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Characteristics of Patients with Depression Among Pregnant Women and Postnatal Mothers at Community Health Centers in the Depok City Service Area in 2025

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Depression; Pregnant women; postpartum mother.

Abstract

Postpartum depression affects more than 1 in every 10 women within one year of giving birth. Other mental health symptoms that can occur during or after pregnancy include anxiety, panic attacks, and psychosis. This study aims to assess the characteristics of depressed patients in pregnant women and postpartum mothers at the Depok City Work Area Puskesmas by 2025. This study is a quantitative research using an analytical descriptive research design with the aim of describing the characteristics of depressive patients in pregnant women and postpartum mothers at the Depok City Regional Health Center totaling 1,368 people. Furthermore, data analysis using univariate analysis with a statistical test, namely the chi square test to determine the existence of a relationship between the data taken and the risk of depression. The results of the Chi-Square test showed a value of $p = 0.016$ ($p < 0.05$), so it can be concluded that there is a significant relationship between age and the incidence of depression in the respondents. The results of the Chi-Square test showed a value of $p = 0.026$ ($p < 0.05$), so it can be concluded that there is a significant relationship between education level and the incidence of depression in the respondents. There is a significant relationship between maternal age and education level and the incidence of depression in pregnant women.

INTRODUCTION

Depression is a result of complex interactions among social, biological, and psychological factors (Alshaya, 2022; Panayiotou et al., 2023; Szymkowicz et al., 2023). Depression is also influenced by physical health conditions. Many physical health factors can contribute to depression, such as lack of physical activity, alcohol use, and chronic diseases including diabetes, cancer, and cardiovascular disease (Sadock et al., 2022).

Depression in prepubertal children usually presents with somatic symptoms, psychomotor agitation, and mood-congruent hallucinations. Depression in adolescents and adults commonly presents with symptoms of anhedonia, hopelessness, psychomotor retardation, and delusions. Depression in adults is also often associated with sleep disturbances and appetite disorders. In adolescents, depression may be accompanied by antisocial behavior, alcohol abuse, or substance addiction and may lead to additional diagnoses such as behavioral disorders and substance use disorders. In addition, symptoms of irritability, restlessness, aggression, social withdrawal, and isolation from peers may occur in adolescents (Sadock et al., 2022).

According to the WHO, depression is the most common mental health disorder worldwide and is characterized by depressed mood or loss of pleasure or interest in activities

for a prolonged period. Depression can affect all aspects of life, including relationships with family, friends, and society. According to WHO data in 2025, it is estimated that 4% of the global population experiences depression, including 5.7% of adults (approximately 4.6% of men and 6.9% of women) and 5.9% of adults aged >70 years. Approximately 332 million people worldwide suffer from depression, and women are 1.5 times more likely to experience depression than men. Globally, >10% of pregnant women and postpartum women experience depression (World Health Organization [WHO], 2025).

In Indonesia, according to the 2018 Riset Kesehatan Dasar (Riskesdas) conducted by the Ministry of Health, the prevalence of depression among the population aged ≥15 years was 6.1%, with the highest prevalence occurring among individuals aged >75 years (8.9%), followed by those aged 65–74 years (8.0%) and 55–64 years (6.5%). The 2018 Riskesdas also reported that the prevalence of depression among the population aged ≥15 years was higher in females (7.4%) than in males (4.7%). In addition, 6.3% of people with depression lived in urban areas, whereas 5.8% lived in rural areas (Kementerian Kesehatan RI, 2018).

Meanwhile, according to the 2023 Indonesian Health Survey report using the Mini International Neuropsychiatric Interview (MINI), the prevalence of depression during the previous 2 weeks among the population aged ≥15 years was 1.4%, with the highest prevalence occurring in the 15–24-year age group (2%) (Badan Kebijakan Pembangunan Kesehatan Kemenkes, 2023).

Globally, approximately 10% of pregnant women and 13% of postpartum women experience mental disorders, particularly depression. In developing countries, these figures are even higher, reaching 15.6% during pregnancy and 19.8% after childbirth. In more severe cases, mothers may become unable to function properly and may even attempt suicide. This condition can negatively affect a child's growth and development (WHO, 2019).

Globally, maternal mental health problems are considered a major public health challenge, although maternal mortality remains a core indicator of maternal health. Almost all women may experience mental disorders during pregnancy and within the first year after childbirth; however, poverty, stress, domestic violence, natural disasters, and low social support generally increase the risk of mental health disorders (WHO, 2019).

Infants are highly vulnerable to the effects of maternal mental disorders because they are very sensitive to their environment and the quality of care they receive. Prolonged maternal mental illness can interfere with mother–infant bonding, breastfeeding, and infant care (WHO, 2019).

Based on data from Badan Kependudukan dan Keluarga Berencana Nasional (BKKBN) in 2024, 57% of mothers in Indonesia experienced symptoms of baby blues, which refers to mild depression after childbirth. This percentage makes Indonesia the country with the highest risk of baby blues in Asia (Kementerian Kesehatan RI, 2024).

Postpartum depression affects more than 1 in 10 women within one year after childbirth. Other mental health symptoms that may occur during or after pregnancy include anxiety, panic attacks, and psychosis (National Health Service [NHS], 2022).

A study conducted by Jalal et al. involving 346 pregnant women found that 14 participants (4%) experienced high levels of stress and 94 participants (27.2%) experienced moderate levels of stress. Regarding anxiety, 9 participants (2.6%) experienced severe anxiety, whereas 114 participants (32.9%) experienced moderate anxiety. In terms of depression, 100 participants

(28.9%) experienced mild depression, 32 participants (9.2%) experienced moderate depression, and 4 participants (1.2%) experienced severe depression (Jalal et al., 2024).

Research by Jalal et al. showed that the prevalence of stress, anxiety, and depression among pregnant women is concerning, and that various sociodemographic and obstetric factors contribute to these mental health problems. Factors such as age, occupation, number of pregnancies, history of abortion, previous obstetric complications, and social support were found to be significant variables affecting stress levels during pregnancy. Support from partners, family, or friends was identified as a strong protective factor, suggesting that higher levels of social support reduce the likelihood of stress, anxiety, and depression among pregnant women (Jalal et al., 2024).

According to research conducted by Idaini and Basuki in 2012, the incidence of postpartum depression ranged from 10% to 15%. This figure is influenced by several factors, including ethnicity, social background, and the diagnostic criteria used. The prevalence of postpartum depression in Indonesia was higher among women living in urban areas than among those in rural areas, at 2.32%. This difference is attributed to variations in life burden and environmental stressors (Idaini & Basuki, 2012).

The Edinburgh Postnatal Depression Scale (EPDS) is widely used as a screening instrument for postpartum depression. The EPDS consists of 10 questions administered to pregnant women or postpartum mothers regarding their condition over the previous week (Chan et al., 2021). According to research conducted by Eberhard-Gran et al., an EPDS score of ≥12 indicates depression in pregnant or postpartum women (Eberhard-Gran et al., 2014).

The novelty of this research lies in several aspects. First, it is a large-scale study (n=1,368) conducted within the urban context of Depok City, providing robust statistical power for identifying associations. Second, it uses the Edinburgh Postnatal Depression Scale (EPDS), which has been validated in the Indonesian context with a sensitivity of 87.5% and specificity of 67.6%, thereby ensuring measurement accuracy. Third, this research characterizes both pregnant women across all trimesters and postpartum mothers, providing a comprehensive overview of perinatal depression. Fourth, the study employs total sampling over a full year (January–December 2025), thereby minimizing selection bias and capturing seasonal variations. Fifth, this research identifies specific age and educational level cutoffs associated with depression risk, thereby providing actionable targets for screening programs.

According to research by Oliveira et al., perinatal depression may cause mothers to discontinue breastfeeding, increase family conflict, and disrupt the psychological condition and other developmental needs of the infant. This condition may negatively affect the mother–infant relationship and impair psychomotor and language development, which may subsequently lead to cognitive impairment and social disorders in children (Oliveira et al., 2022). Signs and symptoms of postpartum depression include feelings of sadness, depressed mood, loss of interest in daily activities, weight gain or loss, feelings of guilt or worthlessness, easy fatigability, decreased concentration during activities, and suicidal ideation (Ukatu et al., 2018).

METHOD

This study is a quantitative study using an analytical descriptive research design aimed at describing the characteristics of patients with depression among pregnant women and postpartum mothers at community health centers in the Depok City service area, with a total

population of 1,368 individuals. Furthermore, data were analyzed using univariate analysis and the chi-square test to determine the relationship between the variables collected and the risk of depression. The target population of this study consisted of pregnant women in the first trimester (0–12 weeks of gestation) and third trimester (>28 weeks of gestation until delivery), as well as postpartum mothers in KF-3 (8–28 days postpartum). This study used screening results obtained from the Edinburgh Postnatal Depression Scale (EPDS) collected from January to December 2025. The sampling technique used in this study was total sampling. The sample obtained consisted of 287 individuals who were identified as experiencing depression during the January–December 2025 period. All respondents who were asked to complete the EPDS instrument provided informed consent prior to participation.

The instrument used in this study was the Edinburgh Postnatal Depression Scale (EPDS), which consisted of 10 questions. Each item on the EPDS had a score ranging from 0 to 3. The total score was adjusted based on the feelings experienced by pregnant women and postpartum mothers during the 7 days prior to screening. In this study, an EPDS score of ≥13 was interpreted as indicating depression. However, in the study conducted by Oliveira et al. (2022), a score of ≥12 was used as the cutoff indicating depression.

The EPDS instrument has a sensitivity of 87.5% and a specificity of 67.6%, indicating that the EPDS in Indonesia has an 87.5% ability to screen for postpartum depression and a 67.6% ability to identify women who do not experience depression. The instrument was considered valid because the r count was ≥ the r table value (0.3610). Meanwhile, the reliability coefficient obtained was 0.67. These results indicated that the use of the EPDS in Indonesia was valid and reliable as a screening instrument for postpartum depression among women in Indonesia. Another health journal reported that the EPDS has a sensitivity of 96% and a specificity of 82%, indicating that the EPDS can be used as a comprehensive screening tool prior to establishing a diagnosis of postpartum depression (PPD).

RESULTS AND DISCUSSIONS

Respondent Characteristics

Table 1 Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	≤20 Years	69	5.0	5.0	5.0
	21-30 Years	725	53.0	53.0	58.0
	31-40 Years	526	38.5	38.5	96.5
	>40 Years	48	3.5	3.5	100.0
	Total	1368	100.0	100.0	

Based on the age distribution table of respondents, it is known that out of a total of 1,368 respondents, the majority are in the age range of 21-30 years, which is as many as 725 people (53%), so this age group is the most dominant category in the study. Furthermore, respondents aged 31–40 years were 526 people (38.5%), which indicates that most of the other respondents were also in the productive adult age group. Meanwhile, respondents with the age of ≤20 years were recorded as many as 69 people (5%), and respondents with the age of >40 years were 48 people (3.5%), so these two groups are the category with the least number.

Table 2 Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Elementary/Equivalent	64	4.7	4.7	4.7
	Junior High School/Equivalent	152	11.1	11.1	15.8
	High School/Equivalent	868	63.5	63.5	79.2
	D1/D2/D3/Equivalent	27	2.0	2.0	81.2
	S1/S2/S3	257	18.8	18.8	100.0
	Total	1368	100.0	100.0	

Based on the table of respondents' education levels, it is known that out of a total of 1,368 respondents, the majority have a high school education level/equivalent, which is as many as 868 people (63.5%), so this category is the most dominant level of education in the study. Furthermore, respondents with S1/S2/S3 education totaled 257 people (18.8%), followed by respondents with junior high school/equivalent education as many as 152 people (11.1%). Meanwhile, respondents with elementary education/equivalent were recorded as many as 64 people (4.7%), and the level of education D1/D2/D3/equivalent was the least at 27 people (2.0%).

Table 3 Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**Married**	**1363**	**99.6**	**99.6**	**99.6**
	Divorce Life	4	.3	.3	99.9
	Divorce Dead	1	.1	.1	100.0
	Total	1368	100.0	100.0	

Based on the respondents' marital status table, it is known that out of a total of 1,368 respondents, almost all respondents are married, namely 1,363 people (99.6%), so this category is a very dominant status in the study. Meanwhile, respondents with living divorced status were recorded as many as 4 people (0.3%), and respondents with dead divorce status as many as 1 person (0.1%).

Table 4 How Much Pregnancy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	512	37.4	37.4	37.4
	2	455	33.3	33.3	70.7
	3	282	20.6	20.6	91.3
	4	85	6.2	6.2	97.5
	5	34	2.5	2.5	100.0
	Total	1368	100.0	100.0	

Based on the table of how many pregnancies to have, it is known that out of a total of 1,368 respondents, most of the respondents are experiencing their first pregnancy, namely 512 people (37.4%). Furthermore, respondents with second pregnancies amounted to 455 people (33.3%), followed by a third pregnancy of 282 people (20.6%). Meanwhile, respondents who

experienced the fourth pregnancy were recorded as many as 85 people (6.2%), and the fifth pregnancy was the fewest at 34 people (2.5%).

Table 5 Trimester Ke-

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Wed-1	424	31.0	31.0	31.0
	Wed-2	446	32.6	32.6	63.6
	Wed-3	490	35.8	35.8	99.4
	Already Giving Birth	8	.6	.6	100.0
	Total	1368	100.0	100.0	

Based on the table of the respondents' pregnancy trimester, it is known that out of a total of 1,368 respondents, most of them were in the third trimester, namely 490 people (35.8%), making it the most dominant group in the study. Furthermore, respondents in the second trimester amounted to 446 people (32.6%), followed by respondents in the first trimester as many as 424 people (31.0%). Meanwhile, there were 8 respondents (0.6%) who were recorded as having given birth.

Table 6 Mental Health Screening

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never Have You Ever	1173	85.7	85.7	85.7
	Ever	195	14.3	14.3	100.0
	Total	1368	100.0	100.0	

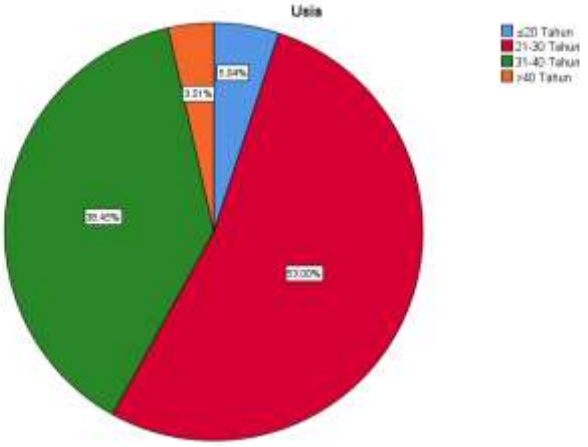
Based on the mental health screening table, it is known that out of a total of 1,368 respondents, most of them have never done mental health screening, namely 1,173 people (85.7%). Meanwhile, respondents who have had mental health screenings amounted to 195 people (14.3%).

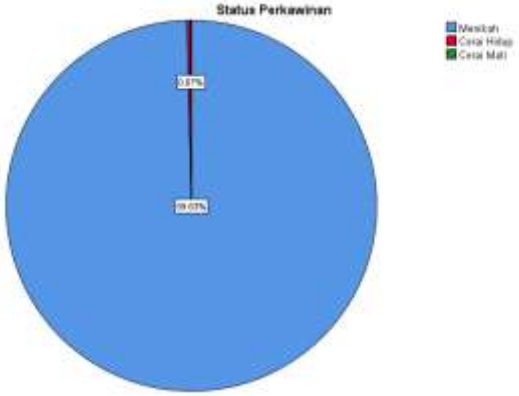
Table 7 Depression

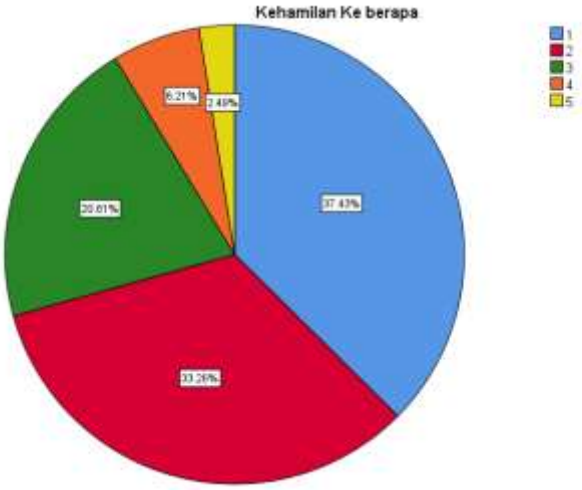
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Symptoms of Depression	1081	79.0	79.0	79.0
	There are symptoms of depression	287	21.0	21.0	100.0
	Total	1368	100.0	100.0	

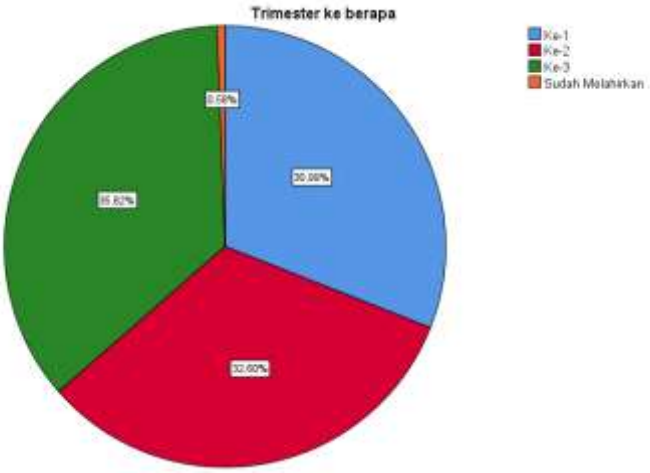
Based on the table of the incidence of depression in respondents, it is known that out of a total of 1,368 respondents, most of them had no symptoms of depression, namely 1,081 people (79.0%). Meanwhile, respondents who had symptoms of depression amounted to 287 people (21.0%).

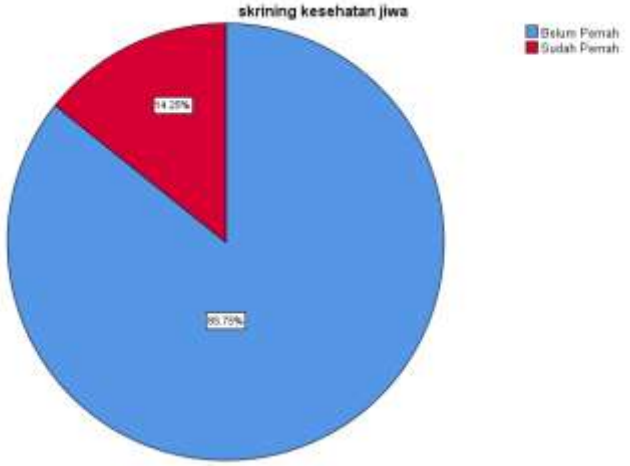
Diagram 1 Pie Chart

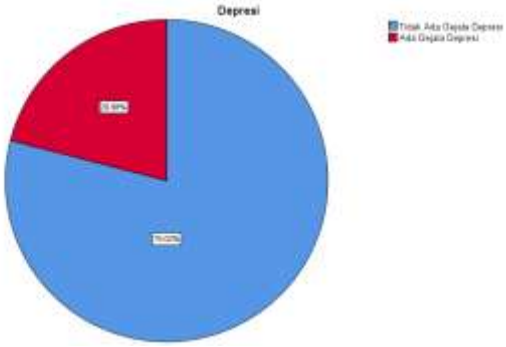












Relationship test

Age * Depression

Table 8 Crosstab

			Depression		Total
			No Symptoms of Depression	There are symptoms of depression	
Age	≤20 Years	Count	53	16	69
		% within Age	76.8%	23.2%	100.0%
	21-30 Years	Count	558	167	725
		% within Age	77.0%	23.0%	100.0%
	31-40 Years	Count	437	89	526
		% within Age	83.1%	16.9%	100.0%
	>40 Years	Count	33	15	48

	% within Age	68.8%	31.3%	100.0%
Total	Count	1081	287	1368
	% within Age	79.0%	21.0%	100.0%

Table 9 Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.332a	3	.016
Likelihood Ratio	10.274	3	.016
Linear-by-Linear Association	1.813	1	.178
N of Valid Cases	1368		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.07.

Based on the results of the crosstab, it is known that in the age group of ≤20 years there are 23.2% of respondents with symptoms of depression, 23.0% of 21–30 years old, 31–40 years old 16.9%, and >40 years old 31.3%, which is the highest proportion. Overall, of the 1,368 respondents, 79.0% did not experience symptoms of depression and 21.0% experienced depressive symptoms. The results of the Chi-Square test showed a value of $p = 0.016$ ($p < 0.05$), so it can be concluded that there is a significant relationship between age and the incidence of depression in the respondents.

Education * Depression

Table 10 Crosstab

			Depression		
			No Symptoms of Depression	**There are symptoms of depression**	**Total**
Education	Elementary/Equivalent	Count	46	18	64
		% within Education	71.9%	28.1%	100.0%
	Junior High School/Equivalent	Count	113	39	152
		% within Education	74.3%	25.7%	100.0%
	High School/Equivalent	Count	680	188	868
		% within Education	78.3%	21.7%	100.0%
	D1/D2/D3/Equivalent	Count	24	3	27
		% within Education	88.9%	11.1%	100.0%
	S1/S2/S3	Count	218	39	257
		% within Education	84.8%	15.2%	100.0%
	Total	Count	1081	287	1368
		% within Education	79.0%	21.0%	100.0%

Table 11 Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.029a	4	.026
Likelihood Ratio	11.457	4	.022
Linear-by-Linear Association	10.139	1	.001
N of Valid Cases	1368		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.66.

Based on the results of the crosstab between the level of education and the incidence of depression, it is known that the proportion of respondents with symptoms of depression in elementary education/equivalent is 28.1%, junior high school/equivalent is 25.7%, high

school/equivalent is 21.7%, D1/D2/D3/equivalent is 11.1%, and S1/S2/S3 is 15.2%. The results of the Chi-Square test showed a value of p = 0.026 (p < 0.05), so it can be concluded that there is a significant relationship between education level and the incidence of depression in the respondents.

Marital Status * Depression

Table 12 Crosstab

			Depression		
			No Symptoms of Depression	There are symptoms of depression	Total
Marital Status	Married	Count	1077	286	1363
		% within Marital Status	79.0%	21.0%	100.0%
	Divorce Life	Count	3	1	4
		% within Marital Status	75.0%	25.0%	100.0%
	Divorce Dead	Count	1	0	1
		% within Marital Status	100.0%	0.0%	100.0%
Total		Count	1081	287	1368
		% within Marital Status	79.0%	21.0%	100.0%

Table 13 Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.305a	2	.859
Likelihood Ratio	.508	2	.776
Linear-by-Linear Association	.051	1	.822
N of Valid Cases	1368		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .21.

Based on the results above, it is known that in the respondents who are married, there are 21.0% who experience symptoms of depression and 79.0% do not experience symptoms of depression. In respondents with living divorce status, there were 25.0% who experienced depressive symptoms and 75.0% did not experience depressive symptoms, while in the dead divorce status, all respondents did not experience depressive symptoms (100%). The results of the Chi-Square test showed a value of p = 0.859 (p > 0.05), so it can be concluded that there is no significant relationship between marital status and the incidence of depression in the respondents.

How Much Pregnancy To * Depression

Table 14 Crosstab

			Depression		
			No Symptoms of Depression	There are symptoms of depression	Total
How Much Pregnancy	1	Count	413	99	512
		% within Pregnancy How Much	80.7%	19.3%	100.0%
	2	Count	364	91	455
		% within Pregnancy How Much	80.0%	20.0%	100.0%
	3	Count	215	67	282
		% within Pregnancy How Much	76.2%	23.8%	100.0%

	4	Count	61	24	85
		% within Pregnancy How Much	71.8%	28.2%	100.0%
	5	Count	28	6	34
		% within Pregnancy How Much	82.4%	17.6%	100.0%
Total		Count	1081	287	1368
		% within Pregnancy How Much	79.0%	21.0%	100.0%

Table 15 Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.339a	4	.254
Likelihood Ratio	5.136	4	.274
Linear-by-Linear Association	2.658	1	.103
N of Valid Cases	1368		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.13.

Based on the results of the crosstab between how many pregnancies and the incidence of depression, it is known that the proportion of respondents who experienced symptoms of depression in the first pregnancy was 19.3%, the second pregnancy was 20.0%, the third pregnancy was 23.8%, the fourth pregnancy was 28.2%, and the fifth pregnancy was 17.6%. Overall, of the 1,368 respondents, 79.0% did not experience symptoms of depression and 21.0% experienced depressive symptoms. The results of the Chi-Square test showed a value of $p = 0.254$ ($p > 0.05$), so it can be concluded that there was no significant relationship between the number of pregnancies and the incidence of depression in the respondents.

The Third Trimester * Depression

Table 16 Crosstab

			Depression		
			No Symptoms of Depression	There are symptoms of depression	Total
Trimester-	Wed-1	Count	342	82	424
		% within the Quarter to how much	80.7%	19.3%	100.0%
	Wed-2	Count	353	93	446
		% within the Quarter to how much	79.1%	20.9%	100.0%
	Wed-3	Count	379	111	490
		% within the Quarter to how much	77.3%	22.7%	100.0%
	Already Giving Birth	Count	7	1	8
		% within the Quarter to how much	87.5%	12.5%	100.0%
	Total	Count	1081	287	1368
		% within the Quarter to how much	79.0%	21.0%	100.0%

Table 17 Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.867a	3	.600
Likelihood Ratio	1.910	3	.591
Linear-by-Linear Association	1.219	1	.270
N of Valid Cases	1368		

a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 1.68.

Based on the results of the crosstab between the trimester of pregnancy and the incidence of depression, it is known that the proportion of respondents who experienced symptoms of depression in the first trimester was 19.3%, the second trimester was 20.9%, and the third trimester was 22.7%, while in respondents who had given birth was 12.5%. Overall, of the 1,368 respondents, 79.0% did not experience symptoms of depression and 21.0% experienced depressive symptoms. The results of the Chi-Square test showed a value of $p = 0.600$ ($p > 0.05$), so it can be concluded that there is no significant relationship between the trimester of pregnancy and the incidence of depression in the respondents.

CONCLUSION

This study found a significant relationship between maternal age during pregnancy and the incidence of depression, as indicated by the Chi-square test result ($p = 0.016$; $p < 0.05$). The findings were consistent with previous studies showing that older maternal age, particularly ≥35 years, was associated with a higher risk of antenatal depression. In addition, educational level was also significantly associated with the incidence of depression ($p = 0.026$; $p < 0.05$), with several studies suggesting that educational background may influence maternal psychological vulnerability during pregnancy and the postpartum period. However, the findings regarding educational level were not entirely consistent across studies, indicating the possible influence of sociocultural and demographic differences. Meanwhile, marital status, number of pregnancies, and trimester of pregnancy were not found to have significant relationships with depression incidence in this study. Future research is recommended to explore other psychosocial and environmental factors associated with perinatal depression, such as family support, economic status, employment, and history of mental illness, using longitudinal or multicenter study designs to obtain more comprehensive and generalizable findings.

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