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Full Length Research Paper

Pregnant women's experiences with Gestational Diabetes Mellitus (GDM) at a hospital in Accra, Ghana

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The purpose of this study was to describe pregnant women's experiences of acquiring and living with Gestational Diabetes Mellitus (GDM) at a hospital in Accra, Ghana. Background: In the past 20 years, the prevalence of GDM has increased dramatically. The impact of being diagnosed with GDM, such as developing medical complications and associated lifestyle changes, has rarely been investigated in low to middle income countries. Methods: The descriptive phenomenological approach was used. Ten pregnant women diagnosed with GDM were recruited. Semi structured interviews were used to collect data. Findings: The findings indicated that participants had challenges with life style modifications. Managing GDM affected their psychological wellbeing. They feared that they could develop Type 2 Diabetes Mellitus; others felt it had spiritual connotations. The participants found the support of family, friends and medical staff to be helpful. We believe that hearing the experiences of participants living with GDM will help medical personnel to render the care and advice needed to ensure a healthy pregnancy outcome. The findings of this research are adding to existing knowledge and form a basis for further research. It potentially can inform policies related to patient education.

Keywords: Experiences, Gestational Diabetes Mellitus, Lifestyle modifications, Psychological and Social experiences.

INTRODUCTION

Pregnancy, labour and delivery are normal physiological processes for most women. Families and significant others expect a successful period of pregnancy, labour and the delivery of a healthy baby. However, some pregnant women develop morbidities such as Gestational Diabetes Mellitus (GDM) which may have adverse effects on the mother and the foetus in uterus, if not managed properly. The perceptions and experiences of women with GDM may affect their psychological response to pregnancy as well as their behaviour during labour and after delivery.GDM is one of the most common medical complications of pregnancy. It is defined as any degree of pregnancy (American Diabetes Association, 2010). GDM affects up to 1.4 -14% of pregnant women every year (Raja et al. 2014).

There is growing concern over the increasing prevalence of GDM, its effects for women and infants and its impact on public health (Ferrara 2007; Hunt and Schuller 2007; Metzger et al., 2007).It is important to detect GDM early and intervene appropriately to prevent possible complications during pregnancy, labour and delivery and to ensure proper lifestyle modifications to delay conversion to Type 2 Diabetes Mellitus after delivery (Kim, Newton and Knopp 2002).

Unlike established diabetes with onset before pregnancy, hyperglycaemia in GDM is not established until the late second trimester, well after organogenesis, because in gestation, the diabetogenic effect of pregnancy is manifest between 24-28 weeks of pregnancy (Nolan 2011). A standard approach to managing GDM diagnosed at 24–28 weeks, is dietary glucose intolerance with onset or first recognition during

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advice, self-monitoring of blood glucose and insulin therapy as needed, to prevent adverse pregnancy outcomes (Nolan 2011). Pre-gestational diabetes, increased maternal glucose and amino acid levels can result in foetal pancreatic hyperplasia with consequent hyper-insulinaemia. This results in foetal macrosomia with associated obstetric and perinatal complications such as hypoglycaemia in the new born infant, an increased likelihood of hypocalcaemia, hypomagnesaemia, polycythaemia and hyperbilirubinaemia (Barnes-Powell 2007).

GDM has been reported to recur in subsequent pregnancies in 20–50% of cases (Getahun et al. 2010). GDM typically resolves following birth. Women with GDM are at increased risk of developing Type 2 Diabetes, with rates of conversion as high as 50% within 5 years after developing GDM in some populations (Buchanan et al. 2002, Kim et al. 2002). Most of the research on Diabetes Mellitus in pregnancy has focused on the medical management during pregnancy and on risks to the foetus; only a few studies have examined the experiences of pregnant women with GDM.

In the past 20 years, the prevalence of GDM has increased (Ferrara 2007). These trends will result in an increased number of women giving birth with GDM. The impact of being diagnosed with GDM, such as developing medical complications and associated lifestyle changes, has rarely been investigated in low to middle income countries.

Purpose of the study

The purpose of this study was to describe pregnant women's experiences of acquiring and living with GDM at an inner city hospital in Accra, Ghana.

METHODOLOGY

A qualitative research design was used. The descriptive phenomenological approach was used to describe pregnant women's experiences after being diagnosed with GDM. The research was conducted at an inner city hospital in Accra, the capital city of Ghana. The Obstetrics and Gynaecology department of the hospital, where the participants were recruited consists of the maternity unit, gynaecology ward, gynaecology emergency unit, a female out-patients' department (FOPD).

The target population of this study was pregnant women who were diagnosed with GDM. A purposive sampling method was used to recruit participants for the study. The inclusion criteria were women who developed GDM between 34 weeks to 40 weeks of gestation and who attended the antenatal clinic. They had to be able to speak either English, Twi or Ga. Exclusion criteria were clients with pre-existing diabetes mellitus.

Ethical clearance was granted by the Institutional Review Board of the Noguchi Memorial Institute of Medical Research at the University of Ghana. Permission to conduct the study was additionally obtained from the hospital authorities where the study was conducted. Participants were ensured of their right to confidentiality, anonymity, right to withdraw, and voluntary participation and secure management of the audio files and transcriptions.

Data was collected using semi-structured interviews. Interviews were conducted in private room at the hospital or at the participant's house if requested. The interviews were conducted either before they were discharged from the hospital or during the follow up after delivery. Interviews lasted between 35 – 55 minutes. Data were collected till we had a thick description; ten (10) participants were interviewed. The audio recordings were transcribed verbatim.

Data analysis was done concurrently with the interview using Colaizzi's (1978) phenomenological method of data analysis as cited by Sanders (2003) which comprised of the following seven steps: acquiring a sense of each transcript, extracting significant statements, formulation of meanings, organizing formulated meanings into cluster of themes, exhaustively describing the investigated phenomenon, describing the fundamental structure of the phenomenon and returning to the participant. The audio recordings were listened to several times (Haase and Myers 1988). The narrative text were read and re-read for similarities to identified phrases and concepts. Significant phrases and statements from the transcripts were extracted (Colaizzi 1978) to describe the experiences of mothers with GDM. A coding frame was developed based on the responses of these women and grouped into categories. To ensure integrated data analysis, the transcripts were added to the researcher's personal diary and field notes. More general statements or meanings were formulated and organised into clusters of themes. All resulting ideas were put into exhaustive description of the phenomenon as stated by Colaizzi (1978), which contained all the dimensions of the experiences of the participating women with GDM.

Rigour was ensured by ensuring credibility, transferability, dependability and confirmability (Loiselle et al. 2004). Credibility was achieved by spending extended time with the participants, establishing and maintaining good rapport and building a trusting relationship with them. This ensured collection of rich data and confirmed their initial statements. Participants were allowed adequate time to give a rich narrative of the phenomenon in question. The data analysis was checked by peer reviewers. The researcher used member checking to ensure credibility of the data. This involved returning to participants to ask if the exhaustive description reflects their experiences (Lincoln and Guba 1985). To facilitate transferability, the researcher gave a

clear, in-depth and distinct description of the context, selection and characteristics of participants as well as the data collection method and process of analysis. Confirmability and dependability were ensured by allowing two independent people to agree on the findings and relevance of the data. A personal journal and field notes were kept and all personal assumptions and biases which had the potential of influencing the research process were documented (Colaizzi 1978).

FINDINGS

Participant characteristics

The ages of the participants were between thirty and forty-two years. Seven of these women were below forty years of age with the youngest thirty years. Three of the participants were 40 years and above with the oldest being 42 years. The mode of delivery was Caesarean section (n=7) and spontaneous vaginal delivery (n=3). All participants had a family history of diabetes mellitus.

The main themes identified were psychological and social experiences. Various sub-themes emerged from these main themes.

Psychological experiences

The psychological experiences of the participants with gestational diabetes were reflected in their emotional reactions, feelings and their cognitive reaction of experiencing GDM.

Emotional reaction

Participants experienced emotional reactions such as mixed feelings, sadness, fear, anxiety, surprise and acceptance.

Mixed feelings

Participants had mixed feelings when they were told they had gestational diabetes. The feelings were related to not coming to terms with the fact that such a condition exists and that family history of diabetes likely contributes to the development of GDM. Participants believed that being physically active pre-pregnancy would prevent the development of GDM. This was evident in the words of aparticipant who said:

> *... You know initially I accepted it with mixed feelings. I said why me; with all these exercises, but then, it has to be me and nobody else and so I accepted it and carried on from there. So it's like anytime I go to the antenatal it's always with some kind of doubt, I don't know, what are they going to tell me?*

Sadness

Participants were sad when they were told they had gestational diabetes. A participant expressed it as:

> *…but from, the time I started pricking myself, that was when I started… feeling pity. In fact I wept, I wept that day, yes, because I was so sad because seeing myself how I was caring* for *my patients; I rather was pricking others. Now I see myself, pricking myself and giving injections.*

Sorrow and sadness were expressed in relation to self-management of insulin injections. This feeling of sadness was expressed by a participant. She reflected:

> *… at least there were days that I felt sorry for myself that why should I go through this? I see people who get pregnant, even for antenatal they don't go, still have their babies and then they are okay. But for my injections and my medications ….. there were times I just felt sorry and I weep myself to sleep. That was what I went through. Most of the time I felt sorry for myself, I shed some tears.*

Fear

Participants were afraid and scared of the outcome of their condition and feared the unknown. This was evident in the words of two of the participants:

> *So it's like when I am going to antenatal, as big as I am, I am scared. Am scared, I was always scared. This time round what will the doctors say? ...*
> *Mmmm, I wasn't scared of giving the injections but I think what scared me was when I was told that you will be put on insulin.*

Another participant believed that diabetes was a 'bad' disease and she had to live with fear of the unknown.

> *I was scared and also like, O God what is this? This diabetes is a bad disease and it does all sorts of things. So once a while you get sad and you get startled and scared …, what will I do?*
> *The slightest thing scares you. Hmmm, it's really a problem. I was really afraid. I was really scared….*

Anxiety

Participants mentioned feelings of uneasiness or tension. They expressed this in words such as being very worried when they did the fasting and random blood sugar and

the results were higher than expected. A participant expressed it as follows:"*Yeah. Firstly I was a bit nervous because it's between life and death… "*This same feeling of anxiety was expressed by another participant. She had information on the complications of diabetes which contributed to her anxiety:

> *… when I started the antenatal, I had to run some laboratory tests, so it was when I did the laboratory tests, I think my FBS (Fasting blood sugar) initially was 8.5mmol/l and the postprandial was 10 or 11 mmol/l or something. So my doctors said these figures were highly outrageous. So I was really, really, really worried. I was privy to that information. So it's like, every time it's with apprehension,is my baby dead, is she kicking, is she alright?*

Surprise

Some of the participants had never heard of GDM although some had knowledge about diabetes mellitus. A participant expressed it as follow:

> *In fact the first day I heard it I was very shocked and I was afraid too. But the nurse advised me and talked to me that it's because of the pregnancy so after the pregnancy it can go so I should just have patience….*

This participant also expressed her surprise when diagnosed by saying:

> "*I was surprised and I felt bad because during this pregnancy I have been avoiding sugar and a whole lot of things that will make me go through this kind of thing."*

Cognitive Reaction

Participants had challenges with understanding the disease process. This was evident in the words of a participant who kept thinking about what will happen next. She understood the disease, as a family member had diabetes mellitus and her fear was related to the possible complications that could develop if it is not properly managed. She stated:

> *It wasn't easy my sister. Because I had the knowledge about what diabetes can do, so it's like every day of my life I ask myself, can I make it? Can I make it? When I go for antenatal, I look at people who are heavily advanced, and I say my God, can I get there with this, these conditions? ... this time round what will the doctors say?*

Social experiences

This section deals with the relationship of participants with society and environment in which they live. It also encompassed the interaction with close relations and friends and people in general. Categories that emerged from the data under this main theme were secrecy, support from family, friends, colleagues and medical personnel, and also faith and spirituality.

Secrecy

Participants had no problem telling close associates about their condition, but some did choose not to disclose their state of health. A participant shared:

> *So I never told anybody. I didn't let anybody know what I was going through. It was just my husband. So with my distant family, they didn't know about it. Even when I went on admission nobody knew about it. That was how I was able to hide myself throughout the pregnancy. Not because of our mentality about witchcraft or that kind of thing but I think what I went through I didn't want people to feel sorry for me, because it will bring me down. Besides that nobody knew. With my family, and most friends, it was a surprise when they heard that I have delivered because they didn't even see me pregnant.*

Support

Participants reflected in various ways on the support received from family members, friends and colleagues and also medical people. Some experienced the support received as sufficient and others needed more support. A participant expressed the support she received from relatives as very good; they were almost always available to give her a helping hand and encouragement to adhere to the medical interventions subscribed. She said:

> *It was very difficult for me to accept it so my parents had to come in to talk to me. My aunties, my mother, my husband, they were all around me to console me and advised me. They gave me the support. I abided by all the rules and regulations. … my family was very supportive, yes. They made sure they had all that I needed around me. My fruit, vegetables and the meals were always on time. …Yes I had the support, so much support.*

Another participant expressed how grateful she was to her employer and doctors for the support they gave her when she needed it most. She said:

… I'm very grateful to my medical team and then my commander So with this insulin my doctors said no, you can't go. So they wrote a letter to 'whom it may concern' … So I was put on light duties. So I took the letter to my boss. My boss said no problem. Just go home, rest and then have your baby. So am very grateful to the medical team and my commander as well….

Another participant reflected how supportive her husband was in taking care of the home and cooking for the family. He supported her financially by buying all the medications she needed during her pregnancy. She expressed this in the following words:

He is really supportive. He does all those things … he will prepare me my soup and I eat the soup with him, we take it together. … He has been buying the drugs and other things, the glucometer and all those stuff; he has been buying them. So he was supportive.

Participants expressed that support from their faith communities was important. One participant felt there was no support from her church and that it was different in other churches. She was not content and expressed it in the following words:

I know other churches when a member falls sick or is not attending church, even the Osofo (Pastor) will one day organize and come and see you but where I attend church is not like that, actually is not like that. It's a big church and if you are not there all that they will do is to call and find out how you are feeling. The support was not there; as for the church that one the support was not there, really.

Participants expressed their perception of the support they received from the medical team in various ways. Some felt the medical team did what was within their strength in terms of support. Others felt the support they had from the medical team was not enough.

One participant made it known how grateful she was to the medical team. She was happy with the support she received and felt they did their best. This was evident in her words as:

I remember when I was on admission, they came there with these house officers and they told them my condition. They told them if you see this do that, if you see that, you know, and I was impressed. It was like; they were being concerned about my condition. That it had to even come out from the doctors that 'we don't want to lose that baby'. That even tells you they want to do all that to save you and the baby. So I think they did their best. I'm really grateful. Yes, I was just so happy. I was so happy, just so happy because they were really concerned. Not even a day passed by that I wouldn't see them. They always come, look at my chart; ask me few questions, talk. I think they did a lot.

Another participantsaid that the medical team was always available to support her. They always enquired about problems related to her GDM and supported her to in managing the problems. She said:

They were very supportive, they were very supportive. You know anytime they are there for me, any time I called they are there to answer. Even sometimes if they don't ehh, answer immediately, afterwards they call back, oh, you called what was the problem and, so they were always there for me. Yes, they were always there for me.

Although the majority of the participants claimed they were satisfied with the support they received from the medical team, two participants with medical knowledge felt the support from the nurses was not encouraging. They felt more supported by the doctors. Nurses overlooked the basic care, because they themselves were medical personnel. This is how a participant reflected on this:

As for the doctors yeah, but the nurses, I didn't see anything like that, I didn't see anything like that. It was, in the morning, there was a male nurse, he is a military man, whenever he comes, its like have you checked your sugar, have you checked your sugar. Its like he is always concerned about my sugar, but apart from him, I can't say there was so much because when you are on admission I know it's the nurses who are supposed to do everything for you; But when they realised am a health worker, it's like, they relaxed because I could do everything myself. That is what I think.

One participant in a similar manner said:

The medical people, I didn't see their support; I didn't really see their support, I didn't really see. That time I felt I was even a colleague so they should be able to even tell me, but everything I had to go and ask, everything I had to go and ask. I don't know why it happened that way. I don't think they should assume like that because I have not gone through it before, this is the first time I have really had something like that so I expected that I will really have their support but it wasn't so.

Faith and spirituality

Some believed that prayer was the “master key” to help them through the difficult times. One participant said:

> *Well, since I was told that it could go,… that was what I was basing my faith on and I was praying towards it that it should really go after delivery. Because although I have family history of it, I always say I’m not part of it, I won’t inherit that from ehhh, family history or whatever so, my faith was still up and I knew that when I deliver it will go, yes.*

In the words of another participant:

> *… I was not happy. I was emotionally and psychologically very down hearted but I just prayed to my God that whatever it is I know it is not going to affect my baby. I was reading the bible day and night.*

Participants were obviously concerned with the support they received from relatives, friends and colleagues. They also looked up to the medical team for some support which was indeed necessary to help them go through pregnancy successfully. Faith and spirituality also played an important role. Some participants saw God to be the Supreme Being and believed once they put their trust in Him; they were likely to go through pregnancy and delivery successfully.

DISCUSSION

Knowledge of the experiences of women with GDM in Accra, Ghana will enable health care practitioners to provide increased support during pregnancy. We believe that hearing the experiences of participants living with GDM will help medical personnel to render the care and advice needed to ensure a healthy pregnancy outcome.

Emotional feelings were identified when healthy pregnant women developed medical complications and in our case, GDM. Participants received their diagnosis with mixed feelings, sadness, anxiety and surprise. Others experienced fear and were nervous about the outcome of their pregnancies and others accepted the life style modifications to stay healthy and deliver a healthy baby. Persson et al. (2010) reported that the initial reaction of women who experienced GDM for the first time was that of shock caused by the unexpected diagnosis but as the pregnancy proceeded they achieved some balance in their daily life. Living with GDM was a daily struggle with increased concerns. They concluded that despite the challenges, the major required life style modifications were a small sacrifice to make to ensure optimal maternal and foetal health.

Husbands are often stressed when their wife’s are diagnosed with GDM. (Bandyopadhyay et al.2011). In our study, both the participants and their husbands were anxious and uncertain about the diagnosis. Our participants shared that the education that followed the diagnosis was not sufficient and contributed to increased fears. It is important for the healthcare providers to spend sufficient time with their clients to ensure they understand the physiological condition and the possible psychological reaction. They need to consider clients as partners on the road to recovery and not just impose interventions.

Women with GDM often use words such as “troublesome”, “absolutely dreadful” and “restricti ve lifestyle” suggesting that living with diabetes is burdensome (Razee et al. 2010). Anxiety levels are high at the time of diagnosis and are further exacerbated by misconceptions about the progress and management of GDM (Daniells et al. 2003).Beliefs of participants in relation to GDM differs (Hjelm et al. 2008). Women expressed fear of developing type 2 diabetes and others believed it was a temporary condition. Medical personnel educate women with GDM of the progression and possible development of Type 2 diabetes and the importance of continued life style modifications after the pregnancy.

In our study participants preferred not to tell anyone what they were going through apart from their husbands and sometimes their siblings. Participants gave reasons and shared that they did not want pity and receive sympathy. Most preferred to keep it private and they did not see the need to disclose their medical condition to friends. One participant feared being labelled as being bewitched. In support of fear of a supernatural influence in relation to GDM, Hjelm, Bard, Nyberg and Apelqvist (2005) made it evident that some of their participants, who had little information on GDM, attributed their condition to the interference of some supernatural forces like evil spirits. Contrary to the findings that some participants in this current study believed in secrecy, Hjelm et al. (2008) revealed that participants in their study tried to mobilise social network and turned to family and friends for information on their disease or condition. Ghana is a multicultural society and Ghanaians depend on the extended family system especially during pregnancy. It is important for women with GDM to involve family and relevant others in the management of their condition since they live in the community with the extended family and can get support in times of need or difficulties. Medical personnel should not lose sight that pregnant women in Ghana come from communities with different cultural beliefs and ethnic backgrounds. It is important to consider clients’ pre-knowledge and cultural backgrounds when conducting education. Support from friends, colleagues and significant others should not be ignored or overlooked. Social support from family members and friends served as a form of motivation and

assisted participants to follow a healthy lifestyle (Razee et al. 2010; and helpful to manage their daily life (Persson et al. 2010).

Participants mentioned the importance of support from the medical team. The majority of the participants in our study reflected that they received the needed support from the medical team, especially the doctors. They appreciated the concern that the medical team exhibited towards their welfare. Some participants felt they did not get the needed support from the nurses. They expected nurses to help them with their insulin injections, and to check their blood glucose levels. They took offence when nurses encouraged them to learn how to do it themselves. It is important that nurses educate the women with GDM on the importance of independence in taking care of themselves after discharge from the hospital. It is important that women with GDM understand the importance of injecting their own insulin and checking their blood sugar levels. Helm et al. (2007) describe that the majority of their participants perceived contact and communication with the medical staff as unproblematic. They described the nurses and doctors as “having a reassuring attitude”, “being nice”, “assisting” and “supportive” and they considered them as ideal nurses or physicians.

Participants in our study emphasized the importance of spirituality. Ghanaians by their nature are very religious and believe that without prayers, no matter the medical interventions one makes, healing might not be complete. Most Ghanaians believe that there is almost always some supernatural force behind most things that happen. Participants had faith in their doctors and nurses, but also sought spiritual support from friends and pastors. In a Swedish study, Swedish Africans attributed the potential causes of GDM to supernatural factors, example fate, the will of God, or the evil eye (Hjelm, Berntorp and Apelqvis 2012). Similar findings presented in a Middle Eastern and Arabic study (Hjelm et al.2005; Hjelm et al. 2003).

Implications of findings

The findings of this research have clinical implications for nurses, doctors and other paramedics. Women’s psychosocial experiences should be considered in care as it play important role in their recovery. The majority of newly diagnosed pregnant women tend to experience a denial stage and find it difficult to adhere to prescribed modifications especially with diet and exercise. Nurses and doctors should not only give women instructions but also enquire about the challenges of adhering to the lifestyle changes and medicine regimes. Understanding pregnant women’s experiences, help nurses to appreciate their needs, behaviours and reactions in managing GDM.

Findings of this study revealed that, although all our participants had knowledge about type 2 diabetes, they had no to little knowledge of the progression of the disease. Policies related to pre-pregnancy counselling and antenatal education need to be developed. Nurses working with women diagnosed with GDM should be well educated about this condition. Further research is needed related to nurses’ role in supporting pregnant women with GDM.

CONCLUSION

In conclusion, women with GDM experience not only physical but also psychological needs. Health care personnel should make a conscious effort finding out how every individual woman is experiencing GDM. Healthcare providers need to be attentive to their actions and encourage women and their significant others to support them in their day to day activities.

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