



Original Research

Nurses' Role in Taking Care of Gestational Diabetes Mellitus Patients: A Qualitative Study

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ABSTRACT

Introduction: Gestational Diabetes Mellitus (GDM) is becoming one of the major public health problems. It is important to screen the GDM and for the case to be managed by nurses. Nurses are needed to care for pregnant women with GDM, and the work experience of nurses is directly related to the assistance and quality of care provided. However, nurses face some barriers in understanding the GDM and providing good management thereof. This study explored the experiences of nurses of caring for GDM patients.

Methods: This study was a phenomenological approach qualitative research. Participants were 10 nurses who provide care for pregnant women with GDM selected by purposive sampling technique with sampling criteria. Data analysis used the Colaizzi method.

Results: There were five categories, e.g. empathy, inspiration to find ways to treat patients very well, feeling of ambivalence, self-preservation to develop potential, and the impact on the nurses of caring for GDM.

Conclusion: Sustaining the nursing workforce and improving their working experiences are essential to meet the care needs of pregnant women with GDM. Nurses should understand to promote empathy, and there is a need to improve the job satisfaction and morale of nurses. At the institutional level, policy makers should make efforts to improve the nursing clinical practice environment, increase the nursing management role, the maternity nursing education and training, achieve a proper skill mix of the health workforce, and, overall, attract, prepare and sustain nurses regarding caring for pregnant women with high risk GDM.

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INTRODUCTION

GDM is defined as glucose intolerance with onset or first recognition during pregnancy. The definition does not require any return to normal glucose levels following delivery. Thus, GDM simply represents relatively high glucose levels at one point in the life of a young woman (Buchanan et al., 2012). GDM is a form of hyperglycemia. In general, hyperglycemia results from an insulin supply that is inadequate to meet tissue demands for normal blood glucose regulation. Studies conducted during late pregnancy, when, as discussed below, insulin requirements are high and differ only slightly between normal and gestational diabetic women, consistently reveal reduced insulin responses to nutrients in women with GDM. Studies conducted before or after

pregnancy, when women with prior GDM are usually more insulin resistant than normal women (also discussed below), often reveal insulin responses that are similar in the two groups or reduced only slightly in women with prior GDM. However, when insulin levels and responses are expressed relative to each individual's degree of insulin resistance, a large defect in pancreatic β cell function is a consistent finding in women with prior GDM (Buchanan et al., 2012; Plows et al., 2018). GDM also adds an intrauterine environmental risk factor to an increased genetic risk for the development of obesity, diabetes and/or metabolic syndrome in childhood. As regard mother complications, GDM is a strong risk factor for the development of permanent diabetes later in life (40% in 10 subsequent years) and GDM in successive pregnancies (35%), increasing with the age and

weight of the mother. An important intervention on long-term metabolic benefits for both mother and offspring has been attributed to breastfeeding. In the offspring a protective role was seen against excessive fat accumulation, protection against childhood infections, cardiovascular diseases and type 2 diabetes, while in women an association between lactation and low concentrations of glucose and insulin and a better tolerance to glucose was seen and a significant delay in the appearance of type 2 diabetes in women with GDM (Alia et al., 2019).

Although obstetricians-gynecologists (OBs/GYNs) serve many women as their primary care provider and are often the sole physician that women see regularly during their reproductive years, a pregnancy complicated by GDM should alert not only OB/GYNs, but also other primary care providers to take the preventive actions during the inter- and postpartum periods. Appropriate early postpartum care for women with prior GDM includes screening for continued abnormal glycaemia and risk for progression to diabetes. However, this care should also include ongoing (lifelong) counseling on the risk for future pregnancies complicated by GDM, the risk for progression to diabetes over the life of the woman, and on the importance of lifestyle changes to reduce these risks. The National Diabetes Education Program (NDEP) recommends that all providers who care for women with prior GDM screen all women as well as provide or refer these patients to early treatment and prevention interventions (Oza-Frank et al., 2014).

The impact of GDM will be seen after several years if it is not handled now and triggers an increase in the incidence of GDM. Therefore, screening or early detection is needed to capture GDM so that it can be managed as well as possible, especially in mothers with risk factors. Early detection will help pregnant women to improve maternal welfare both during and after pregnancy (Djihanga & Muflihah, 2020). A study related to the experience of pregnant women with GDM explained the inability to achieve optimal maternal roles in patients with GDM (Wulaningsih et al., 2020). Early detection in health services, especially for antenatal care, is also one of the work programs of the American Diabetes Association (ADA) to prevent complications that may occur during the delivery process later (Djihanga & Muflihah, 2020).

Nurses understand the importance of GDM screening. All of the nurses who encounter patients with high risk can assist in teaching and preparing for treatment (Djihanga & Muflihah, 2020). However, GDM screening is often missed because patients do not seek to achieve systematic health services for the implementation of screening. Patients come to a health facility when they have experienced the effects of GDM on their pregnancy. In addition, resources and facilities in health facilities are also often limited so that the practice of comprehensive ANC examination is not in accordance with the theoretical concept because it only focuses on physical examination, history taking, Leopold maneuver and laboratory

examination of HB, leukocytes, proteinuria. Meanwhile, GDS examinations and even fasting GDS were not examined. This is related to the competence of resources and workload experienced by health workers, especially nurses (Sahu et al., 2021; Wulaningsih et al., 2020).

Nurses should understand their role in caring for patients. Regulatory agencies and accrediting bodies expect clinical staff nurses to understand their roles in all aspects of care, including caring for patients. Nurses should be knowledgeable about three major areas related to patients: (a) human subjects protection, including informed consent and the role of the institutional review board; (b) requirements of study participation; and (c) procedures for reporting conflicts between protection of the patient and requirements of study participation (Connelly, 2009). Based on the background of this study, the aim of this study was to analyze nurse role experience of caring for gestational diabetes mellitus patients.

MATERIALS AND METHODS

This was a phenomenological approach qualitative research. Data collection was carried out through in-depth interviews with a voice recorder and field notes. Participants were selected based on research needs with the principle of appropriateness and adequacy. Participants in this research were nurses taking care of GDM patients. The data collection was finished in the ten participants when the categorization of data was saturated. Data saturation was reached when there is enough information to replicate the study when the ability to obtain additional new information has been attained, and when further coding is no longer feasible. Besides, the availability of time and resources in research is also taken into consideration in ending data collection. This research instrument was the researchers themselves. Purposive sampling technique with sampling criteria was used. The inclusion criteria in this study were 1). Nurses who have provided care for high-risk mothers with GDM. 2) Living in the Central Java Province. 3). Willing to become a participant by agreeing to informed consent. The exclusion criterion was nurses on leave. Data analysis used the Colaizzi method. The inclusion of additional steps as follows: 1). Transcribing all the subjects' descriptions. 2). Extracting significant statements (statements that directly relate to the phenomenon under investigation). 3). Creating formulated meanings. 4). Aggregating formulated meanings into theme clusters. 5). Developing an exhaustive description (a comprehensive description of the experience as articulated by participants). 6). Additional step-researcher interpretative analysis of symbolic representations from the articulation of the symbolic representation (which occurred during participant interview). 7). Identifying the fundamental structure of the phenomenon. 8). Returning to participants for validation (Edward & Welch, 2011).

Table 1. List and Characteristics of Participants

Participant	Age	Gender	Education	Work Experience	Religion	Marital Status
P1	25	Male	Bachelor	1 years	Muslim	Married
P2	24	Female	Bachelor	2 years	Muslim	Married
P3	30	Female	Bachelor	2 years	Muslim	Married
P4	20	Female	Diploma	9 years	Christian	Single
P5	29	Male	Diploma	7 years	Muslim	Married
P6	32	Female	Diploma	11 years	Christian	Married
P7	37	Male	Diploma	17 years	Muslim	Married
P8	31	Male	Diploma	14 years	Muslim	Married
P9	23	Female	Bachelor	2 years	Muslim	Married
P10	49	Female	Diploma	10 years	Muslim	Married

Table 2. Socio-Demographic Characteristics of Participants

Characteristics	n	%
Age		
20-30 years	6	60.0
31-40 years	3	30.0
41-50 years	1	10.0
Gender		
Male	4	40.0
Female	6	60.0
Education Level		
Diploma	6	60.0
Bachelor	4	40.0
Work experience		
1-5 years	2	20.0
6-10 years	7	70.0
> 10 years	1	10.0
Religion		
Muslim	8	80.0
Christian	2	20.0
Marital Status		
Married	9	90.0
Single	1	10.0

Data were collected between November 2019 and February 2020 using in-depth interview with nurses who care for diabetes patients. Interviews were conducted by one of the research team who already had a basic understanding of qualitative research. Before selected as a participant, participants were given the research information about title, purpose, benefit, participant participation, reward and more information if there was an adverse event, then they gave a statement of informed consent as to voluntary participation. The validity of the data in this research was tested and included credibility, dependability, and conformability. The study was declared to have passed the ethical review by the Research Ethics Committee, Faculty of Health and Nursing Science, Karya Husada University. Data were collected using interview guide and participants answered the questions for 30-45 minutes. Data were collected once meeting with the participant. Before the in-depth interview, the author-built trust from the participant, so they gave truthful information about their experience. After data were collected, we analyzed the keywords and themes found from the research.

RESULTS

Based on the criteria for inclusion participating as many as 10 nurses were obtained. In-depth

interviews were conducted with participants and showed mixed results about nurses' role experience of caring for GDM. This study obtained as many as five themes of the sub-categories, which have been arranged as below.

Table 1 and Table 2 shows the characteristics of participants were predominantly female (60.0%) and the age was majority 20-30 years (60.0%). Diploma was the highest education level in the participants (60.0%), the experience of nursing was dominated in range 6-10 years (70.0%). Muslim was the highest religion in participants and 90.0% of participants were in married status. The themes are shown in Table 3.

Theme 1: Empathy

Nurses have a sense of empathy for the patients they treat with GDM. Nurses have awareness in carrying out their duties and functions in providing nursing care. The following are participant answers expressed as follows: P2-10: "Every patient has the same right to get optimal nursing care, so I have to provide holistic care." P5-15: "I can feel the suffering of patients with GDM, being pregnant with a condition where there is an increase in blood sugar levels can make the mother experience anxiety, sadness. So I need to provide better service."

Table 3. Thematic Analysis of the Participants

Keyword	Sub Theme	Theme
The patient is the same Feeling patient's suffering	Awareness in carrying out duties	
Optimal nursing care Holistic care Giving better service	Providing nursing care	Empathy
Give best service	Patient's condition	
Finding something new Help mother with high risk	High risk pregnancy	Inspiration to find ways to treat patients very well
Caring is not easy Have to understand patient Uncomfortable feeling	Finding many challenges	
Finding many problems Difficult solving	Emotional feeling	Feeling of ambivalence
Proud to be nurse Giving optimal caring	Develop competencies	Self-preservation to develop potential
Helping patient and family Provide service to patient	Positive impact of many aspects	The impact on the nurses of caring for GDM

Theme 2: Inspiration to find ways to treat patients very well

Nurses thought that they must be able to find better ways to treat patients with GDM, stated by the participants as follows: P6-15: "I always think how to find a way to encourage patients with high risk especially GDM, to help them through difficult times during pregnancy." P5-15: "The best service must be provided to patients with GDM, nurses must change their perspective to find something new in providing nursing care to high-risk patients."

Theme 3: Feeling of ambivalence

Nurses have contrasting feelings about themselves and the patients whom they care for. The following are participants' statements: P8-16: "Carrying out the role as a nurse is not easy, there are many challenges but in the main is understanding patients who have different characters. Sometimes I feel uncomfortable when treating patients who can't be given advice, that's where my emotional feelings arise." P1-15: "Often there is a feeling of ambivalence in caring for high-risk patients, there are many problems within the patient that must be resolved but it is difficult to contradict my feelings."

Theme 4: Self-preservation to develop potential

Nurses realize that this profession is a noble profession to continuously develop existing competencies and potentials. This is stated by the participants as follows: P7-13: "I am very proud to be a nurse, when caring for patients I feel I can develop my own potential to provide the best service." P10-14: "Caring for high-risk patients, especially GDM, made me realize that, as a nurse, I must be able to preserve myself to develop my potential in order to provide optimal nursing care."

Theme 5: The impact on the nurses of caring for GDM

The actual service of nurses has a positive impact on many aspects of practice, as stated by the participants as follows: P3-16: "Efforts made by nurses have a positive impact on patients and families, including psychology the patient does not experience anxiety during pregnancy with GDM." P5-12: "The smallest thing to provide services to patients with high risk has a very significant impact, where patients feel capable and confident that they will recover."

DISCUSSION

Theme 1: Empathy

Pregnancy is a normal physiological process. The majority of pregnancy is accepted by the mother as something that has to be lived with. But the experience of the mother diagnosed with diabetes during pregnancy is a special experience for the mother and a serious challenge to maintain and undergo pregnancy. Therefore, it is very necessary to do prenatal care for the mother and fetus to align processes to avoid pregnancy complications and decrease the incidence of morbidity or perinatal and maternal mortality (Schellinger et al., 2017).

The nurses spoke about several experiences that captured the meaning of the theme of "empathy," and was illustrated with descriptions of the caring for GDM patients. Abby described the feelings she experienced concerning maternity patients when she "provides holistic care." This was also described as "so I need to provide better service." Empathy can be thought of as an individual's identification with and response to an event (Wilson & Kirshbaum, 2011). Empathy can further be viewed as an emotion felt by nurses when they place themselves in the patient's situation, personifying the experience and treating the patient as they would want to be treated. Empathy

involves alleviation of pain, avoidance of suffering, and promotion of a new level of health (Mattsson et al., 2013) and nurses will try to deliver patient care so these concepts can be achieved.

The result of this study shows that the cause of GDM is due to hereditary factors, immunological factors, and diabetes acquired during pregnancy. Empathy is needed by nurses in providing care to high-risk patients, GDM. Empathy toward patients and families contributes to the emotions of caring provided by nurses.

Theme 2: Inspiration to find ways to treat patients very well

Diabetes is a common complication of pregnancy. Patients can be separated into two, namely those who had previously known diabetes and those who are diagnosed with diabetes during pregnancy (gestational). Maternal factors obtained in mothers with GDM are hypertension, preeclampsia, and increased risk of caesarean section (Huang et al., 2020).

Maternal glucose levels are unstable and can cause fetal death in utero, which is a typical occurrence in women with diabetes. A fetus exposed to hyperglycemia tends to asphyxia and acidosis although the exact mechanism is unclear, but is thought ketoacidosis has close links with the death of the fetus. When maternal or blood glucose levels are within normal limits, the death of the fetus in the uterus is rare (Alberico et al., 2017). Hyperinsulinemia that occurs in the fetus will increase the metabolic rate and oxygen needs to deal with situations such as hyperglycemia, ketoacidosis, pre-eclampsia and vascular disease, which can reduce blood flow and oxygenation placenta-utero fetus. The frequency of fetal death in utero or stillbirth ranges from 15-20%. An attempt to avoid the sudden death of the fetus in the womb is to terminate the pregnancy a few weeks before term (Alia et al., 2019).

Some of the things above explain that GDM patients need to receive good care. Nurses have intuition and inspiration to treat patients well. Inspiration was identified when nurses observed the strength and resilience they detected in their maternity patients. Inspiration can also be felt by nurses in the experience of caring for GDM patients. "The best service must be provided to patients with GDM, nurses must change their perspective to find something new in providing nursing care to high-risk patients." The statement about inspiration to find ways to treat patients very well is a process of being mentally stimulated to do or feel something, creating a motivating reaction typically experienced when facing challenges in the process of goal attainment (Straume & Vitterso, 2012).

Theme 3: Feeling of ambivalence

Maintaining the pregnancy did not make the mother desperate to retain the fetus and mother's health. Various efforts have been made to maintain the mother and the fetus in good condition and

wellbeing. The experience of the mother to keep the extra pregnancy is to maintain fetal maturity by way of checkups to the hospital (Alia et al., 2019). Another effort made by the mother is doing movement exercises during pregnancy, doing routine blood sugar control and continuously making efforts at healthcare treatment (Alia et al., 2019; Dhingra & Ahuja, 2016).

Nurses discussed struggling with their feelings during their experiences of caring for high risk GDM patients. Feelings of ambivalence were described by questioning why nurses were subjected to the contrasting feelings about themselves and the patients whom they care, when a participant stated "Carrying out the role as a nurse is not easy, there are many challenges in the main is understanding patients who have different characters. Sometimes I feel uncomfortable when treating patients who can't be given advice, that's where my emotional feelings arise."

Each nurse participant discussed similar issues related to ambivalence, the issues the struggles nurses when faced with their own emotions In relation to this, ambivalence may be emotionally distressing when nurses are asked to behave in a manner contradictory to their beliefs.

Ambivalence is defined as the state of having mixed feelings, mixed beliefs, or contradictions of thoughts and feelings (Petty & Krosnick, 2014). When discussing ambivalence in patient care, nurses described a sense of doubt as to whether or not the care rendered was appropriate for the situation. In nursing care view, a holistic human being is an individual. In a holistic concept, the human figure is seen as a whole, which is able to adapt as a whole.

Theme 4: Self-preservation to develop potential

Women with a history of DM should use effective contraception to reduce pregnancy which is accompanied by hyperglycemia. Long-term management with low-dose combined oral contraceptives did not appear to increase the risk of diabetes after pregnancy. An intra-uterine device (IUD) is the most effective contraceptive as it is metabolically neutral. Conversely, the use of progestin-containing contraceptives during lactation may increase the risk of diabetes (Kiley & Griffin, 2015).

Nurses' interviews revealed thoughts of "trying to manage, just taking care of today, so that you could go back to caring for the woman pregnant with GDM," illustrating self-preservation. One discussed her feelings about being able to continue with practicing in this specialty: "Caring for high-risk patients, especially GDM, made me realize that, as a nurse, I must be able to preserve myself to develop my potential in order to provide optimal nursing care."

Self-preservation can be defined as self-protection from harm, regarded as a basic human instinct of survival and is a coping strategy that allows for an understanding and processing of what takes place in our world. The construct of self-preservation helps

nurses deal with the emotional demands of patients, their families, and patient outcomes, either good or bad. Self-preservation is part of the process nurses employ to shield themselves from what can deeply hurt them. Research studies found distancing and disconnecting from patients facing a troubling situation is common with nurse self-preservation and self-protection (Lipp, 2011).

Theme 5: The impact on the nurses of caring for GDM

According to the nurses interviewed, caring for high risk GDM patients had an impact on them, both physically and psychologically. It makes them scared of becoming sick. Consequently, the nurses reported feeling that they had high motivation, both physically and psychologically. Discussing about the impact of practice, one said : "The smallest thing to provide services to patients with high risk has a very significant impact, where patients feel capable and confident that they will recovery."

Nurses' experiences with practical knowledge affect the nursing process. Expert nurses with practical knowledge have more positive attitudes toward patients than do less experienced nurses (Spencer et al., 2012). Nurses should have more training to receive quality improvement education and continued training to improve their professional capabilities. Moreover, their working spirit needs to be regularly regenerated to inspire them to take care of older people. Furthermore, nurses should be aware of the psychological and physical impact of caring for older people, and there is a need to revitalize nurses' positive experiences and feelings to improve their job satisfaction.

CONCLUSION

In this study, nurses showed complex experience for taking care of patients with high risk of GDM. They expressed the view that the patients were somewhat more experienced. The attitude of nurses caring for GDM patients gave the impact of themselves and patients. Implications of the findings allow for the opportunity to hear stories about nurses and their patients. Personal and emotional stories of lived experiences provide the ability to create strategies to improve quality of life for the patient and for nurses, as well as adding to the identity of the practice of nursing.

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