the lived experience of South Asian women with GDM in order to discover the various factors associated with management of GDM; therefore, the social determinants of health provides the theoretical framework to guide this research.

Knowledge of prevalence and risk factors for developing GDM is also important in order to determine women's perceptions of this illness. Research indicates risk perception is a critical determinant of health behavior (Vyas, Chaudhary, Ramiah, & Douglass, 2012). The way this illness is perceived by women will influence adherence to guidelines for effective management of GDM; women are more likely to manage GDM effectively if they perceive the illness as severe and understand the potential risks (Carolan, Gill, & Steele, 2012; Jones, Roche, & Appel, 2009; Gonzalez, Mlinarevich, Michalski-Rimington, Cornbleet, Stoller, Anderson, & Levy, 2005). Furthermore, Carolan et al. (2012) suggest that a woman's interest and willingness to learn about GDM, specifically in relation to her baby's welfare, will increase her involvement in effectively managing her diagnosis. Moreover, research shows that women are more often focused on the wellbeing of their baby, rather than their own health (Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011; Hjelm, Bard, Nyberg, & Apelqvist, 2005) despite the fact that GDM is associated with risks for both mother and baby. Because GDM is related to poor pregnancy outcomes and increased risk of obesity and early development of diabetes for the child (Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011; Iqbal, Rafique, Badruddin, Qureshi, Cue, & Gray-Donald, 2006; Ray, Jiang, Sgro, Shah, Singh, & Mamdani, 2009) there is a pressing need to understand how women's perceptions of GDM management influence the disease trajectory during and following pregnancy; thus, women's perceptions of and experiences with GDM to prevent negative impacts on mother and baby requires further investigation.

Knowledge is also needed generally about GDM and more specifically about women's experiences with receiving the diagnosis. Some feelings associated with receiving the diagnosis are feelings of 'shock', 'fear', and 'guilt' (Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011). These negative feelings not only influence women's response to the diagnosis, but can go on to produce stress that can worsen the health status of these women (Crowther et al., 2005). Although there is a lack of evidence regarding genetic predispositions related to GDM, there are studies within the literature that identify genetic susceptibility to insulin resistance; this has been identified as a risk factor for the high prevalence of diabetes amongst South Asian people (Bajaj et al., 2013). Insulin dependence has been studied for its affect on women's perceptions of the illness. One study indicated that South Asian women were preoccupied with testing and maintaining 'good sugar levels' due to fear regarding injecting insulin (Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011). More specifically, this was noted to be the 'worst part' of being diagnosed with GDM (Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011). Based on these findings, before healthcare providers can design and tailor effective interventions, they first need to recognize a woman's understanding of the illness and its effects, which may influence their management of GDM. Interventions should address significant factors that contribute to perception and barriers to healthy lifestyle behaviors (Vyas, Chaudhary, Ramiah, & Douglass, 2012).

In addition to exploring South Asian women's understanding of the prevalence of GDM and the affect on themselves and their baby, other risk factors also need to be explored. Many risk factors associated with GDM are likely modifiable (Abouzeid et al., 2015). More specifically, research shows that body fat and level of physical activity are two modifiable factors associated with GDM (Iqbal, Rafique, Badruddin, Qureshi, Cue, & Gray-Donald, 2006).

Furthermore, a higher BMI is associated with increased insulin resistance (Iqbal, Rafique, Badruddin, Qureshi, Cue, & Gray-Donald, 2006). Research also shows that a higher level of physical activity substantially reduces the risk of developing GDM and type 2 diabetes (Iqbal, Rafique, Badruddin, Qureshi, Cue, & Gray-Donald, 2006; Laaksonen et al., 2005; Molitch et al., 2003). A higher total fat intake also enhances the risk of developing GDM (Iqbal, Rafique, Badruddin, Qureshi, Cue, & Gray-Donald, 2006; Saldana, Siega-Riz, & Adair, 2004; Wang et al., 2000). Although this information is shared by their healthcare providers, women are conflicted between the advice they receive after being diagnosed with GDM and their cultural practices and beliefs regarding diet and physical activity (Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011).

Although diet and exercise have been identified as factors associated with the management of GDM, there is limited literature regarding personal and social factors specific to South Asian women with GDM. More specifically, little is known about the various lifestyle factors in this population (Vyas, Chaudhary, Ramiah, & Douglass, 2012). Family support is a factor to be considered regarding the experience of GDM for South Asian women. Culturally, for South Asian women with the economic resources, eating well and resting are encouraged for expectant mothers in order to avoid any adverse pregnancy outcomes (Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011). Furthermore, this lifestyle reflects a higher socioeconomic status of an expectant mother and her family (Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011). However, there appears to be a gap in the literature regarding the impact of family support thus such social factors shaping GDM management needs to be explored.

The literature also suggests that time pressures, physical restrictions, social constraints, limited comprehension of requirements, and insulin being viewed as an easier option, are all factors that contribute to differential management of GDM (Carolan, Gill, & Steele, 2012). Although these factors may be relevant for South Asian women experiencing GDM, personal and social factors, such as cultural beliefs and practices, roles of South Asian women in their families and communities, and health beliefs also need to be explored as they are unique to women's lives; consideration of these factors specific for South Asian women living in Canada is critical for effective and timely support for women (Silva, Kaholokula, Ratner, & Mau, 2006; Vyas, Chaudhary, Ramiah, & Douglass, 2012).

In addition to the aforementioned risk factors associated with GDM, it is also important to examine cultural and economic factors that may contribute to differential management of GDM for South Asian women, thus, contributing to their experience with GDM. Only a few studies exist that examine socio-cultural differences and socio-economic status with regards to GDM (Abouzeid et al., 2015; Bo et al., 2002). One study stated that although older Asian mothers are at greatest risk of GDM, socioeconomic differences are not evident among first-time mothers aged below 25 years at delivery (Abouzeid et al., 2015). A second study determined that there is an association between GDM and a lower social status (Bo et al., 2002). More specifically, women with a lower level of education and higher BMI displayed more risk factors for GDM than those with a higher level of education and lower BMI (Bo et al., 2002). Research also suggests that obesity and type 2 diabetes, as a result of health risks to the infant of a GDM pregnancy, are highest among women of lower socio-economic status (Abouzeid et al., 2015). There is evidence that care needs to be focused on health care resources and primary prevention

for those with a lower socioeconomic status (Bo et al., 2002). Therefore, the disparity among different socio-economic statuses also needs to be better understood.

Upon reviewing the literature for this thesis, it is notable that I was unable to find any studies related to the experience of South Asian women with GDM, other than one recent study done in Australia (Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011). Based on my literature review and the prevalence of GDM in South Asian women, I decided to perform this research study in order to understand the experience of living with GDM for these women.

#### **1.4 Significance of the Study**

By recognizing factors that influence differentially managed GDM and variances in adherence to GDM guidelines among the South Asian women, I identified a need for further investigation. As there is a lack of descriptive literature related to this topic, I identified the need for a better understanding of this population specific to GDM, and thus, the phenomenological approach was the best fit to further explore their lived experience. Ultimately, the purpose of this research was to understand the lived experiences of South Asian women with GDM. The data from this research study will contribute to understanding the experiences of South Asian women and how their experience affects their ability to effectively manage GDM. The overall aim of the study is to contribute knowledge that will raise awareness and assist in the development of population-specific intervention strategies, for healthcare providers and affected women, to enable these women to successfully manage GDM.

## **Chapter 2. RESEARCH METHODOLOGY**

### **2.1 Theoretical Framework**

A social determinants of health (SDOH) perspective provides the theoretical framework to guide the study (Public Health Agency of Canada, 2011a). A SDOH perspective is relevant given that evidence is lacking on how women's social and personal context influences their management of GDM. In addition, knowledge is needed to guide the policy and healthcare practices focusing on the prevention of this pregnancy related illness (Polit & Beck, 2012). Furthermore, a SDOH theoretical approach in research works from the assumption that individuals' perceptions and values regarding a health problem will influence their health behavior associated with management of the illness (Polit & Beck, 2012), where health behavior can be defined as the actions individuals take to manage or prevent illness (Jones, Roche, & Appel, 2009). Understanding individuals' perceptions and beliefs, regarding the susceptibility and severity of GDM, will influence women's health behaviours and outcomes (Polit & Beck, 2012; Jones et al., 2009). Access to health care, social and cultural context, increasing age, low level of education and socioeconomic conditions, and psychological factors have been identified as determinants of health associated with diabetes in South Asian women; this pertains to diabetes in pregnancy and diabetes unaccompanied by pregnancy (Bajaj et al., 2013). A SDOH approach focuses on the contexts and conditions by always situating personal and individual lifestyles within the specific factors shaping women's lives. Therefore, a SDOH perspective provides an effective theoretical approach for an investigation of the personal and socio-cultural factors shaping women's management of GDM.

## **2.2 Study Design**

A qualitative phenomenological design was used to research the lived experiences of GDM for South Asian women. More specifically, the Van Manen Hermeneutic Phenomenological Human Science research method was used, as this research design aims to understand the meaning of lived human experiences (Van Manen, 1990). Individual interviews were conducted; the participants were asked to speak about their experiences with managing GDM. Identification of core categories and themes were generated from the women's stories and experiences. Lastly, the heuristic interpretive process was used to allow for integration of the concepts identified; the core concepts were synthesized in order to conceptualize the description of the experience. This phenomenological approach, in combination with the SDOH, provided guidance for the study theoretically and analytically.

## **2.3 Sample**

A purposive sampling strategy was used, as the research study focuses on accessing a specific population who can speak to the phenomenon under study. More specifically, criterion sampling was used, as the population of interest is South Asian women with GDM. This sampling strategy is a defensible one given that it involves selecting participants who can provide insight into what this phenomenon means and how it is experienced (Van Manen, 1990).

Phenomenological studies rely on small samples of 10 or fewer participants; therefore, a sample of up to 10 participants was originally proposed (Van Manen, 1990). Seven participants eventually were recruited into the study. A phenomenological approach focuses on a specific phenomenon; therefore, for this study participants who share the experience of differentially managing GDM were invited to participate.

The sample population consisted of South Asian women immigrants from India, both first and second generation, and South Asian women who were born and raised in Canada; first generation are those who have immigrated to Canada themselves and second generation are those who are Canadian-born with at least one Indian-born parent. These criteria allowed for a diverse sample, in terms of birth place and living experiences across generations. In order to participate in the study, the participants were to be 18 years of age or older and diagnosed with GDM, regardless of time of diagnosis. Individuals who were eligible to participate in this study did not have any pre-existing diabetes, such as diagnosis of type I or type II diabetes, as this study focuses on Gestational Diabetes. The participants were currently diagnosed with GDM.

To undertake recruitment, I worked with the Registered Nurses at the Diabetes and Pregnancy Clinic to identify ways in which to approach and share study information with patients who meet the inclusion criteria and invite patient participation. The Registered Nurses identified potential participants based on the outlined criteria for participation; potential participants were notified of the study and given a copy of the informed consent form during their visit at the Diabetes and Pregnancy Clinic. I followed up with the potential participants via telephone 72 hours later to answer any questions and set up interview times for those participants who were interested in participating in the study. Another method of recruitment used included posting posters in the hallways at the Diabetes and Pregnancy Clinic. These posters included the criteria in the form of questions and also included the contact information for potential participants requiring further information about the study.

Although data saturation was reached from this sample of seven participants, the recruitment process was challenging. While many patients at the Diabetes and Pregnancy Clinic were suitable for the study, the majority of these potential participants were not interested in

participating in the research. Some potential participants had expressed interest to their healthcare providers to participate in this research study. However, upon follow up and arranging a time for the interview, the majority of these potential participants stated they were not interested in participating or were busy on all the days that were suggested for interviews. While the factors associated with these varying responses are unknown – and may be connected to the experiences of living with GDM itself – it made the recruitment process difficult; in turn, this delayed the study progress.

#### **2.4 Data Collection**

In order to collect data, one-on-one face-to-face interviews were conducted at the Jim Pattison Outpatient Care and Surgery Center (JPOCSC) Diabetes and Pregnancy Clinic at times that were determined by the availability of space, the participants' convenience, and the researcher. The Van Manen Hermeneutic Phenomenological Human Science research method uses a conversational interview approach; therefore, participants were asked to talk about their experience with GDM (Van Manen, 1990). The researcher used open ended questions to guide the interview, as needed. By using this conversational principle for the interview, the focus was on learning about the experience of the participants. The interviews were conducted by the researcher and audio-recorded so they could be later transcribed. The interviews were conducted in both English and Punjabi, as I am fluent in both languages. The interviews were audio-recorded and the audio-data transcribed in English for those interviews done in English. The interviews done in Punjabi were translated to English by categorizing the data, rather than word-for-word transcription; this will later be described in the data analysis section of this paper. Confidentiality and privacy were upheld by removing identifiers from the transcripts and assigning participants ID numbers, rather than using their names.

## **2.5 Data Analysis**

A phenomenological approach was used for data analysis. This allowed for interpretation of the data from a holistic perspective; the data was interpreted within the context of the interviews. More specifically, a thematic analysis was conducted; I sought elements that occurred and reoccurred frequently in the interviews (Van Manen, 1990).

In order to analyse the data, the interviews were transcribed from the audio recordings and three approaches toward identifying thematic aspects of this phenomenon were followed (Van Manen, 1990). The three approaches include: the wholistic approach, the selective approach, and the detailed approach (Van Manen, 1990). In the wholistic approach, the researcher captures and expresses the fundamental meaning of the data as a whole, from each interview. In the selective or highlighting approach one seeks particular and repetitive statements or phrases, from each interview, that seem essential to the research question. Lastly, using the detailed approach, every single sentence or statement is analysed from each interview to better understand the phenomena. Ultimately, this data analysis process helped to uncover the thematic aspects associated with the research question.

In terms of anticipating limitations to the study, one factor that could have influenced the data analysis was the researchers' beliefs regarding the phenomenon under study. Van Manen (1990) suggests bracketing and reduction to suspend the various pre-existing beliefs the researchers might have in order to fully understand the phenomenon. In order to develop a critical awareness of how values and assumptions could influence analysis, reflexive field notes were kept and the process of investigator triangulation was used. Sharing the analysis with a designated supervisor was a way to broaden the perspective of the researcher when analyzing the data. As a result, being critically conscious and involving others in data analysis minimized the

degree to which I, as the primary researcher, could be influencing the results. Investigator triangulation also helps ensure credibility of the data and data interpretation, as individual bias can then be minimized (Polit & Beck, 2012).

## **2.6 Reflexivity**

Researcher reflexivity also contributed to the rigor of the research. This was done in two ways, initially by personal reflection, and secondly, by sharing the analysis and approach with a team of researchers. The transcribed data was also shared with my research supervisor to ensure accuracy of the interpreted data. By reflecting on one's biases, preferences, fears, and theoretical inclinations specific to the study, one can enhance the quality of the study (Polit & Beck, 2012). Reflexivity was used to ensure that the degree to which one's personal opinions and expectations are influential are minimized for the impact on the outcomes or results of the study.

As the researcher, I read, re-read and interpreted all seven interviews. Five of the seven interviews were conducted in English. These interviews were then transcribed from the audio recordings and analyzed in a line-by-line manner. Two of the seven interviews were conducted in Punjabi. While fluent in the language, these interviews were then analyzed by categorizing the ideas presented within the interviews; this was done by looking for meaning rather than line-by-line transcription. Although these interviews were conducted in two different languages, all interviews were read using the same analytic process. Initially, I was anticipating inherent challenges in interpreting the data and differences in the meaning between the two languages. However, as I analyzed the data, I noticed similarities in the meanings presented in the interviews, in both English and Punjabi. Furthermore, it is important to note that these two interviews were not conducted in Punjabi intentionally; I was made aware these interviews would be conducted in Punjabi once the participants showed up for the interviews. Thus, these

two interviews were analyzed for the same purpose as the interviews conducted in English. These two interviews did not present any new ideas; rather, they echoed the themes presented in the interviews that were conducted in English. These two interviews enriched the data analysis and contributed to data saturation. The languages of the interviews were not determined to be a limitation for the study despite the potential for differential meanings associated with language use between English and Punjabi. The essential meanings expressed were congruent across the transcripts.

## **2.7 Analytic Process**

As discussed in Chapter 2.6, interviews for data collection were done in both English and Punjabi. Although this wasn't done intentionally, conducting the interviews in English and Punjabi provided further insight. I took a reflective stance in analyzing the data to ensure the meaning from the interviews, regardless of language, were analyzed equally. Data analysis was conducted in a line-by-line analysis for interviews conducted in English, and key ideas were categorized from the interviews conducted in Punjabi. Categorizing the data from the interviews conducted in Punjabi, rather than analyzing data line-by-line as with the interviews conducted and transcribed in English, enriched the data; this allowed for interpretation of meaning rather than simply doing a line-by-line analysis. However, line-by-line analysis provided a clear and more accurate interpretation of the data. Regardless of which language the interviews were conducted, all the interviews were read and interpreted equally.

## **2.8 Ethical Considerations**

Ethics approval was obtained from the University of British Columbia (UBC, 2013) Behavioural Research Ethics Board (BREB) and the Fraser Health Authority (Fraser Health Authority, 2009) before the study commenced. A consent form, made available in English, was

provided for participants to sign prior to participation in the research study; the consent form was thoroughly explained in Punjabi for those who preferred to do the interview in Punjabi. This consent form consisted of information about the study, information about benefits and harms and a signature space for indicating the decision to participate in the study. The information form explained the purpose of the research, how the research would be conducted, and why this individual was selected to be part of the study; ultimately, it outlined the criteria for participation. The consent form can be found in Appendix A.

The potential risks and benefits for the individuals were also outlined. With regard to this research study, some of the information collected could be personal and confidential and could possibly make the individuals feel uncomfortable when responding to some of the questions. In order to decrease the chance of the participant feeling pressured to respond or alter their response, the form stated that the participants can choose not to respond to the questions being asked. On the other hand, the benefits of participating and how the results might enhance care for women were also explained to the participants.

## **2.9 Limitations**

This study was limited to females of South Asian descent living in Vancouver; therefore, the findings are not directly transferable to other populations of women. Findings from this study, however, may contribute to understanding the importance of women's social context for influence in the management of GDM. As with the case for all qualitative descriptive studies, the results need to be understood in context so generalizability is naturally limited for South Asian women living beyond the Vancouver Lower Mainland.

## **Chapter 3. FINDINGS**

### **3.1 Themes**

Data analysis began once the interviews were converted from audiotapes to transcribed text. A thematic analysis approach was used within the context of a phenomenological design (Van Manen, 1990). The three approaches for this analysis include: the wholistic approach, the selective approach, and the detailed approach (Van Manen, 1990). Using the wholistic approach, I describe the fundamental meaning of the data as a whole, from each interview. In the selective or highlighting approach, I sought particular and repetitive statements or phrases that contributed to an interpretation that answered the research question. Lastly, using the detailed approach, every single sentence or statement was analysed from each interview to better understand the phenomena. Ultimately, this data analysis process assisted with uncovering the thematic aspects associated with the research question.

The three themes depicting the women's experiences of managing GDM and adhering to GDM guidelines from the data are:

1. The impact of taking insulin on the participants' lifestyle
2. The significance of family support
3. The participants' understanding of GDM, specifically the fetal and newborn implications.

### **3.2 Thematic Analysis**

The following 3 themes depict the significant influences on women's experiences of managing GDM and adhering to GDM guidelines.

### **Theme 1: The impact of taking insulin on the participants' lifestyle**

Five out of the seven participants identified the significance of taking insulin as part of their regime to manage GDM. A commonality that was identified among these participants was that they initially felt hesitant about being placed on insulin to manage their GDM. Although there were varying factors described that impacted their hesitation, the most common reason the women identified was the lack of knowledge regarding when and why they would initiate insulin. One participant stated "I am so stressed out. I have so many family members who were pregnant...[and] they don't have any issues with insulin" (Participant 1). Participant 1 also stated being placed on insulin as stressful, she feels she is now "sick". Participant 1 stated she is counting down the days until she delivers her baby and no longer has to take insulin. This was in contrast to participant 3 who stated she considers herself unhealthy due to being placed on insulin, but does not consider herself to be sick. This participant stated "I consider myself sick if I get diagnosed with diabetes afterwards" (P3). Participant 3 stated "insulin was a big thing. I didn't want to take it whatsoever. I hate needles, and even just poking myself to do the test everyday was a big thing". This participant stated she had "already overcome injecting [herself]. So if it's just a matter of more insulin, [she didn't] have a problem" (P 3). However, participant 3 stated it was difficult to always check her blood sugar and administer insulin in a timely manner, as she works shift work and has two children.

Four of the five participants on insulin stated they wish they had more time to make lifestyle changes, such as diet and exercise, prior to being started on insulin. These same four women indicated they were started on insulin upon their second visit to the Diabetes Clinic. Three participants expressed feelings of guilt and stated they would have benefited from more time to make lifestyle changes prior to becoming insulin dependent to manage their GDM. More

specifically, one participant stated she was unable to manage her blood sugars with dietary changes, therefore, had to initiate insulin. She stated she was “having difficulty [changing her eating] habits all of a sudden” (participant 2); even though she was aware of the changes she needed to make. When asked, these same three participants stated they were unable to share these feelings with their endocrinologist, as the unit is busy and the nurse had already identified a need for insulin to be initiated. One of the participants stated even if she had expressed these feelings to a healthcare provider, she did not believe her input would impact the decision made by the healthcare team.

## **Theme 2: The significance of family support**

Five of the seven participants stated that family support, whether it was positive or negative, had an impact on their ability to cope and manage their diabetes. Four of the five participants identified feelings of guilt associated with being diagnosed with GDM. Three of these five participants stated that the support they received from their family was positive and helped them cope with the diagnosis and their negative feelings associated with it. One participant stated she “felt really guilty” (P3) when she was first diagnosed. She also stated she “thought it was [her] fault because [she eats] sweets” (P3). However, she stated her family has been very supportive since her diagnosis. More specifically, she stated her mother-in-law has diabetes, so she is understanding and supportive in her care. Another participant stated her family has been very supportive and has been making and eating a diabetic diet, as suggested for the patient from the Diabetes and Pregnancy Clinic. She also stated that “in [her] family, everybody loves sweets” (P2), but her family has eliminated sweets from their home in order to support her. The same participant stated “I think the main part is that I have strong family support. That’s the reason that I am able to cope with it. So I think family support is a must” (P2). Participant 7

echoed this statement and acknowledged she also has a supportive family, which has helped her in coping with her diagnosis and managing her blood sugars to the best of her ability.

Although three of these five participants identified a positive experience with family support, two of these five participants recognized the impact of lack of knowledge of the illness on the support they received from their families. One participant stated her mother-in-law does not understand the illness and will tell her to eat what she is craving because “baby is craving for those things” (P1). However, she stated her mother-in-law and her family acknowledge her as a “hard worker” (P1) and are supportive of the changes she has made due to her diagnosis of GDM. In contrast, one participant stated she did not tell anyone of her diagnosis, except for her husband. Moreover, she stated she didn’t tell anyone about her diagnosis because “they don’t understand” (P5). More specifically, this participant stated she did not want to tell her mother or mother-in-law because “[they] would give [her] stress”. She also stated her mother-in-law would tell others about her diagnosis of GDM and would ask her “why [she has] high sugars” (P5). This participant stated her mother-in-law “can’t do anything, so why tell her?” (P5). She also identified that her mother and mother-in-law were born and raised in India, and due to lack of education, they “think eating sugar causes diabetes” (P5). However, she stated she told her husband of her diagnosis and he has been supportive since the time of diagnosis and has changed his diet and exercise to support her; she stated this has been beneficial for her. It was interesting to note the varying responses to family support and how it impacted these women’s experience with GDM. Overall, these women indicated family support was important and had a positive impact on their ability to cope with the diagnosis and the illness when they shared their concerns with supportive family members.

### **Theme 3: The participants' understanding of GDM, specifically the fetal and newborn implications**

Five of the seven participants identified that their understanding of GDM, specifically implications for their baby, contributed to their experience with GDM. One participant stated she accepted that she needed to be on insulin “for the sake of the baby” (P3). She also stated if GDM was going to affect the baby, she wanted to “take care of it” (P3), even if that meant administering insulin.

Three of these five participants stated that although they initially experienced feelings of fear regarding their diagnosis, these feelings were specific to concerns about their unborn baby rather than their own health specifically. One participant stated she was concerned about the impact of GDM on her baby, so she accepted the need to be on insulin, despite her initial feelings of shock upon diagnosis and fear of administering insulin. One participant stated she was scared when she found out she was diagnosed with GDM and was “thinking that it’s [a] problem to [her] baby” (P5). She stated when she first got diagnosed, she felt “[she got a] very big diagnosis” (P5) and was worried about her safety, as well as the wellbeing of her baby. Another participant identified the impact the education from the Diabetes and Pregnancy Clinic had on her understanding of GDM and her overall experience. She stated that her endocrinologist reminded her that “every time you eat [sweets], you have to remember that you are doing it for your baby” (P2). She also stated that because she was reminded that poor management of her sugars had an impact on her baby, she was able to increase her willpower and make appropriate adjustments to her lifestyle. For example, she stated she made modifications to her meals with regards to portion size, as well as increased her physical activity by going for walks, which she was not doing prior to her diagnosis. Another participant stated although she was scared and

shocked when she received the diagnosis for GDM, she understood that she needed to do her best to manage her blood sugars to ensure she was doing everything in her control to keep her baby safe. She also stated that because she was attending the Punjabi classes at the Diabetes and Pregnancy Clinic, she was able to understand the impact poorly managed GDM would have on her baby.

Although these participants stated they understood the implications for themselves and their unborn child, four of the five participants suggested that teaching regarding GDM be initiated as soon as possible in the pregnancy. Furthermore, these participants stated that if they had more knowledge and were aware of the lifestyle changes that needed to be made to minimize their risk for being diagnosed with GDM, or managing GDM, they would be able to make these adjustments sooner. Three of these five participants stated if they had been given more time to make lifestyle changes, they could have possibly prevented controlling their GDM with insulin and could have managed with dietary and physical activity changes instead.

The three themes, which emerged from the data collected, have a significant impact on South Asian women's experience with GDM. More specifically, these findings contribute to what is currently known in the literature and provide new insight on the experience; both will be discussed further in the next chapter.

## **Chapter 4. DISCUSSION**

The purpose of this study was to understand the lived experience of South Asian women with GDM. The three themes which emerged from the data, specifically, the impact of insulin on the participants' lifestyle, the significance of family support, and the participants' understanding of GDM, will be discussed within the context of what is currently known about the topic within existing literature.

One of the themes that emerged from the data was regarding the impact of insulin on the participants' lifestyle. As described in Chapter 3, the majority of the participants described a variety of emotional responses to the initiation of insulin for GDM management. One participant described feelings of 'stress' and feeling 'sick' associated with insulin therapy (P1). Another participant stated she considers herself 'unhealthy' and did not want to take insulin, as it was a big deal and she 'hate[s] needles' (P3). Based on the information shared by the participants, initiating insulin therapy to manage GDM appeared to be a stressor and a difficult aspect of managing GDM. Furthermore, studies indicate these feelings impact the health status of these women. One study noted that injecting insulin was the 'worst part' of their GDM experience (Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011); these conclusions were concurrent with the findings from this study. While the findings from this study are consistent with what is currently known in the literature, they emphasize the importance of understanding the emotional response associated with interventions related to effective GDM management.

The impact family support had on these women's experience with GDM management was imperative within this study's data. As described in Chapter 1, there is limited literature regarding personal and social factors specific to South Asian women with GDM, including the impact of family support. However, the data from my research indicates family support, or lack

thereof, directly impacts the management of GDM for these women. Therefore, there is a critical need to continue to better describe and account for how social support (and the related SDOH of social inclusion and exclusion), through family and community, influence management of GDM.

In the literature, family support is described in the context of specific cultural risk factors associated with GDM. More specifically, increasing food intake and decreasing physical activity are encouraged in pregnancy, reflecting a higher socioeconomic status of the woman and her family (Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011; Vyas, Chaudhary, Ramiah, & Douglass, 2012). Although the existing literature raises such points, these were not found in my data collection or analysis. Rather, participants discussed family support as either having a negative or positive effect on their experience with GDM management. More specifically, three of the five participants stated the support they received from their family helped them cope not only with the diagnosis, but also the feelings associated with it. Furthermore, these three participants explained the positive impact of their families making adjustments in their lifestyle in order to support the participant. One participant emphasized the importance of family support by stating “I think family support is a must” (P2). In contrast, two of these five participants acknowledged the impact that lack of family support had on their experience with GDM management. Both participants identified that their family’s lack of knowledge regarding the illness contributed to the lack of support from their family. More specifically, one participant stated her mother-in-law would encourage her to eat sweets because “baby is craving for those things” (P1). The other participant also echoed this point and stated that her mother and mother-in-law were born and raised in India, and due to lack of education, they believe “eating sugar causes diabetes” (P5). Furthermore, she stated she refrained from

sharing her diagnosis with her family, except her husband, because that would contribute to her level of stress.

In my literature review, I did not locate studies examining the concept of family support as it surfaced in my data analysis. Due to this gap in knowledge, my findings contribute to the existing literature and research on GDM in the South Asian population. More specifically, my findings broaden the current literature by raising the importance of evaluating and understanding family involvement in the overall experience of GDM for South Asian women.

The third theme that emerged from the data was the participants' understanding of GDM, specifically the fetal and newborn implications. There is a vast amount of literature regarding the risk perceptions associated with GDM. More specifically, current literature and research states women's perception of the illness influences adherence to guidelines to effectively manage GDM (Carolan, Gill, & Steele, 2012; Jones, Roche, & Appel, 2009; Gonzalez, Mlinarevich, Michalski-Rimington, Cornbleet, Stoller, Anderson, & Levy, 2005; Vyas, Chaudhary, Ramiah, & Douglass, 2012). The findings from my research corresponded with the knowledge from current literature.

Five of the seven participants identified that their understanding of GDM contributed to their experience with GDM. In particular, these women's understanding of the implications of effective GDM management for their baby influenced their coping mechanisms. Three of these five participants shared their initial feelings of fear regarding the diagnosis, however, they shared that they understood this diagnosis could possibly affect their baby more than it would affect themselves. One participant stated that although she had a fear of needles and administering insulin, she accepted that she needed to be on insulin "for the sake of the baby" (P3). Additionally, four of these five participants stated they made significant changes to their diet and

increased their physical activity in order to effectively manage their GDM to reduce the risk of adverse effects on their baby. Research indicates that although GDM has adverse pregnancy outcomes and affects on the mother, women are more focused on the wellbeing of their baby, rather than their own health (Bandyopadhyay, Small, Davey, Oats, Forster, & Aylward, 2011; Hjelm, Bard, Nyberg, & Apelqvist, 2005). Ultimately, the women from this research study made adjustments to their lifestyle out of concern for the wellbeing of their baby rather than concern for themselves. These findings were consistent with the existing literature and emphasize the importance of the women's understanding of the illness in order to effectively manage GDM.

Although there is current literature on GDM in the South Asian population, my findings enhance the current knowledge on the topic. My findings provide new insight and contribute to what is known about the experience of South Asian women with GDM. The findings from this research have multilevel implications for healthcare providers with regards to GDM in the South Asian population; the specific contributions of my findings will be discussed in Chapter 5.

## **Chapter 5. IMPLICATIONS**

The findings from this research study have implications for future nursing practice. More specifically, these findings impact practice, education, and future research on the topic. In this chapter, I will discuss the implications of this research and its outcomes on the aforementioned aspects of nursing; the three themes interpreted from the data analysis will provide the basis for the discussion of implications that follows.

The purpose of this research was to understand the lived experiences of South Asian women with GDM with the goal of improved management. The research question was: What is the lived experience of managing GDM for women of South Asian descent? The ultimate goal, from the outcomes of this study, was to aid in developing and implementing strategies that can raise awareness and contribute to successful management of GDM among this population.

The findings from this study offer evidence suggestive of the importance of including patients in their care plan and making informed decisions regarding their management of GDM. The initiation of insulin therapy for GDM management was identified as a stressor with regards to the participants' experience with GDM management. More specifically, some participants had suggested that having more time to make lifestyle changes would be beneficial to possibly avoid insulin administration; most participants who were started on insulin therapy stated they were started on insulin at their second visit to the Diabetes and Pregnancy Clinic at JPOCSC. However, when asked, these participants stated they did not feel comfortable making this suggestion to their Registered Nurse, as they believed this decision was already made for them. These participants also stated they did not completely understand why insulin was necessary so soon after their diagnosis, but obliged with the care plan by the healthcare team for the wellbeing of their baby. Based on these findings and current literature, measures could be taken by

healthcare providers to ask patients for their input in their care plan and educate the patients regarding risks and benefits so patients may make informed decisions. More specifically, healthcare providers should use a SDOH approach to facilitate the women's capacities to manage GDM within their life context. For example, education and health services are identified as two social determinants of health; the findings from this research indicate emphasis needs to be placed on the collaboration of both of these social determinants of health. By enhancing the current knowledge and understanding of these women regarding GDM, healthcare providers can minimize or eliminate any gaps in knowledge and provide education regarding risks and benefits associated with treatments so patients may make informed decisions when participating in the development of their care plan.

The findings from this research study also indicate that women were far along in their pregnancy and without enough time to make adjustments to their lifestyle, thus, they accepted insulin therapy. Although screening for GDM is typically done between 24-28 weeks gestation, screening can be offered at any stage in the pregnancy if there is a high risk of GDM (Canadian Diabetes Association, 2013). However, if women were to be tested prior to 24 weeks gestation and the result was negative, a repeat test would need to be done between 24-28 weeks gestation (Canadian Diabetes Association, 2013); the potential inconvenience of a full test for GDM would need to be taken into consideration, as the process requires fasting and a 3 hour glucose tolerance test (GTT). Such an approach could be incorporated into practice; this would allow women to be diagnosed earlier in their pregnancy and make adjustments to their lifestyle. Based on these guidelines and my findings, from a SDOH perspective, early education regarding GDM needs to be addressed; it would be beneficial to engage women earlier about how they can be supported to manage GDM as early on in the pregnancy as possible, especially if they face specific risk

factors. One intervention that could be initiated is setting up community resources for these women to access at their own convenience; these resources could be set up online, given through a family physician, or through a diabetes clinic. The resources should be available in both Punjabi and English. Providing teaching about GDM at a diabetes clinic, either one-on-one or in a group setting, could also be beneficial to assess the women's current understanding of GDM and provide education drawing from a SDOH framework. As mentioned previously, healthcare providers should initiate early education with the goal of facilitating these women's abilities to manage GDM, rather than taking an individual approach to filling in the gaps in knowledge.

The results from this study also suggest increasing healthcare providers' awareness regarding the critical role of family support for managing GDM. Three participants from this study identified family support as having a positive effect on their experience with GDM. However, two participants stated that their family's lack of knowledge regarding the illness resulted in a lack of support from their family. As identified in Chapter 4, there is a gap in knowledge regarding the concept of family support in relation to the experience of South Asian women with GDM. More specifically, there is a gap in knowledge regarding family support from a social and cultural perspective. This lack of knowledge, regarding the understanding of family involvement in the experience of GDM for South Asian women, indicates a need for further research on the topic. More specifically, a SDOH approach needs to be taken to examine the impact of socio-economic factors, living conditions, cultural factors, education, ethnicity, and social networks in relation to South Asian women's experience with GDM. The understanding of how family support influences GDM, from a SDOH perspective, can provide a basis for the development of appropriate supports for these women; this will allow for a more holistic

approach to providing care for these women by providing a broader view of the factors that influence health.

While ethnicity is identified as a SDOH, as a categorization, it obscures important cultural and social context influences; further research is required in order to examine the cultural and social context influences pertaining to the role of family support in relation to the experience of GDM. For example, would the lived experiences of the first generation of South Asians differ from the second generation? Furthermore, specific policies for GDM management need to better account for influences beyond those that are individual; assessing for influences beyond those that are individual would contribute to the wholistic approach in care for these women. Furthermore, the findings from this research and current literature suggest examining family support and their level of knowledge regarding GDM. Patients and families could benefit from readily available community resources, thus, influencing the experience of GDM for South Asian women. Resources should be delivered in various ways to ensure they are easily accessible and understandable for all income statuses and education levels; resources should be made available in both Punjabi and English. For example, perhaps a family appointment could be offered by healthcare providers, in addition to the one-on-one appointments for the patients, to better understand the family's knowledge and influence on the management of GDM. Furthermore, this appointment would allow healthcare providers to acknowledge and add to the family's current knowledge of GDM. Family resources could also be made in a pamphlet or booklet format for families to take home; these resources could also be made available online. Providing a class for families in a community setting could also be beneficial to explain not only the illness of GDM, but also provide education regarding strategies for the families to support these women. By implementing these interventions into the current care practices, additional

support is provided to the families, thus, increasing family knowledge and awareness regarding GDM and contributing to a positive experience of GDM for these women.

Overall, the results from this study directly impact nursing practice when providing one-on-one care to South Asian women with GDM. The findings from this research suggest a need for modifying current healthcare practice. More specifically, including patients in their care plan could potentially contribute to a positive experience with GDM for South Asian women. The participants in this study identified a lack of involvement in developing a plan of care and shared they felt they could have made lifestyle adjustments if their input was included in their care; the patients' plan of care could have been modified if the patients were given an opportunity to share their lifestyle habits, as well as other non-individual factors that could have contributed to their management of GDM. The implications also suggest initiating education regarding GDM as early in the pregnancy as possible, and offering GDM screening earlier than 24 weeks gestation if multiple risk factors have been identified. The education to be provided to the patients should be tailored through a SDOH lens, rather than a strict focus on lifestyle improvement, to provide a better understanding of modifiable risks that may be sensitive to social and cultural context.

The results from this study also indicate a need for further research to better understand cultural and social influences that may impact the experience of GDM for South Asian women, from a SDOH standpoint; the findings from this research show that a SDOH approach will allow for a more wholistic approach to providing care for these women. A SDOH approach will also provide guidance to uncover cultural and social influences, which are beyond individual, by allowing for an extensive view of the factors that contribute to health. More specifically, the results from this research indicate further research is needed regarding family support, in a cultural context to provide more effective and responsive care to South Asian women with

GDM; further knowledge can guide the actions and inform the policy context within which healthcare providers tailor interventions to address the current deficiencies in the delivery of care and education for South Asian women with GDM.

In conclusion, this study aimed to generate descriptive knowledge of South Asian women's lived experience with GDM. A phenomenological approach allowed for generation of descriptive knowledge of women's lived experience with GDM. Furthermore, this approach allowed for a wholistic approach to data collection and analysis. The themes identified in this study, *the impact of taking insulin on the participants' lifestyle, the significance of family support, and the participants' understanding of GDM*, illuminate the experience with GDM for this population. While the findings from this study add to the current knowledge on the topic, they also contribute new insight. Furthermore, the findings indicate a need to modify healthcare practices and implement strategies that can raise awareness and contribute to successful management of GDM among this population. The results of this study also suggest further research to examine the cultural and social contextual factors, from a SDOH perspective, to better understand South Asian women's experience with GDM and implement population-specific interventions.

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## APPENDIX A: CONSENT FORM



a place of mind  
THE UNIVERSITY OF BRITISH COLUMBIA

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### Informed Consent Form

This informed consent form is for individuals who are invited to participate in this research study, titled “The lived experience of managing Gestational Diabetes Mellitus (GDM) for women of South Asian Descent”.

**Name of Principal Investigator:** Dr. Suzanne Campbell

**Name of Co-Investigator:** Harleen Deol

**Name of Organization:** University of British Columbia

**This Informed Consent Form has two parts:**

- **Information Sheet (to share information about the study with you)**
- **Certificate of Consent (for signatures if you choose to participate)**

**You will be given a copy of the full Informed Consent Form**

### **Part I: Information Sheet**

#### **Who to Contact**

If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact me at the following: Harleen Deol via email or phone; or my supervisor, Dr. Suzanne Campbell via email or phone. [Phone numbers and emails were provided].

If you have any concerns about your treatment or rights as a research participant, you may contact the Research Subject Information Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail [RSIL@ors.ubc.ca](mailto:RSIL@ors.ubc.ca) or call toll free 1-877-822-8598.

#### **Introduction**

I am a Master of Science in Nursing student at the University of British Columbia. I am doing research on the lived experience of managing Gestational Diabetes Mellitus (GDM) for South Asian women. I am going to give you information and invite you to be part of this research. Please know that you do not have to make your decision at this time. Also, feel free to talk to anyone you feel comfortable with about the research prior to making your decision to participate. If you require any clarification throughout this document, please ask me and I will explain.

#### **Purpose of the research**

GDM is more prevalent among South Asian women than any other group that visits this Diabetic Clinic. I want to understand the experience of South Asian women who have been diagnosed with GDM. I believe you can help us understand your experience with GDM. From your experience, I want to learn what some of the challenges are with managing GDM and what works well to manage GDM.

#### **Type of Research Intervention**

This research will involve your participation in a one hour interview.

**Participant Selection**

You are being invited to take part in this research because your experience with GDM can contribute to my understanding and knowledge of the experience associated with managing GDM.

Do you understand why we are asking you to take part in this study? Do you know what the study is about?

**Voluntary Participation**

Your participation in this research study is completely voluntary; it is your choice whether to participate or not.

**Procedures**

You will simply be asked to talk about your experience with GDM in a one on one interview; this will be a conversation format. You will be asked specific questions based on your responses to ensure the interview is on track with the research question. The interview will be audio-taped to collect all the data from the interview; this data will be analysed at a further time.

Do you agree to be audio-taped for this interview? Yes  No

**Print Name of Participant:** \_\_\_\_\_

**Signature of Participant:** \_\_\_\_\_

**Date** \_\_\_\_\_

**Day/month/year**

**Duration**

There will be one interview lasting about one hour and scheduled at your convenience. You may be contacted afterwards to review my findings and indicate whether you feel they reflect your experience.

**Risks**

You are being asked to share some personal and confidential information; you may feel uncomfortable sharing some of this information with me. You do not have to answer any question or take part in the interview if you do not wish to do so. You do not have to give any reason for not responding to any questions or refusing to take part in the interview. You may start the interview and end at any point in time.

**Benefits**

There may not be any direct benefit to you, but your participation will likely help me find out more about the experience South Asian women have with managing GDM.

**Reimbursements**

A \$25 Starbucks gift card will be given to you for your time.

**Confidentiality**

The information collected from this research will only be shared among the research team. The information collected will be kept private. Any information you give me will have a number on it instead of your name or any identifying personal information. Only the research team will know what your number is and the information will be stored on a password protected, encrypted computer.

**Sharing the Results**

The information you share with me will not be shared with anyone outside the research team and nothing will be attributed to you by name. The knowledge that gained from this research will be shared with the public and the results will be published so that other individuals may learn from the research. When information is shared, for example in a presentation or poster format, it will be in a combined format and it will be anonymous, you will not be identifiable.

**Right to Refuse or Withdraw**

You do not have to take part in this research if you do not wish to do so. You may stop participating in the interview at any time that you wish. You will be given an opportunity at the end of the interview to review your remarks and you can ask to modify or remove portions of those, if you do not agree with my notes or if you were not understood correctly.

You can ask me any more questions about any part of the research study, if you wish to. Do you have any questions?

**Part II: Certificate of Consent**

I have been invited to participate in research about the lived experience of managing Gestational Diabetes Mellitus (GDM) during pregnancy for women of South Asian descent.

**I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study**

Print Name of Participant \_\_\_\_\_

Signature of Participant \_\_\_\_\_

Date \_\_\_\_\_

Day/month/year

A copy of this ICF has been provided to the participant.

Print Name of Researcher/person taking the consent \_\_\_\_\_

Signature of Researcher /person taking the consent \_\_\_\_\_

Date \_\_\_\_\_

Day/month/year

I would like to receive an email with the results of this study: Yes  No

If yes, please include email address: \_\_\_\_\_