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The Relationship Between Pregnant Women's Perceptions and Early Detection Behavior of Gestational Diabetes Mellitus at Plumbon Community Health Center, Indramayu Regency

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Article History	Abstract:
<p>Volume 6 issue 14, Aug 2024</p> <p>Received: 09 June 2024</p> <p>Accepted: 19 July 2024</p> <p>Published: 08 Aug 2024</p> <p><i>doi: 10.48047/AFJBS.6.14.2024.38-58</i></p> <p>Index Terms: Pregnant Women's Perception, Gestational Diabetes Mellitus, Early Detection Behavior,</p>	<p>Gestational Diabetes Mellitus (GDM) is a collection of symptoms that arise in pregnant women caused by an increase in blood glucose levels due to a progressive decrease in insulin secretion, variables that influence the incidence of gestational diabetes include age, history of diabetes mellitus, can occur at any time, but this disease usually begins to attack in the 24th week of pregnancy. The prevalence of Gestational Diabetes Mellitus in Indonesia is still relatively small, namely around 3-5%, but this figure could be higher because cases of GDM are rarely detected. Even though it can heal on its own, that doesn't mean gestational diabetes is not dangerous. If not treated properly, this disease can increase the risk of the baby being born with excess weight, being born prematurely, or being born with low blood sugar or hypoglycemia. For pregnant women, gestational diabetes has the potential to cause complications, such as preeclampsia and hypertension. In Indonesia, all pregnant women are recommended to undergo DMG screening. However, not many pregnant women do this. The aim of this research is to determine the relationship between the perceptions of pregnant women and the behavior of early detection of Gestational Diabetes Mellitus at the Plumbon</p>

	<p>health center, Indramayu Regency in 2024. This research is quantitative research with a cross-sectional study design. The respondents in this study were 107 pregnant women who lived in the working area of the Plumbon Health Center, Indramayu Regency and used health services at the health center in 2024. Samples were taken using the Accidental Sampling technique, a technique for determining samples based on chance, namely any patient who happened to meet the researcher. and data were analyzed univariate and bivariate. The results of the research show that the characteristics of respondents, namely age, education, employment and income, do not have a significant relationship with early detection behavior of GDM, however, the perception of pregnant women with behavior of early detection of Gestational Diabetes Mellitus has a significant relationship as does mother's knowledge of early detection of Gestational Diabetes Mellitus. have a significant relationship.</p>
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Introduction

Maternal Mortality Rate and Maternal Sickness Rate are one of the factors determining the level of public health and are still a public health problem in developing countries, one of which is Indonesia (Yulianingsih, 2023). Maternal Mortality Rate (MMR) is the number of maternal deaths during pregnancy, childbirth and postpartum caused by pregnancy, childbirth and postpartum or its management but not due to other causes such as accidents or falls per 100,000 live births (Ministry of Health of the Republic of Indonesia, 2017). Around 303,000 women in the world died during and after pregnancy or as many as 830 deaths every day in 2015 ((WHO, 2015)).

Based on data from the Indonesian Demographic and Health Survey (SDKI), the maternal mortality rate continues to decline from 1991 with 390 cases to 228 cases in 2007. The results of the 2015 inter-censal population survey show that in 2012 Indonesia experienced an increase in maternal mortality, namely 359 maternal deaths per 100,000 live births and then showed a decline in 2015 to 305 maternal deaths per 100,000 live births. In 2018 it was 346 per 100,000 population (Ministry of Health of the Republic of Indonesia, 2017). In 2019 it was 228 per 100,000 live births, while in 2020 it was recorded at 189 per 100,000, so it can be concluded that from 2015 to 2020 the maternal mortality rate experienced fluctuations. However, this reduction in maternal mortality still has not achieved the Sustainable Development Goals (SDG's) target, namely reducing MMR to below 70 per 100,000 live births (SDGs, 2017).

Death in pregnant women is usually the result of pregnancy complications including bleeding, hypertension and sepsis as well as circulatory system disorders including anemia and gestational diabetes mellitus (Yulianingsih, 2023). Multivariate research conducted by (Bayana et al., 2023) shows that pregnancy complications are a factor associated with maternal death. There are various kinds of complications in pregnancy that occur, including anemia, bleeding, hypertension, diabetes mellitus, infection. Diabetes Mellitus that occurs during pregnancy or called Gestational Diabetes Mellitus (GDM) is a serious health problem because it not only causes maternal and neonatal complications (macrosomia, shoulder dystocia, birth injury, hypoglycemia, respiratory distress syndrome), but also increases the risk of type 2 diabetes mellitus.

The World Health Organization (WHO) surveyed the number of diabetes sufferers in Indonesia in 2000 from 8.4 million to 21.3 million annually in 2030. The Overall Diabetes Partnership (IDF) said Indonesia will face an increase in the number of diabetes sufferers from 2014 to 2035 with an increase of 9,1 million. to 14 million. Meanwhile, based on the 2020 provincial Health Service dataset and the 2020 Indramayu District Health Profile, the distribution of Diabetes Mellitus cases was 30,709 people and the highest number of cases was at the Plumbon Community Health Center, 953 people. Gestational Diabetes Mellitus according to the American Diabetes Association (ADA, 2014) occurs approximately

4% of all pregnancies in the United States and 35% in the UK. The prevalence of Gestational Diabetes Mellitus in Europe is around two-6% (Dłuski et al., 2022) Mothers from the gestational diabetes group show abnormalities in glucose metabolism (increased glucose in the blood) which is a primary sign of type two diabetes, in determining the condition of pregnant women related to GDM All pregnant mothers who come for a pregnancy check-up must be screened for diabetes mellitus by checking blood sugar at any time, especially in patients who have a history of GDM (Rahmi, et al 2020).

The prevalence of GDM is 7% to 11.6% worldwide with a higher incidence in Asian and Pacific Islander descendants, the incidence increases as obesity cases increase (Kurniarum, 2016). The prevalence of DMG in Indonesia in 2007 was 1.9% -3.6% (Soegondo, et al 2011). However, this figure could be higher, because DMG cases are rarely detected. In 2011 in Indonesia around 135,000 pregnant women experienced GDM every year with a percentage of 3-5%.

Early detection is carried out as prevention and anticipation of diseases that can occur in pregnant women. In Gestational Diabetes Mellitus, the timing and type of early detection depends on the presence or absence of risk factors in the mother. Examinations in the first trimester are carried out only when pregnant women have risk factors for diabetes mellitus. The diagnosis of GDM is made if the blood glucose level is >200 mg/dl (accompanied by classic symptoms of hyperglycemia) or the fasting blood glucose level is >126 mg/dl or the glucose level 2 hours after the Oral Glucose Tolerance Test (OGTT) is >200 mg/dl or the HbA1C level $>6.5\%$. If the results are low, they need to be confirmed by carrying out an TTGO examination at a gestational age of between 24-28 weeks. Confirmation examinations and examinations for pregnant women without risk factors are carried out at 24-28 weeks of gestation with fasting blood sugar levels > 92 mg/dl, blood sugar levels after 1 hour > 180 mg/dl, blood sugar levels after 2 hours > 153 mg /dl. Diabetes mellitus that occurs during pregnancy is called Gestational Diabetes Mellitus (GDM). Glucose intolerance begins or is identified only during pregnancy. The condition of pregnancy is a diabetogenic condition because the placenta secretes hormones such as progesterone, cortisol, lactogen, placenta, prolactin and growth hormone, which are the main contributors to the insulin resistance seen in pregnancy (Yulianingsih, 2024). The impact caused by mothers suffering from GDM is that mothers are at high risk of gaining excess weight, preclampsia, eclampsia, caesarean section, and cardiovascular complications and even death. In addition, after giving birth, sufferers are at risk of developing type 2 diabetes or recurring GDM in subsequent pregnancies. Meanwhile, babies born to mothers who experience GDM are at high risk of developing macrosomia, birth trauma, hypoglycemia, hypocalcemia, hyperbilirubinemia, respiratory distress syndrome, polycythemia, obesity and type 2 diabetes mellitus. Pregnant women need early detection so that the disease is caught early so that it does not occur. worse impact on both baby and mother.

The number of pregnant women in Indramayu Regency has decreased every year from 2016 as many as 43,102 pregnant women, 2017 as many as 30,418 pregnant women, in 2018 as many as 29,942 pregnant women, and as many as 29,476 pregnant women in 2019 (Indramayu Health Department, 2020). Based on data from the Indramayu District Health Service, the number of pregnant women in 2019 was 29,476 whose blood sugar was checked, 3,121 (10.5%). The Plumbon health center area has a fairly large number of diabetes mellitus cases compared to other health centers in Indramayu district. One way to improve maternal health, especially pregnant women, is through early detection. The general aim of this research is to analyze and determine the relationship between Pregnant Women's Perceptions and Early Detection Behavior of Gestational Diabetes Mellitus at the Plumbon Health Center, Indramayu Regency in 2024

Methodology

Search Strategy

This research uses a cross-sectional research design with a quantitative analytical approach. Researchers want to see the relationship between two or more variables, namely the relationship between perceptions of pregnant women and early detection behavior for gestational diabetes mellitus at the Plumbon Health Center, Indramayu Regency. Data collection in this design is carried out at the same

point in time. The dependent variable examined in this study was early detection of Gestational Diabetes Mellitus, while the independent variables in this study included age, knowledge, perceived vulnerability, perceived seriousness, perceived benefits, perceived obstacles, encouragement to act.

This research was carried out for 1 year starting in February 2024 until December 2024 at the Plumbon Community Health Center in Indramayu district. According to (Sugiyono, 2017), population is a generalization area consisting of: objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn. So from the definition above, the population is the entire object of research data. The population in this study was pregnant women at the Plumbon Community Health Center in Indramayu Regency, totaling 760 pregnant women. The sample is part of the number and characteristics of the population (Sugiyono, 2017). Samples are used to make it easier for researchers to collect data, because the number of research objects is too large. In this research, the researcher used the Incidental Sampling technique, namely a technique for determining samples based on chance, that is, any patient who coincidentally meets the researcher can be used as a sample, if it is deemed that the person they accidentally met is suitable as a data source. (Sugiyono, 2017). The reason for taking Accidental sampling is because according to Sugiyono (2017).

This research will use two data collection procedures, namely: Questionnaire, Literature Study, and observation. Literature study or literature can be interpreted as a series of related activities, and observation is used to observe the implementation of tasks related to tasks and work.

The method of collecting data for primary data is by using a questionnaire. Primary data collected consisted of respondent characteristics, behavior for early detection of diabetes mellitus in pregnancy, perceived vulnerability, perceived seriousness, benefits, barriers, encouragement to act, knowledge and age of respondents. Secondary data from the KIA book for pregnant women to see the results of blood sugar checks. In the process of collecting data, researchers carried out several stages, namely: The instruments used in this research were writing tools and a questionnaire containing statements to measure the dependent variable of early detection of diabetes mellitus in pregnancy and the independent variables, namely perception of vulnerability, perception of seriousness, benefits, obstacles, encouragement to action, knowledge and age of the respondent. The questionnaire that will be used in this research is the Health Belief Models (HBM) questionnaire which has been used in research conducted by (Nijhof, 2008) with the title Determinants of the Use of a Diabetes Risk-Screening Test and for the knowledge questionnaire it is the questionnaire that has been used in research conducted by (Alharthi, Althobaiti, & Alswat, 2018) entitled Gestational Diabetes Mellitus Knowledge Assessment among Saudi Women. The Health Belief Models questionnaire in this study includes perception statements using a Likert scale with 4 unfavorable statements and 26 favorable statements. Each favorable statement has a weight value of SS = 4, S = 3, TS = 2, and STS = 1 and each unfavorable statement has a weight value of SS = 1, S = 2, TS = 3, and STS = 4. Meanwhile, for the knowledge variable, every correct question will get 1 point and every wrong question will get 0 points.

The data obtained was then analyzed using a computer statistical program including univariate analysis, used to describe the characteristics of each variable studied, namely the independent and dependent variables. Univariate analysis of categorical data (competence, level of implementation of health care activities, gender, education and training) was carried out using percentage or proportion measures. Meanwhile, analysis of data in numerical form (age and length of service) looks at the mean, median, standard deviation and minimum-maximum values (Hastono, 2016). Bivariate analysis is an analysis of two or more variables. Bivariate analysis is used to test the relationship between independent variables and dependent variables. The bivariate analysis in this study examined the relationship between the perceptions of pregnant women in carrying out early detection of Gestational Diabetes Mellitus at the Plumbon Health Center, South Tangerang in 2019. The bivariate analysis used in this study used the Chi Square statistical test. The Chi Square test was carried out to see whether there was an association between two categorical data. In this test, the independent variable is said to have a meaningful relationship with the dependent variable if the P-value is <0.05 and there is no significant relationship if the P-value is >0.05 .

There are 44 questions in this research questionnaire which include 7 questions about perceived

vulnerability, 6 questions about perceived seriousness, 6 questions about perceived benefits, 5 questions about perceived barriers, 8 questions about encouragement to act and 12 questions about knowledge regarding Gestational Diabetes Mellitus.

The validity test is carried out by correlating each item score with the total score using the Product Moment Correlation technique. The test criterion is that if the correlation coefficient r_{xy} is greater than the Product Moment r_{table} , it means that the questionnaire items are declared valid and declared valid as a data collection tool. Validity test with a sample size of $n = 107$ and a significance level ($\alpha = 0.05$) shows that the r_{table} value is 0.197. An overview of the r_{xy} calculation results as output from the SPSS 26.0 for Windows program can be seen in the table below.

Table 1. Validity Test Results

t	Item	Nilai Korelasi (r hitung)	r tabel (N = 107 ; $\alpha = 5\%$)	Keterangan
	Y1.1	0.528	0.197	valid
	Y1.2	0.517	0.197	valid
Persepsi Kerentanan (Y1)	Y1.3	0.699	0.197	valid
	Y1.4	0.455	0.197	valid
	Y1.5	0.741	0.197	valid
	Y1.6	0.642	0.197	valid
	Y2.1	0.558	0.197	valid
Persepsi keseriusan (Y2)	Y2.2	0.581	0.197	valid
	Y2.3	0.513	0.197	valid
	Y2.4	0.646	0.197	valid
	Y2.5	0.744	0.197	valid
	Y2.6	0.586	0.197	valid
Persepsi manfaat (Y3)	Y3.1	0.432	0.197	valid
	Y3.2	0.837	0.197	valid
	Y3.3	0.872	0.197	valid
	Y3.4	0.878	0.197	valid
	Y3.5	0.817	0.197	valid
Persepsi hambatan (Y4)	Y4.1	0.655	0.197	valid
	Y4.2	0.751	0.197	valid
	Y4.3	0.501	0.197	valid
	Y4.4	0.737	0.197	valid
	Y4.5	0.56	0.197	valid
Dorongan Melakukan (Y5)	Y5.1	0.735	0.197	valid
	Y5.2	0.722	0.197	valid
	Y5.3	0.258	0.197	valid
	Y5.4	0.706	0.197	valid
	Y5.5	0.591	0.197	valid
	Y5.6	0.812	0.197	valid
	Y5.7	0.669	0.197	valid
	Y5.8	0.69	0.197	valid
Pengetahuan (Y6)	Y6.1	0.526	0.197	valid
	Y6.2	0.558	0.197	valid
	Y6.3	0.54	0.197	valid

t	Item	Nilai Korelasi (r hitung)	r tabel (N = 107 ; $\alpha = 5\%$)	Keterangan
	Y6.4	0.61	0.197	valid
	Y6.5	0.47	0.197	valid
	Y6.6	0.576	0.197	valid
	Y6.7	0.566	0.197	valid

From the results of the product moment correlation calculation in the table above, it can be seen that the score for each statement is significantly correlated with the total score, indicated by the calculated r being greater than the r table. So it can be concluded that all question items are valid so they can be used as a data collection tool for this research.

Reliability tests are used to measure the level of consistency of respondents' answers so that they produce the same data and can be used to measure repeatedly. To test the reliability of the instrument, Alpha Cronbach reliability was used using the SPSS application program. Questionnaire reliability testing was carried out using the Alpha-Cronbach formula. The test criteria state that if the Alpha-Cronbach value is greater than 0.6 then the questionnaire items are declared reliable. The summary of the interpretation of the reliability of the questionnaire according to the SPSS output is in the table below.

Table 3. Reliability Test Results

Variabel	Alpha-Cronbach	Information
Perception of Vulnerability (Y1)	0.65	Reliable
Perception of seriousness (Y2)	0.656	Reliable
Perceived benefits (Y3)	0.808	Reliable
Perception of obstacles (Y4)	0.641	Reliable
The Urge to Do (Y5)	0.795	Reliable
Knowledge (Y6)	0.623	Reliable

From the table above it is known that the Alpha-Cronbach value for all variables is greater than 0.6. In this way, all questionnaire items are declared reliable so that they are declared good and suitable for use as a data collection tool.

Research Overview and Discussion of Results

Plumbon Community Health Center is one of the Community Health Centers in Indramayu Regency, with a total of 49 Community Health Centers. Plumbon Health Center has 9 villages in Indramayu sub-district. Below is a table of the population and number of pregnant women spread across 9 villages in the working area of the Plumbon Health Center.

Table 4. Population and Number of Pregnant Women at Plumbok Health Center

No.	Village	Total Population	Number of Pregnant Women
1.	Telukagung	5.300	81
2.	Plumbon	5.600	85
3.	Dukuh	2.900	44

4.	Pekandangan Jaya	5.101	78
5.	Pekandangan	7.000	106
6.	Kepandean	2.300	35
7.	Bojongsari	4.900	75
8.	Singajaya	10.100	155
9.	Singaraja	6.600	101
	Total number	49.801	760

The number of pregnant women in Indramayu Regency has decreased every year from 2016 as many as 43,102 pregnant women, 2017 as many as 30,418 pregnant women, in 2018 as many as 29,942 pregnant women, and as many as 29,476 pregnant women in 2019 (Indramayu Health Profile, 2020). Based on data from the Indramayu District Health Service, the number of pregnant women in 2019 was 29,476 whose blood sugar was checked, 3,121 (10.5%). The Plumbon health center area has a fairly large number of diabetes mellitus cases compared to other health centers in Indramayu district.

Description of Behavior for Early Detection of Gestational Diabetes Mellitus in Pregnant Women in the Work Area of Plumbon Health Center, Indramayu Regency in 2024.

Pregnant women in the Plumbon South Tangerang Community Health Center working area in 2019 had different behaviors in carrying out Diabetes Mellitus examinations during pregnancy, some carried out examinations and others did not. The following are the results of research regarding the behavior of early detection of Gestational Diabetes Mellitus in pregnant women in the working area of the Plumbon Health Center, South Tangerang in 2019

Table 5. Early Detection Behavior of Gestational Diabetes Mellitus in Pregnant Women in the Plumbon Health Center Working Area

Early Detection Behavior	n	%
No	30	28
Yes	77	72
Total	107	100

Table 5 shows that of the 107 pregnant women, 72% had early detection of Gestational Diabetes Mellitus and 28% did not have early detection of Gestational Diabetes Mellitus.

Description of the age of pregnant women at the Plumbon health center, Indramayu district in 2024

The table below shows the age distribution of pregnant women at risk and not at risk in the Plumbon Health Center Work Area, Indramayu Regency in 2024.

Table 6. Description of the Age of Pregnant Women at the Plumbon Health Center

Age	n	%
< 25	47	43,9
≥25	60	56,1
Total	107	100

From table 6 it can be seen that of the 107 respondents, 43.9% (47 pregnant women) were less than 25 years old and 56.1% (60 pregnant women) were more than or equal to 25 years old.\)

Overview of Pregnant Women's Education at the Plumbon health center, Indramayu district in 2024

The table below shows the distribution of educational levels of pregnant women in the Plumbon Health Center Working Area, Indramayu Regency in 2024.

Table 7. Description of the Education Level of Pregnant Women at the Plumbon Health Center

Level of education	n	%
SD	21	19,6
SMP	37	34,5
SMA	41	38,4
College	8	7,5
Total	107	100

From table 7 it shows that the highest level of education for pregnant women is high school as many as 41 people (38.4%), while the lowest is university level as many as 8 people (7.5%).

Job description of pregnant women at the Plumbon health center, Indramayu district in 2024

The table below shows the distribution of employment for pregnant women in the Plumbon Health Center Work Area, Indramayu Regency in 2024.

Table 8. Description of Pregnant Women's Work at the Plumbon Health Center

Job	n	%
Doesn't work	52	48,6
Self-employed	6	5,6
Employee	6	5,6
Civil servants	1	0,9
Other	42	39,3
Total	107	100

From table 8 it shows that there are 52 pregnant women who do not work (48.6%) and the least number of people as civil servants is 1 person (0.9%).

Description of the income level of pregnant women at the Plumbon health center, Indramayu district in 2024

The table below shows the income distribution of pregnant women in the Plumbon Health Center Work Area, Indramayu Regency in 2024.

Table 9. Description of Income Levels of Pregnant Women at Plumbon Health Center

Income	n	%
< Rp. 3.555.000	85	79.4
≥Rp. 3.555.000	22	20.6
Total	107	100

From table 9 it shows pregnant women whose income level is < Rp. 3,555,000 as many as 85 people

(79.4%) and whose income level was \geq Rp. 3,555,000 as many as 22 people (20.6%).

Description of Knowledge of Pregnant Women at the Plumbon health center, Indramayu district in 2024

In the category of knowledge of pregnant women, it relates to everything about Gestational Diabetes Mellitus such as risk factors, diagnosis, treatment and complications that occur if pregnant women suffer from Gestational Diabetes Mellitus. The table below shows the income distribution of pregnant women in the Plumbon Health Center Work Area, Indramayu Regency in 2024.

Table 10. Description of Pregnant Women's Knowledge about DMG at Plumbon Health Center

Knowledge	n	%
Height	72	67.3
Low	35	32.7

From table 10, it shows that pregnant women who have high knowledge about Gestational Diabetes Mellitus are 67.3% (72 people) and 32.7% of them have low knowledge regarding Gestational Diabetes Mellitus.

Description of the Perception of Gestational Diabetes Mellitus Vulnerability among Pregnant Women in the Work Area of the Plumbon Health Center, Indramayu Regency in 2024.

In this study, perceptions of vulnerability include statements related to opportunities, health threats, worries, potential for disease, anxiety, and vulnerability to developing Gestational Diabetes Mellitus.

Table 11. Description of Perceptions of DMG Disease Susceptibility in Pregnant Women at the Plumbon Health Center

Vulnerability	n	%
Negative	49	45.8
Positive	58	54.2
Total	107	100

Based on table 11, it is known that as many as 54.2% of pregnant women feel a high susceptibility to Gestational Diabetes Mellitus. Meanwhile, 45.8% felt they were not susceptible to Gestational Diabetes Mellitus.

Description of the Perception of the Seriousness of Gestational Diabetes Mellitus in Pregnant Women in the Work Area of the Plumbon Health Center, Indramayu Regency in 2024.

In this study, the perception of seriousness was measured through statements regarding the influence and negative impacts of Gestational Diabetes Mellitus that occurred

Table 12. Description of the Perception of the Seriousness of DMG in Pregnant Women at the Plumbon Health Center

Perception of Seriousness	n	%
Negative	33	30.8
Positive	74	69.2
Total	107	100

Based on table 12, it is known that out of 107 pregnant women, 69.2% (74 people) considered

that Gestational Diabetes Mellitus was a serious disease. Meanwhile, 30.8% (33 people) of pregnant women considered that Gestational Diabetes Mellitus was not a very serious disease.

Description of the Perception of the Benefits of Early Detection of Gestational Diabetes Mellitus in Pregnant Women in the Work Area of the Plumbon Health Center, Indramayu Regency in 2024.

In this study, the perception of the benefits of early detection was assessed through a statement of the benefits and impacts that occur when carrying out early detection of Gestational Diabetes Mellitus.

Table 13. Description of Perceptions of the Benefits of Early Detection of DMG for Pregnant Women at the Plumbon Health Center

Perception of Benefits	n	%
Negative	68	63.6
Positive	39	36.4
Total	107	100

Based on the 13 above, it is known that out of 107 pregnant women, 63.6% (68 people) considered that early detection of Gestational Diabetes Mellitus had little benefit. Meanwhile, 30.8% (33 people) of pregnant women considered that early detection of Gestational Diabetes Mellitus had great benefits.

Description of Perceptions of Barriers to Early Detection of Gestational Diabetes Mellitus in Pregnant Women in the Work Area of the Plumbon Health Center, Indramayu Regency in 2024.

Perceptions of barriers in this research were assessed through statements regarding the time to carry out early detection, fear in carrying out early detection, fear in knowing about the disease, fear in the treatment that will be carried out if you have Gestational Diabetes Mellitus.

Table 14. Description of Perceptions of Barriers to Early Detection of DMG in Pregnant Women at Plumbon Health Center

Perception of Barriers	n	%
Negative	58	54.2
Positive	49	45.8
Total	107	100

Based on table 14, it is known that 54.2% of pregnant women stated that there were no high barriers to early detection of diabetes mellitus. Meanwhile, 45.8% of pregnant women stated that there were obstacles.

Description of the Encouragement for Early Detection of Gestational Diabetes Mellitus in Pregnant Women in the Work Area of the Plumbon Health Center, Indramayu Regency in 2024.

Encouragement for early detection in this study was measured by statements related to general information obtained, symptoms felt, the number of early detection behaviors by other pregnant women, support from husbands, parents and good friends.

Table 15. Description of the Encouragement to Implement DMG for Pregnant Women at the Plumbon Health Center

Encouragement	n	%
Negative	42	39.3
positive	65	60.7
Total	107	100

Based on table 15, it is known that 60.7% of pregnant women stated that there was a high incentive to carry out early detection of diabetes mellitus. Meanwhile, 39.3% of pregnant women stated that they did not have the urge to do so.

Variable Relationship with Early Detection Behavior

Table 16. Relationship between Research Variables and Early Detection Behavior of DMG

Variable		Early Detection Behavior (X)		p Value	Odd Ratio	Decision
		No	Yes			
Age	< 25	16	31	0.221	1.696	Not Significantly Related
	>= 25	14	46			
Last education	SD	5	16	0.269		Not Significantly Related
	SMP	12	25			
	SMA	13	28			
	College	0	8			
Work	No			0.358		Not Significantly Related
	Work	14	38			
	Self-employed	1	5			
	employee	0	6			
	Civil servants	0	1			
Lainnya	15	27				
Income level	< Rp. 3.555.000	24	56	0.271	1.929	Not Significantly Related
	>= Rp. 3.555.000	4	18			
Perception of Vulnerability (Y1)	Negative	19	30	0.023	2.706	Not Significantly Related
	positive	11	47			
Perception of seriousness (Y2)	Negative	16	17	0.002	4.034	Not Significantly Related
	positive	14	60			
Perceived benefits (Y3)	Negative	24	44	0.027	3	Not Significantly Related
	positive	6	33			
Perception of obstacles (Y4)	Negative	22	36	0.013	3.132	Not Significantly Related
	positive	8	41			
The Urge to Do (Y5)	Negative	17	25	0.021	2.72	Not Significantly Related
	positive	13	52			

Variable	Early Detection Behavior (X)		p Value	Odd Ratio	Decision
	Low	Height			
Knowledge (Y6)	Low	25 47	0.027	3.191	Not Significantly Related
	Height	5 30			

From table 17, it can be seen that the characteristics of respondents, namely age, education level, occupation and income level, do not have a significant relationship with early detection behavior for Gestational Diabetes Mellitus.

The relationship between knowledge and behavior in early detection of gestational diabetes mellitus in pregnant women at the Plumbon health center, Indramayu district in 2024

Table 18. Relationship between Knowledge and Early Detection Behavior of DMG at Plumbon Health Center

Variabel	Early Detection Behavior (X)		p Value	Odd Ratio	Decision
	No	Yes			
Knowledge (Y6)	low	25 47	0.027	3.191	Significant Relationship
	Height	5 30			

From table 18 it can be seen that knowledge has a significant relationship with early detection behavior. Respondents with low knowledge had a tendency not to carry out early detection that was 3.191 times higher than those with high knowledge.

Relationship between perceived vulnerability to early detection behavior of Gestational Diabetes Mellitus in pregnant women at the Plumbon health center, Indramayu district in 2024

Table 19. Relationship between Perceptions of Susceptibility to Early Detection Behavior of DMG in Pregnant Women at Plumbon Health Center

Variabel	Perilaku Deteksi Dini (X)		p Value	Odd Ratio	Decision
	Tidak	Ya			
Perception of Vulnerability (Y1)	Negative	19 30	0.023	2.706	Significant Relationship
	positive	11 47			

From table 19 it can be seen that perceived vulnerability has a significant relationship with early detection behavior. Respondents with negative vulnerability perceptions had a tendency not to carry out early detection that was 2.706 times higher than those with positive vulnerability perceptions.

Relationship between perceptions of seriousness and early detection behavior of Gestational Diabetes Mellitus in pregnant women at the Plumbon health center, Indramayu district in 2024

Table 20. Relationship between Perceived Seriousness and Early Detection Behavior of DMG in Pregnant Women at the Plumbon Health Center

Variabel		Perilaku Deteksi Dini (X)		p Value	Odd Ratio	Decision
		No	Yes			
Perception of seriousness (Y2)	Negative	16	17	0.002	4.034	Significant Relationship
	positive	14	60			

From table 20 it can be seen that the perception of seriousness has a significant relationship with early detection behavior. Respondents with a negative perception of seriousness had a tendency not to carry out early detection that was 4.034 times higher than those with a positive perception of seriousness.

Relationship between perceived benefits and early detection behavior of Gestational Diabetes Mellitus in pregnant women at the Plumbon health center, Indramayu district in 2024

Table 21. Relationship of Perceived Benefits to Early Detection Behavior of DMG in Pregnant Women at Plumbon Health Center

Variable		Early Detection Behavior (X)		p Value	Odd Ratio	Decision
		No	Yes			
Perceived benefits (Y3)	Negative	24	44	0.027	3	Significant Relationship
	positive	6	33			

Based on table 21, it can be seen that perceived benefits have a significant relationship with early detection behavior. Respondents with negative benefit perceptions have a tendency not to carry out early detection that is 3 times higher than those with positive benefit perceptions.

Relationship between perceived barriers to early detection behavior of Gestational Diabetes Mellitus in pregnant women at the Plumbon health center, Indramayu district in 2024

Table 22. Relationship between Perceived Barriers to Early Detection Behavior of DMG in Pregnant Women at Plumbon Health Center

Variabel		Early Detection Behavior (X)		p Value	Odd Ratio	Decision
		No	Yes			
Perception of obstacles (Y4)	Negative	22	36	0.013	3.132	Significant Relationship
	positive	8	41			

From table 22 it can be seen that perceived barriers to early detection behavior of Gestational Diabetes

Mellitus have a significant relationship with early detection behavior. Respondents with negative perception of barriers have a tendency not to carry out early detection that is 3.132 times higher than those with positive perception of barriers.

Relationship Encouragement to carry out early detection of Gestational Diabetes Mellitus in pregnant women at the Plumbon health center, Indramayu district in 2024

Table 23. Relationship between Encouragement to Carry out Early Detection of DMG in Pregnant Women at the Plumbon Health Center

Variable	Early Detection Behavior (X)		p Value	Odd Ratio	Decision
	No	Yes			
The Urge to Do (Y5)	Negative	17	0.021	2.72	Significant Relationship
	positive	13			

Based on table 23, it can be seen that the encouragement to carry out early detection of Gestational Diabetes Mellitus has a significant relationship with early detection behavior. Respondents with negative encouragement had a tendency not to carry out early detection that was 2.72 times higher than those with positive encouragement.

Discussion

Description of the Age of Pregnant Women and Its Relationship with Early Detection Behavior of Gestational Diabetes Mellitus in the Working Area of the Plumbon Health Center, Indramayu Regency in 2024.

According to (Ministry of Health, 2020) the age of pregnant women is categorized into two, namely age at risk and age not at risk. The age at risk is too young and too old, with the age range for pregnant women being too young, less than 20 years and too old, more than 35 years. Meanwhile, the age that is not at risk or reproductive age is the age of pregnant women between 20-35 years. For Gestational Diabetes Mellitus, based on the International Conference in Chicago (1998) it was determined that the age of pregnant women who are at risk of developing Gestational Diabetes Mellitus is over 25 years of age.

The results of the univariate analysis in this study showed that 60 (56.1%) pregnant women in the Plumbon Health Center working area of Indramayu Regency were at risk, namely ≥ 25 years old and 47 (43.9%) pregnant women were not at risk, namely age < 25 years. From the results of the bivariate analysis, it is known that there were 14 pregnant women at risk who did not carry out early detection (23.3%) out of 60 people. Meanwhile, there were 16 pregnant women who were not at risk and did not carry out early detection (51.6%) out of 31 people. The statistical test results show a probability value of 0.221. This means that at an alpha of 5% it is known that there is no significant relationship between age and the behavior of early detection of Gestational Diabetes Mellitus in pregnant women in the working area of the Plumbon Health Center, Indramayu Regency in 2024.

In line with research conducted by (Novita Anggraini & Margareta Haiti, 2024) shows that a p value of 0.361 is more than 0.05, which means there is no significant relationship between age and blood sugar level tests in pregnant women and a p value of 0.256 is more than 0.05, which means there is no significant relationship between parity and blood sugar levels in pregnant women. Likewise, research results (Pakasi, 2019) show that there is no significant relationship between age and early detection behavior of gestational diabetes mellitus in pregnant women in the Pamulang Health Center working area, South Tangerang in 2019, with a probability value of 0.197.

However, this research is not in line with research conducted by (Rahmawati et al., 2016) where

there was a relationship between age and Gestational Diabetes Mellitus screening behavior in the United States. There is a significant relationship between age and Gestational Diabetes Mellitus Screening (p value ≤ 0.05 , namely 0.02). In addition, research conducted by Cullinan et al (2012) also states that there is a relationship between age and Gestational Diabetes Mellitus screening behavior in Ireland. The statistical test results in this research show a p value of 0.000.

Differences in research results can occur because there are differences in determining the age at risk of developing Gestational Diabetes Mellitus in each country. Based on research conducted (Li et al., 2020) the risk of Gestational Diabetes Mellitus shows a linear relationship with maternal age ($P_{trend} < 0.001$). For every one-year increase in maternal age from 18 years, the risk of GDM in the overall, Asian, and European populations increased by 7.90%, 12.74%, and 6.52%, respectively. Subgroup analysis showed that from the age of 25 years, Asian women had a higher risk of developing Gestational Diabetes Mellitus than European women (all interactions < 0.001). Research conducted by (Brody, 2005) states that the age of pregnant women over 25 years is one of the risk factors for Gestational Diabetes Mellitus. In line with research conducted by (Saputro, 2007) stated that of the 21 mothers studied, 71.42% of mothers with Gestational Diabetes Mellitus were around 25-35 years old.

Description of knowledge of pregnant women regarding early detection of Gestational Diabetes Mellitus at the Plumbon health center, Indramayu district in 2024

Knowledge is a very important domain for the formation of one's actions. Knowledge is the result of human sensing, or the result of a person's knowledge of objects through the senses they have (eyes, nose, ears, and some of them). The time from sensing to producing knowledge is greatly influenced by the intensity of perception of the object. Most of a person's knowledge is obtained through the sense of hearing (ears) and the sense of sight (eyes) (Notoatmodjo, 2012). The knowledge referred to in this research includes knowledge about risk factors, diagnosis, treatment and complications that occur if pregnant women suffer from Gestational Diabetes Mellitus. Lack of knowledge about Gestational Diabetes Mellitus can influence the behavior of pregnant women, so that the symptoms they feel are not consulted with health workers and resolved (Masruroh, 2016).

The results of univariate analysis in this study showed that 67.3% of pregnant women had low knowledge (72 respondents) and 32.7% of pregnant women had high knowledge (35 respondents) about Gestational Diabetes Mellitus. This research shows that around 67.3% of pregnant women do not know the risks of Gestational Diabetes Mellitus, do not know the standard tests for screening for Gestational Diabetes Mellitus and do not know the optimal time to screen for Gestational Diabetes Mellitus. The results of the bivariate analysis in this study showed that there were 30 out of 35 pregnant women with high knowledge and early detection of Gestational Diabetes Mellitus (85.7%). Meanwhile, there were 25 out of 72 pregnant women with low knowledge and no early detection (34.7%). The statistical test results show a probability value of 0.027, meaning that there is a significant relationship between knowledge and the behavior of early detection of Gestational Diabetes Mellitus in pregnant women in the working area of the Plumbon Health Center, Indramayu Regency.

This research is in line with research conducted by (Wafa et al., 2023). A total of 539 women were involved in this study, covering various age groups ranging from under 20 years to over 40 years, with the incidence of pregnancy ranging from one to four times. Most participants demonstrated strong knowledge, with 410 (76.1%) indicating awareness of GDM, and 382 (70.9%). Shows that there is a very significant relationship between knowledge and attitudes regarding GDM among participants ($p = < 0.001$). However, in contrast to Pakasi's (2019) research results, it was found that pregnant women had high knowledge about Gestational Diabetes Mellitus, namely 68.1% and 31.9% of them had low knowledge. The statistical test results showed a probability value of 0.533. This means that there is no significant relationship between knowledge and the behavior of early detection of Gestational Diabetes Mellitus in pregnant women in the Pamulang Health Center working area, South Tangerang in 2019.

Description of Behavior for Early Detection of Gestational Diabetes Mellitus in Pregnant Women in the Work Area of Plumbon Health Center, Indramayu Regency in 2024

Gestational Diabetes Mellitus is a collection of symptoms that arise in pregnant women caused by an increase in blood glucose levels due to a progressive decrease in insulin secretion (Perkeni, 2019). Pregnant women who suffer from Gestational Diabetes Mellitus will have negative impacts on themselves and their babies. Pregnancy complications will increase in mothers with Gestational Diabetes Mellitus. Apart from the pregnancy phase, it also has a negative impact during the birth phase and even after giving birth. Management of Gestational Diabetes Mellitus does not only focus on control and treatment but must also focus on prevention.

Early detection of Gestational Diabetes Mellitus is important to help improve the health of mothers and babies. Research conducted by Landon et al (2010) shows that glycemic management and control carried out early in pregnant women can reduce the impact of pregnancy with Gestational Diabetes Mellitus. In Indonesia, early detection of Gestational Diabetes Mellitus in pregnant women who have risk factors for GDM is carried out twice, namely in the first trimester and at weeks 24-28 or the third trimester. Meanwhile, for pregnant women who do not have a risk of Gestational Diabetes Mellitus, early detection is only carried out at week 24-28 or the third trimester (Ministry of Health, 2013). At the Plumbon Community Health Center, early detection of Gestational Diabetes Mellitus is carried out on all pregnant women, both those at risk and those not at risk, in the first trimester. The diagnosis of Gestational Diabetes Mellitus at the Plumbon Health Center is made in the first trimester if the blood glucose level is >180 mg/dl. If the results are negative, early detection will be carried out again in the third trimester or 32 weeks of gestation with a diagnosis made if the blood glucose level is >180 mg/dl. If the results are positive, the pregnant woman will be referred to the general practitioner at the Plumbon health center. However, providing early detection is not optimal because it only uses Time Blood Sugar (GDS), and does not use the Oral Glucose Tolerance Test (OGTT), which is the gold standard.

In this study, not all pregnant women carried out early detection of GDM. The results of the univariate analysis in this study showed that out of 107 pregnant women, 77 (72%) pregnant women in the Plumbon Community Health Center work area had early detection of Gestational Diabetes Mellitus and as many as 30 (28%) pregnant women did not carry out early detection of Gestational Diabetes Mellitus.

A history of irregular antenatal care and there are pregnant women who check their pregnancies at various health service places outside the Plumbon Community Health Center are the reasons why not all pregnant women carry out early detection of Gestational Diabetes Mellitus.

Apart from that, attitudes or beliefs regarding pregnancy services also influence the use of health services (Notoatmodjo, 2012). Most pregnant women will go to health services, especially community health centers, when they feel sick, even though the function of community health centers is not only curative but primarily promotive and preventive. Gestational Diabetes Mellitus mostly has no symptoms, so pregnant women feel healthy and do not use health services. Pregnant women who have positive attitudes/beliefs regarding antenatal care services will utilize these services and conversely, pregnant women with negative attitudes/beliefs or are unsure about the benefits of antenatal care services will not utilize these services (Pattiasina, 2019).

Relationship between perceived susceptibility to early DMG detection behavior among pregnant women at the Plumbon health center, Indramayu district in 2024

Perception of vulnerability in this study is the perception of pregnant women about the threat of gestational diabetes mellitus. Based on the Health Belief Models theory, the higher a person's perception regarding perceived vulnerability, the greater the perceived threat, so the greater the possibility of behaving to overcome or prevent the problem from arising. Based on the results of this study, pregnant women who had a high perception of their own vulnerability related to gestational diabetes mellitus were 54.2% and had a low perception of vulnerability related to gestational diabetes mellitus at 45.8%. The results of the bivariate analysis showed that 47 out of 58 pregnant women felt high vulnerability and carried out early detection (81%). Meanwhile, there were 19 out of 49 pregnant women who felt they were not very vulnerable and did not carry out early detection (38.8%). It is known that the p value of 0.023 shows that there is a significant relationship between perceived vulnerability and early detection

behavior for gestational diabetes mellitus.

In line with research by Sumarni et al (2024), it is known that as many as 55.1% of pregnant women feel a high susceptibility to gestational diabetes mellitus. Meanwhile, 44.9% felt they were not too susceptible to gestational diabetes mellitus and there was a significant relationship with early detection behavior of GDM.

Based on research (Vazini, 2015) conducted in Iran, it shows the same results that diabetes patients have moderate levels of self-care behavior. The results also show that the vulnerability felt by respondents has a significant relationship ($P < 0.05$). The greater the perceived risk, the greater the likelihood of engaging in behavior to reduce the risk. Therefore, encouragement is needed to change health behavior based on perceived vulnerability (Prayitno, 2017)

This is different from Pakasi's (2019) research results. There is a relationship between perceived barriers (p -value = 0.000) and encouragement to act (p -value = 0.012) with the behavior of pregnant women in carrying out early detection of gestational diabetes mellitus. Meanwhile, factors that were not significantly related were age, knowledge, perceived vulnerability, perceived seriousness and perceived benefits.

Relationship between perceptions of seriousness and early detection behavior of Gestational Diabetes Mellitus in pregnant women at the Plumbon health center, Indramayu district in 2024

The perception of seriousness in this study is the perception of pregnant women regarding the level of severity caused by gestational diabetes mellitus. The results of this study showed that of the 107 pregnant women, 69.2% of them had a high perception of the seriousness of gestational diabetes mellitus and 30.8% had a low perception of the seriousness of gestational diabetes mellitus. In the bivariate analysis, it was found that 60 out of 74 pregnant women considered that gestational diabetes mellitus was a serious disease and carried out early detection. Meanwhile, there were 16 out of 33 pregnant women who considered that gestational diabetes mellitus was a disease that was not too serious and did not carry out early detection. The p value in the bivariate analysis was found to be 0.002, so it can be concluded that there is a significant relationship between the perception of seriousness and early detection behavior for gestational diabetes mellitus. This research shows that the high number of pregnant women who have the desire to prevent Gestational Diabetes Mellitus, because the effects of Gestational Diabetes Mellitus are very dangerous for both the mother and the baby, however only 72% of pregnant women carry out early detection. So it can be concluded that in this study the desire in pregnant women to prevent gestational diabetes mellitus is quite high, but many pregnant women have not yet realized how to turn this desire into action.

This research is in line with research conducted (Adejoh, 2014) which states that there is a significant positive relationship between perceived seriousness (0.549, $p = 0.000$), perceived benefits (12.383, $p = 0.000$), and diabetes management in Nigeria. The same results also occurred in research conducted by Mahmoud et al (2018) that there was a relationship between the perception of the seriousness of the barrier ($p=0.001$) and compliance behavior in carrying out diabetes therapy regimens. Perceptions of seriousness are often based on medical information or knowledge, and can also originate from a person's belief that he or she will experience difficulties due to the disease and will have an impact on his or her life in general (Priyoto, 2014).

Perception of Benefits of Early Detection Behavior for Gestational Diabetes Mellitus in Pregnant Women at Plumbon Community Health Center, Indramayu Regency in 2024

Perceived benefit is a person's perception of the value or usefulness of a new behavior in reducing the risk of disease (Prayitno, 2017). Health behavior change depends on a person's view of the health benefits of taking health actions. Someone will definitely take an action that is beneficial for themselves. The more benefits, the more someone wants to take action. The perceived benefits in this research are the perceptions of pregnant women regarding the advantages or benefits obtained if early detection of gestational diabetes mellitus is carried out (Prayitno, 2017).

The univariate results in this study showed that out of 107 pregnant women, 39 (36.5%) pregnant

women had a high perception of benefits and 68 (63.5%) pregnant women had a low perception of benefits. In this study, pregnant women who considered that early detection of gestational diabetes mellitus had high benefits and carried out early detection were 33 out of 39 people (84.6%). Meanwhile, there were 24 pregnant women who considered that early detection of gestational diabetes mellitus was not very beneficial and did not carry out early detection as many as 24 out of 68 people (35.3%). It is known that the p value in the statistical test is 0.027, indicating that there is a significant relationship between perceived benefits and early detection behavior for gestational diabetes mellitus.

This research is in line with research conducted by (Grispen et al, 2011) in the Netherlands which stated that there was a relationship between benefits and blood sugar testing behavior. Research conducted by (Mohammed, et al, 2018) also states that there is a relationship between perceived benefits and compliance behavior in carrying out diabetes therapy regimens. The results of this research show a pvalue of 0.002. Likewise, the results of research conducted by (Liu et al, 2019) mothers in China are more likely to have postpartum glucose checks if they are first-time mothers, have a high perception of benefits, the p value is 0.001 so it can be concluded that there is a significant relationship related to the perceived benefits felt by mothers who have experienced gestational diabetes mellitus with blood sugar screening after 6 months postpartum.

In contrast to research conducted by (Khiyali et al, 2017) with an analytical intervention study design which stated that there was no relationship between the perceived benefits of pregnant women before the intervention and gestational diabetes mellitus prevention behavior in Iran. The results of this research showed a p value of 0.59. People tend to adopt healthier behavior when they believe that the new behavior will reduce their risk of developing a disease (Hayden, 2009).

Perception of Barriers to Early Detection Behavior of Gestational Diabetes Mellitus in Pregnant Women at Plumbon Community Health Center, Indramayu Regency in 2024

People who feel high barriers usually tend to have poor disease prevention and self-management. Likewise, people who feel low barriers will tend to have good disease prevention and self-management behavior (Hartzler et al., 2014). Perceptions of barriers in this research are statements from pregnant women regarding obstacles or disturbances experienced in carrying out early detection of gestational diabetes mellitus. Perceived barriers can become an obstacle for pregnant women in efforts to prevent gestational diabetes mellitus and hinder pregnant women from carrying out healthy behavior.

The research results showed that pregnant women with high perceived barriers were 45.8% and 54.2% with low perceived barriers. In this study, there were 41 out of 49 pregnant women with high barriers and early detection (83.7%). Meanwhile, there were 22 out of 58 pregnant women who perceived low barriers and did not carry out early detection (37.9%). The statistical test results were found to be 0.013, indicating that there is a significant relationship between perceived barriers and early detection behavior for gestational diabetes mellitus in the Plumbon Health Center working area, Indramayu Regency in 2024.

This research is in line with that conducted by (Buckley et al., 2012) that screening practices and policies are inconsistent across Europe, this is hampered by a lack of consensus regarding test methods, diagnostic glycemic thresholds, and the importance of routine screening. Low awareness of doctors regarding gestational diabetes, its diagnosis, and local clinical guidelines further weakens the detection of gestational diabetes. Likewise, research conducted by Hartzler et al (2014) with a p value of $p > 0.05$ thus states that there is a significant relationship between barriers and the use of diabetes mellitus tests in the Netherlands. However, this research is not in line with research conducted by (Khiyali et al., 2017) with an intervention analytic study design which stated that there was no relationship between perceptions of barriers for pregnant women before intervention and gestational diabetes mellitus prevention behavior in Iran. The results of this research showed a p value of 0.40. If the obstacles and difficulties in carrying out early detection are carried out, these difficulties will turn into convenience. The sooner the disease is recognized, the easier it will be to treat.

Encouragement to carry out early detection of gestational diabetes mellitus in pregnant women at

the Plumbon Health Center, Indramayu Regency in 2024

Impulses to act are events, people or things that move people to change their behavior (Prayitno, 2017). The encouragement to act in this research is something that can motivate pregnant women to carry out early detection of gestational diabetes mellitus. And this encouragement is obtained from general information, obtained from school, husband, parents, good friends, and from fellow pregnant women. Support provided by family and those closest to them can encourage someone to prevent Diabetes Mellitus (Dehghani-Tafti et al., 2015). This signal will later result in real action if someone is confident and really wants to make changes or prevent Diabetes Mellitus (Lestari et al., 2018). Support from family and community creates positive changes in behavior and can effectively improve pregnancy care behavior and empower women (Ayun et al., 2020).

Based on this research, it was found that pregnant women in the working area of the Plumbon Health Center, Indramayu Regency 2024, had a high urge to act, amounting to 60.7% and 39.3% had a low urge to act. In this study, there were 52 out of 65 pregnant women with a high urge to act and carry out early detection (80%). Meanwhile, there were 17 pregnant women out of 42 pregnant women who had a low urge to act and did not carry out early detection (40.5%). The results of the statistical test were found to be 0.021, this shows that there is a significant relationship between encouragement to act and the behavior of early detection of Gestational Diabetes Mellitus in the Plumbon Health Center working area, Indramayu district in 2024. In this research, there was encouragement from Plumbon health center health workers for pregnant women to carry out detection. early Gestational Diabetes Mellitus, however, due to the history of irregular antenatal care and there are pregnant women who have their pregnancies checked at various health service places outside the Plumbon Community Health Center, this is the reason why not all pregnant women carry out early detection of Gestational Diabetes Mellitus. If the results of early detection in the first trimester are negative, health workers at the Plumbon health center will carry out early detection in the third trimester. However, if the results of early detection are positive, the pregnant woman will be referred from the KIA polyclinic to the general practitioner clinic at the Plumbon health center.

This research is in line with research conducted by (Grispen et al., 2011) in the Netherlands which states that there is a relationship between the urge to act and blood sugar testing behavior. However, this research is not in line with research conducted by (Mohebbi et al., 2019) before intervention was carried out on pregnant women with gestational diabetes mellitus in Iran which showed that the p value was 0.75, this means there is no relationship between the urge to act and self-management. in pregnant women with gestational diabetes mellitus.

Husband's support is very important in this case because there is still a patriarchal culture, where the husband is the head of the family and the decision maker in the family (Ministry of Health, 2014). In the behavior of carrying out ANC visits, the husband's greatest support is in the form of giving permission to his wife to carry out an antenatal care examination, because in this case the husband's permission is very important for pregnant women to carry out an antenatal care examination. Apart from encouragement from the husband, encouragement from people around him such as parents, close friends and fellow pregnant women also plays an important role (Apriani et al., 2021).

Conclusions

Respondent characteristics, namely age, education, employment and income, do not have a significant relationship with early detection behavior.

Knowledge has a significant relationship with early detection behavior. Respondents with low knowledge had a tendency not to carry out early detection that was 3.191 times higher than those with high knowledge.

Perception of vulnerability has a significant relationship with early detection behavior. Respondents with negative vulnerability perceptions had a tendency not to carry out early detection that was 2.706 times higher than those with positive vulnerability perceptions.

Perception of seriousness has a significant relationship with early detection behavior.

Respondents with a negative perception of seriousness had a tendency not to carry out early detection that was 4.034 times higher than those with a positive perception of seriousness.

Perceived benefits have a significant relationship with early detection behavior. Respondents with negative benefit perceptions have a tendency not to carry out early detection that is 3 times higher than those with positive benefit perceptions.

Perceived barriers have a significant relationship with early detection behavior. Respondents with negative perception of barriers have a tendency not to carry out early detection that is 3.132 times higher than those with positive perception of barriers.

The urge to do so has a significant relationship with early detection behavior. Respondents with negative encouragement had a tendency not to carry out early detection that was 2.72 times higher than those with positive encouragement.

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