



Antenatal Care Experience In Pregnant Women With Gestational Diabetes

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ABSTRACT

Background: Globally, one of the increasing health problems that occur during pregnancy is gestational diabetes. The experience of women diagnosed with diabetes in pregnancy has the possibility of experiencing risks such as pre-eclampsia and polyhydramnios (excess amniotic fluid). Babies of mothers who experience this are also at risk for complications such as macrosomia (birth weight > 4000g). Meanwhile, the experience of women during antenatal visits who have a diagnosis of diabetes in pregnancy, often feel anxious about themselves and the fetus and the risks that will occur in the future.

Purpose: To review the evidence related to the experience of antenatal care in pregnant women with gestational diabetes.

Methods: The method used is the scoping review. created a framework, selecting article studies with Prism Flow Charts, mapping charting data and Critical Appraisal.

Results: Based on 9 articles with quantitative and qualitative research types, it was found that there were 8 articles with grade A and 1 article with grade B. The tool used in the scoping review was the Mixed Method Appraisal Tool (MMAT). Based on the articles collected, 4 themes were selected consisting of Antenatal Care (ANC), Knowledge of Pregnant Women, Gestational Impact of Diabetes, and Health Service Efforts.

Conclusion: Antenatal care experiences for mothers with gestational diabetes carry a significant risk of maternal and fetal complications and a significant risk of developing type 2 diabetes. Gestational diabetes can contribute to potential emotional imbalances during pregnancy that can trigger depressive symptoms.

Keywords: *Experience of pregnant women; Antenatal care; Gestational diabetes*

BACKGROUND

Gestational diabetes is a public health problem that continues to experience increasing cases globally and is usually recognized during pregnancy. This will usually improve after delivery and is often associated with short-term and long-term complications in the mother and baby (Brown, 2017).

According to the results of research conducted by (Craig et al., 2020b), the problems found from the results of the gestational diabetes diagnosis are mostly emotional, financial and cultural. Women think these problems are related to their additional responsibilities, financial constraints (inexpensive food and medicine) and conflicts related to their customs or culture, for example lack of information about traditional foods. Some women report that they live in fear of risking the health of their babies and engaging in extreme behaviors such as allowing themselves to feel starving (Craig et al., 2020a).

The negative effects that arise due to gestational diabetes are the risk of obesity, experiencing pregnancy poisoning, surgery during pregnancy and other complications that can cause death. After passing the stage of labor, mothers who are diagnosed with gestational diabetes have the risk of experiencing the same thing and progressing to type 2 and can experience it many times in the future. Likewise, low birth weight mothers who are exposed to diabetes during pregnancy have a risk of experiencing macrosomia (Rahayu & Rodiani, 2016).

Based on the journal from (Aurora, 2019a), it was concluded that there was a fairly high level of difference regarding health services in both developed and developing countries. The main problem with health facilities in developing countries is the weak process of management of health care or services. In developed countries, the problem found is the lack of communication and determining a schedule with doctors or health workers, which is quite difficult due to their busy schedule. Prevention and health promotion efforts in developed countries are better than developing countries which tend to be more curative than preventive (Aurora, 2019b).

OBJECTIVE

The Scoping Review aims to review the evidence related to the experience of antenatal care in pregnant women with gestational diabetes.

METHODS

The method taken for this research was a scoping review. (Pham et al., 2014) proposed several steps to do this, including: Identifying research questions, identifying relevant studies, selecting studies, mapping data, compiling, summarizing and reporting results and their discussion, optional consultation exercises. Based on this phenomenon, the PEO framework was used to construct the scoping review questions.

Table 1. Framework Population, Exposure, Outcome (PEO)

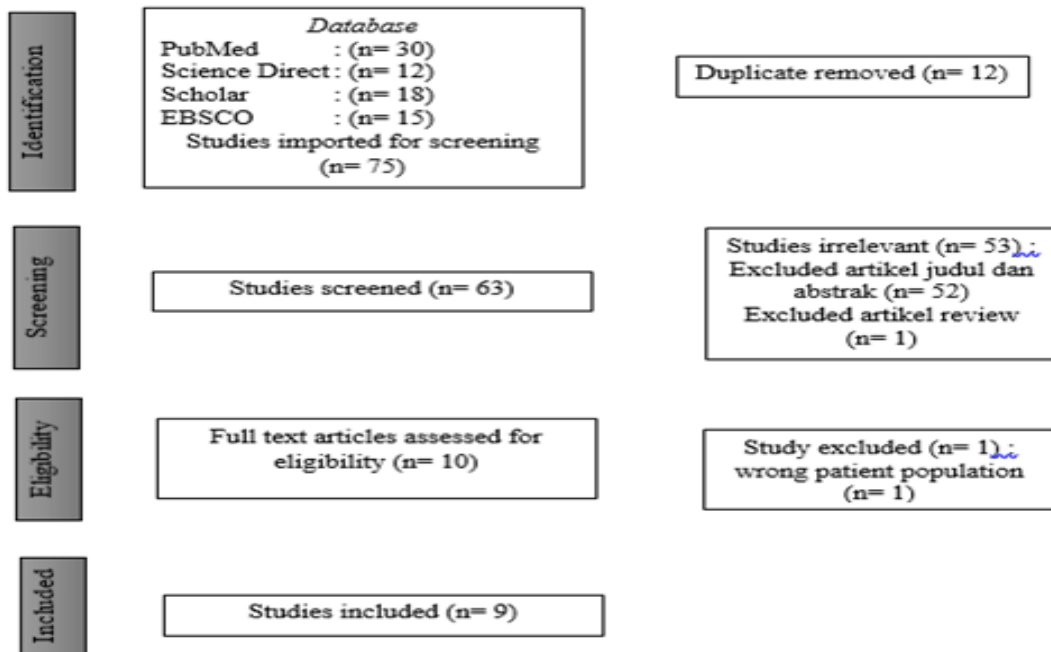
P (Population)	E (Exposure)	O (Outcomes)
Pregnant women	Gestational diabetes	Experience View

A literature search strategy to identify relevant studies is carried out by setting inclusion criteria, namely articles published from 2010 to 2020, articles published in English or Indonesian, and articles that discuss ANC experiences in pregnant women with gestational diabetes. The exclusion criteria for articles were opinion articles and commentaries and book reviews. The databases used in the source search were PubMed,

Science Direct, google scholar and EBSCO. Searches made using the PubMed database were accessed via Google. For Science Direct, the data were accessed via PNRI, while the data from EBSCO were accessed via google.

Furthermore, the PRISMA flowchart according to (Peters et al., 2015) is presented as below:

Figure 1. PRISMA Flowchart



A total of nine articles that have been selected were then entered into the charting data table (table 1. Data Charting). The tool used in this scoping review was the Mixed Methods Quality Appraisal Tool (MMAT). This was used to explore the risk of bias for the study level. The overall quality score was then associated with each study (Ulley et al., 2019). The next step is categorizing the quality of the articles into a scale of grade A (Good), B (Fair) and C (Poor) to assess the quality of each article.

Table 2. Data Charting

Table No	Author/ Year/Title/ Grade	Country	Aim	Type of Research	Data Collection	Participants / Sample Size	Result
A1	(Zhang, 2020) Comparison of Effectiveness of Routine Antenatal Care with a Midwife-Managed Clinic Service in Prevention of Gestational Diabetes Mellitus in Early Pregnancy at a Hospital in China	China	To determine the result of routine effectiveness comparison between antenatal care and clinic managed by service midwife in preventing diabetes mellitus pregnancy at the beginning of pregnancy at hospital in China	Quantitative study	Data collection was conducted through observation	Sample size : 115 participants with GDM and 141 control group	The themes found: 1. Antenatal Care (ANC) 2. The effort of health service

A2	(Muhwava et al., 2020) Perspectives on the psychological and emotional burden of having gestational diabetes amongst low-income women in Cape Town, South Africa	Africa	To explore deeply the experience of Gestational Diabetes Mellitus experienced by women, the context, and need that they feel.	Qualitative study	Data collection used combination of focus group and deep interview	Participants: 35 women	The results found: <ol style="list-style-type: none"> 1. Antenatal Care (ANC) 2. The impact of Gestational Diabetes
A3	(Biswas et al., 2020) Gestational Diabetes: Exploring the Perceptions, Practices and Barriers of the Community and Healthcare Providers in Rural Bangladesh: A Qualitative Study	Bangladesh	To find out the understanding and knowledge of pregnant women diagnosed with GDM (Gestational Diabetes Mellitus)	Qualitative Study	Data collection was conducted through deep interview and focus group discussion	Participants: 47 people	The themes found: <ol style="list-style-type: none"> 1. The knowledge of pregnant women 2. Antenatal Care (ANC)
A4	(Ge et al., 2017) Lived experience of women with gestational diabetes mellitus living in China: a qualitative interview study	China	To nurture the care in China with psychological care and training of health procurement	Qualitative Study	Data were collected through snowball sampling technique	Participants: 64 people included in inclusion criteria	The research result: <ol style="list-style-type: none"> 1. Antenatal Care (ANC)
A5	(Kirkham et al., 2019) Diabetes care in remote Australia: the antenatal, postpartum and inter-pregnancy period	Australia	To give care after labor to increase the communication path and follow up care	Quantitative and Qualitative Study	Data collection: Quantitative Observation, Interview, Focus Group, Qualitative	Participants: Qualitative: 62 Quantitative: 82	The research results: <ol style="list-style-type: none"> 1. Antenatal Care (ANC) 2. The Effort of Health Service
A6	(Hjelm et al., 2018) A qualitative study of developing beliefs about health, illness and healthcare in migrant African women with gestational diabetes living in Sweden	Sweden	To know the occurrence and experience after birth at hospital diabetes specialist clinic in Sweden	Qualitative Study	Data collection was through semi structured interview	Participants: 9 people	The research results: <ol style="list-style-type: none"> 1. Antenatal Care (ANC) 2. The knowledge of Pregnant Women 3. The Impact of Gestational Diabetes
A7	(Wilkinson et al., 2019) Implementing a best-practice model of gestational diabetes mellitus care in dietetics: a qualitative study	Australia	To explore the experience from the beginning until the completion, overcoming the challenge	Qualitative study	Data collection: Semi Structured Interview and interview via telephone and digital recording	Participants: 8 people	The research result: <ol style="list-style-type: none"> 1. The effort of health service 2. Antenatal Care (ANC)

A8	(Knabl et al., 2020) Cell Type- and Sex-Specific Dysregulation of Thyroid Hormone Receptors in Placentas in Gestational Diabetes Mellitus	Germany	To find out the pregnancy effect of diabetes mellitus women (GDM) on tiroid hormone receptors from placenta according to gender and cell type.	Quantitative study	Data collection: observational which learns the correlation by choosing two or more study groups	Participants: 80 women	Research results: 1. Antenatal Care 2. The knowledge of pregnant women
A9	(Yin et al., 2020) Serum Levels and Placental Expression of NGAL in Gestational Diabetes Mellitus	China	To find out the level of NGAL (neutrophil gelatinase-associated lipocalin) in placenta and umbilical cord on mother with GDM	Quantitative Study	Data collection with observational to find out the level of NGAL protein	Participants: In the amount of 49 subjects of GDM and 39 women with normal pregnancy	Research result: 1. Antenatal Care (ANC)

FINDINGS

1. Characteristics of the Article

Based on the critical appraisal results of the 9 articles that have been selected, 5 articles were found using qualitative studies, 3 articles using quantitative and 1 article using qualitative and quantitative studies.

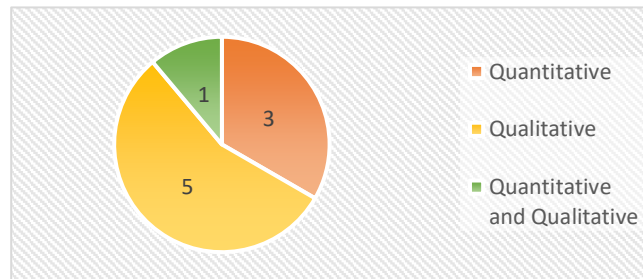


Diagram 1. Study Design

Based on the quality of the articles that have been subject to critical appraisal, 9 articles obtained grade A and 1 article obtained grade B and there were no articles with grade C.

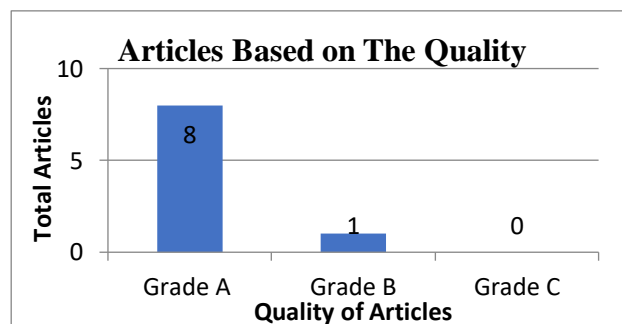


Diagram 2. Grade

Judging by the country where the article was published, there are studies conducted in developing countries in the Asian Continent, such as China (3), Bangladesh (1), and the African Continent, more precisely in South Africa (1). Research conducted in developed countries includes several countries in Australia and Oceania, for example Australia (2) and in Europe, for example Germany (1) and Sweden (1).

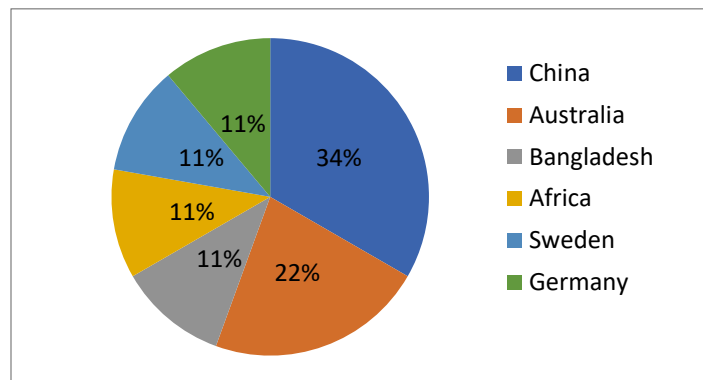


Diagram 3. Country

2. Theme Mapping

The next stage is mapping the themes based on the selected articles. In this stage, 4 themes were found which consisted of Antenatal Care (ANC), Knowledge possessed by Pregnant Women, the Impacts of Gestational Diabetes, Efforts related to Health Services.

DISCUSSION

1. Antenatal care

Based on the mapping results in this scoping review, the following findings were obtained:

a. Antenatal Care Experience

The experience of pregnant women with gestational diabetes related to psychology is very influential, especially the level of stress during pregnancy with health risks and financial barriers, especially in low and middle income countries (Muhwava et al., 2020). This is in accordance with research from (Rahayu & Rodiani, 2016) which says the experience of mothers with gestational diabetes is a health problem because this disease is directed at the mother and fetus. In addition, research from (Hjelm et al., 2018) which explains that the mother's experience of gestational diabetes will cause anxiety levels that affect maternal beliefs regarding health behavior. Therefore, antenatal care needs to be improved to provide appropriate services by competent health workers.

Pregnant women and newborns should receive the best care from pregnancy, childbirth and after delivery to family planning. In health care, antenatal care (ANC) provides facilities for health care functions such as health promotion, screening, diagnosis, and disease prevention (Ban & Ki-moon, 2016).

b. ANC Visit

Based on the results of research conducted by (Fitrayeni et al., 2017a) it was found that there are still many follow-up meeting schedules for antenatal care that have not been fulfilled according to the applicable schedule standards. This is due to the lack of awareness, involvement and additional education from health workers, especially midwives for pregnant women. This indicates the importance of the participation of health care workers such as midwives. This is because based on the research results, it has been proven that the lack of counseling and information from midwives affects the activeness of patients to make ANC visits (Fitrayeni et al., 2017b).

c. **Monitoring of mothers with gestational diabetes**

Research from (Puspita & Pratiwi, 2017) explains that a woman needs to adapt by controlling and introspection, especially about measuring muscle mass and body fat scales during pregnancy, especially in women who have been diagnosed with diabetes during a previous pregnancy. Through this step, it is hoped that pregnant women in their next pregnancy will be able to educate themselves and get used to routine pregnancy check-ups. Another thing that needs to be done is to obtain non-formal education in personal and community groups to continue to be diligent in monitoring the health of pregnancy, starting from maintaining balanced nutrition in order to reduce the risk of excess obesity which will cause various complications during pregnancy (Hidayati et al., 2018).

2. Knowledge possessed by pregnant women

Based on the mapping results in this scoping review, it was found that there was counseling, understanding, analysis, evaluation.

In Fitrayeni's research (2017), the level of knowledge is explained, including several causes of the incomplete pregnancy check-up process or antenatal care. The results of the study prove that the lack of education and knowledge of a pregnant woman will have a major effect on the number of visits to their antenatal care with an appeal of about 19 times lower than that of women with high knowledge of pregnancy (Fitrayeni et al., 2017b).

3. The Impact of Gestational diabetes

Based on the mapping results in this scoping review, it was known that the impact of gestational diabetes on pregnant women is the emergence of worry so that emotional support is needed. According to research concluded by (Rahayu & Rodiani, 2016) the effects appear on women who have been diagnosed with gestational diabetes are an increased number of body mass indexes, pregnancy poisoning, seizures in pregnancy and a high likelihood of experiencing type 2 diabetes which can even recur many times in the future. The risk that can occur with BBL, for example, is experiencing macrosomia.

4. Efforts related to health services

The results obtained based on the mapping results in this scoping review are as follows:

a. **Early detection of complications**

In Kudarti's research, (2014), it was found that health workers were expected to always improve services and be responsive in prevention and early detection for patients, especially pregnant women who were normal and who had already been detected as having gestational diabetes .

b. **Provision of facilities and infrastructure**

The main goal of gestational diabetes management in research according to Rahmasari (2019) is to prevent complications and normalize insulin activity in the body. Management consists of four pillars, including education, diet, physical exercise and pharmacological treatment (Mufdlilah & Rachmawati, 2018; Rahmasari & Wahyuni, 2019; Vaira et al., 2020).

CONCLUSION

The experience of antenatal care in mothers with gestational diabetes has a risk of maternal and fetal complications. Because it is included in a pregnancy that has a high risk, this will affect the psychology of the mother during pregnancy with anxiety or worries that affect the mother's beliefs regarding health behavior. Therefore, antenatal care needs to be improved to provide appropriate services by competent health workers.

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