



Identification of Variables Influencing the Mental Health of Pregnant Women

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ABSTRACT

Background: Pregnancy is an important period in a woman's life cycle, often associated with changes in emotions and mood. Mental health disorders affect nearly one-fifth of pregnant women during the prenatal and postpartum periods. Some mental disorders that are often encountered are depression, anxiety, psychosis and post-traumatic stress. Objective: to find out the factors that influence the mental health of pregnant women at the Polanharjo Klaten Community Health Center. Research Method: Analytical survey with a cross-sectional time approach. The research sample was 83 pregnant women who visited ANC at the Polanharjo Klaten Community Health Center. Data collection tools used the DASS-21 questionnaire and the Multidimensional Scale of Perceived Social Support (MSPSS) questionnaire. Statistical tests use univariate, bivariate and multivariate analysis. Results: The mental health of pregnant women at the Polanharjo Klaten Community Health Center was 75.9% normal and 24.1% abnormal (anxiety). Factors that influence the mental health of pregnant women include education, gravida, social support and pregnancy history, while the factors age, occupation, maternal illness and planned pregnancy do not influence the mental health of pregnant women. Conclusion: Social support is the factor that has the most influence on the mental health of pregnant women at the Polanharjo Klaten Community Health Center.

Keywords: factors, mental health, pregnant women

ABSTRAK

Latar Belakang: Kehamilan merupakan periode penting dalam siklus hidup wanita, sering dikaitkan dengan perubahan emosi dan suasana hati. Gangguan kesehatan mental mempengaruhi hampir seperlima wanita hamil selama prenatal dan periode postpartum. Beberapa gangguan mental yang sering ditemui yaitu gangguan depresi, kecemasan, psikosis dan stres pasca trauma. Tujuan: mengetahui faktor-faktor yang mempengaruhi kesehatan mental ibu hamil di Puskesmas Polanharjo Klaten. Metode Penelitian: Survei analitik dengan pendekatan waktu cross sectional. Sampel penelitian adalah ibu hamil yang melakukan kunjungan ANC di Puskesmas Polanharjo Klaten sebanyak 83 responden. Alat pengumpulan data menggunakan kuesioner DASS-21, dan kuesioner Multidimensional Scale of Perceived Social Support (MSPSS). Uji statistik menggunakan analisis univariate, bivariate dan multivariate. Hasil: Kesehatan mental ibu hamil di Puskesmas Polanharjo Klaten 75,9% normal dan 24,1% tidak normal (anxietas). Faktor yang berpengaruh terhadap kesehatan mental ibu hamil antara lain pendidikan, gravida, dukungan sosial dan riwayat kehamilan, sedangkan faktor umur, pekerjaan, penyakit ibu dan kehamilan yang direncanakan tidak berpengaruh terhadap kesehatan mental ibu hamil. Kesimpulan: Dukungan sosial merupakan faktor yang paling berpengaruh terhadap kesehatan mental ibu hamil di Puskesmas Polanharjo Klaten.

Kata Kunci: factor-faktor, kesehatan mental, ibu hamil

INTRODUCTION

Women frequently undergo changes in their mental health during pregnancy and up to one year after childbirth. This prevalence is almost 20% among women in low-income countries and about 10% among women in high-income countries. Globally, approximately 10% of pregnant women and 13% of postpartum women encounter mental illnesses, including depression. The prevalence of such conditions is notably greater in developing countries, with rates of 15.6% during pregnancy and 19.8% after childbirth. Among women with perinatal mental health conditions, 20% may experience thoughts of self-harm or suicide (WHO, 2022). Some mental disorders that often occur in pregnant women and after giving birth are post-traumatic stress disorder, anxiety disorder, psychotic disorder, and depression (Anindyajati, 2022).

A study conducted in Ethiopia reported that the overall prevalence rate of general mental disorders in pregnant women was 37.5%. The most common mental health problems were depression 6.9%, anxiety 18.8%, and stress 4.2% (Tamiru *et al.*, 2022). The study in Indonesia revealed that 34% of expectant mothers underwent high prenatal distress and faced a risk of postpartum psychosocial conditions (27%). Being cognizant of the psychosocial state during the prenatal period plays an

instrumental role in averting postpartum issues (Hidayat *et al.*, 2019). Another study in Indonesia showed that symptoms of mental-emotional disorders in pregnant women were 72.3%. These results are related to the number of children and the age of the pregnant mother (Rachmat *et al.*, 2022). The prevalence of mental disorders in Indonesia tend to increase with age, starting from 15 years old. The incidence of depression in Central Java Province occurred in men at 3.66% and at women at 5.11%, while in Klaten Regency, Central Java, the prevalence of depression was 5.1% (Kemenkes, 2018).

Mental health disorders are triggered by the social, economic, and physical environment (WHO, 2014). In the teachings of Islam, it is explained that as human beings, there is no need to worry about something that will happen to them because they should believe in the provisions of Allah SWT and surrender to Him. This is in QS. Al Baqarah verse 112 contains a psychological element regarding how humans give the whole surrender of their emotions to Allah SWT. Pregnant women's mental health disorders may be impacted by socioeconomic factors such as early pregnancy, low educational (WHO, 2022), low socioeconomic status (Nagandla *et al.*, 2016), low income, and not working mom (Madeghe *et al.*, 2021). Reproductive age enhances the preparedness of mothers both physically and mentally for pregnancy and provide assistance in childcare. This equips them with the ability to calmly resolve problems and reduce potential triggers for mental health disorders (Wulandari & Perwitasari, 2021). Education level related to knowledge. A higher level of individual knowledge will degrade the level of anxiety (Suyani, 2020). Unwanted pregnancy is a high-risk pregnancy that can cause psychological stress and impact behavior during pregnancy (Alfiyatussaidah *et al.*, 2020). Pregnant women who experienced unplanned pregnancies were nearly three times more prone to developing depression compared to those with planned pregnancies (Biratu & Haile, 2015 ; Kusumawati *et al.*, 2022).

Symptoms of perinatal depression, anxiety, and PTSD are significantly linked to maternal marital conflict (Belay *et al.*, 2018) and domestic violence (Pasaribu, 2021; Ferraro *et al.*, 2017). The process of pregnancy causes physical, psychological, and hormonal changes so pregnancy requires physical, psychological, and financial preparation. Increasing the involvement of fathers and reducing marital conflict can assist in reducing the adverse implications of unwanted pregnancies in terms of perinatal mental health (Nuryati & Amir, 2022). Limited access to health services, lack of social support from various parties, and health concerns also affect the mental health of pregnant women (Arinda & Herdayati, 2021). Achieving contribution as a mother for pregnant women is a social phenomenon that provides involvement from the environment, family, and husband. To provide support for achieving this contribution, pregnant women from May to June, totaling 105 need support from the people around them (Pangesti, 2018). Pregnant women's mental health is also impacted by physical causes, including hypertension in pregnancy (Fisher *et al.*, 2012; Davis *et al.*, 2023). Pregnant women experience biological vulnerability due to hormonal changes occurring during pregnancy. Such changes, along with psychological and social situational factors, increase susceptibility to depression development and depression recurrence (Getinet *et al.*, 2018).

Another aspect that can increase the risk of anxiety for pregnant women is parity (Khouj *et al.*, 2022). Primiparous mothers have anxiety which is categorized as higher compared to multiparas in facing childbirth (Dinopawe *et al.*, 2021). Anxiety in primiparas is normal because the first pregnancy for a prospective mother is one of the crucial periods in her life (Dinopawe *et al.*, 2021; Rosiana Ulfah *et al.*, 2022). Even so, a meta-analysis study stated that women with multigravida, during the first and third trimesters of pregnancy, have a higher likelihood of experiencing mental health disorders compared to their counterparts (Yan *et al.*, 2020). A significant association exists between the severity of symptoms of depression, anxiety, and stress in pregnant women and a history of cesarean section delivery or miscarriage (Khouj *et al.*, 2022; Reardon, 2018; Alqahtani A *et al.*, 2018). A traumatic birth can cause some women to experience subclinical distress with mild mood distortion or a form of anxiety disorder (Watson *et al.*, 2021).

Deteriorating mental health during the perinatal period can have adverse impacts on the mother, baby, and family's physical and emotional health. Perinatal psychiatric disorders could augment the chances of giving birth to an infant with complications (Sudziute *et al.*, 2020). Poor mental health is associated with a higher risk of obstetric complications (e.g., pre-eclampsia, bleeding, premature birth, and stillbirth), but it may also result in adverse birth outcomes, such as low birth weight and an increased risk of physical illness. and emotional and behavioral difficulties in childhood (WHO, 2022). A study found a correlation between the maternal mental health during pregnancy and the fetal head circumference growth restriction (Handayani *et al.*, 2020), risk of low birth weight (LBW) infants, and stunting (Nugraha & Keliat, 2020). Mothers who experienced depressive symptoms had a 3.8 times higher risk of preterm delivery (Mochache *et al.*, 2018). Another study showed that if a mother experienced anxiety, stress, or depression during pregnancy, the children had twice the risk of ADHD symptoms, emotional problems, impaired cognitive development, and behavioral disorders. (Glover, 2019). Even though it is considered crucial, mental health has not been made a development priority in the health sector (WHO, 2013).

Identifying potential risk factors during pregnancy and intervening early reduces morbidity in women, prevents postnatal mental disorders, and safeguards the health of the infant (Vijay & Patel, 2020). Access to adequate antenatal care, ensuring pregnant women have proper nutrition and micronutrients, maintain a healthy lifestyle (avoiding smoking), and receive immunizations are essential for minimizing the risk of neurodevelopmental disorders such as schizophrenia or bipolar disorder in the fetus. Moreover, it optimizes fetal development and minimizes the risk of future mental disorders in the newborn (Boyce *et al.*, 2018). Promoting and preventing mental health issues can alleviate physical and psychological distress while conserving human and financial resources for individuals, families, healthcare systems, and other relevant parties (WHO, 2022). Social support from partners or other sources can protect against anxiety, stress, and depression during pregnancy (Davis *et al.*, 2023).

During prenatal exams, clinical interviews can be used to identify mental health problems in pregnant women early on by inquiring about drug use, history of health issues in relation to mental health, and risk factors for mental health issues. Pregnant women are at least examined for mental health issues in the first and third trimesters. If psychiatric disorders or problems are found in the first trimester, an evaluation at each visit must be carried out. If mental disorders cannot be treated at primary healthcare facilities, a referral to a hospital or psychiatrist in the working area of the primary healthcare facility must be given immediately (Kemenkes RI, 2021).

Pregnant women with mental health difficulties can be identified with the Depression Anxiety Stress Scales 21 (DASS-21) tool. The DASS-21 is a tool that simultaneously assesses stress, anxiety, and depression (Lovibond & Lovibond, 1995). The Indonesian type of DASS-21 is a reliable and valid measurement tool for comparing and measuring depression, stress, and anxiety between genders in Indonesian samples. (Muttaqin & Ripa, 2021). The results of the study using the DASS-21 instrument stated that the total prevalence of prenatal depression, anxiety, and stress was found to be 23.6% (n = 68) in the second trimester and 24.7% (n = 71) in the third trimester among the 288 pregnant women who underwent screening. Couple violence, unintended pregnancies, low socioeconomic status, and a lack of family support are sociodemographic characteristics linked to mental health disorders (Nagandla *et al.*, 2016).

Klaten Regency has 34 community health centers consisting of 19 non-inpatient health centers and 15 inpatient health centers. Polanharjo Community Health Center is one of Klaten's community health facilities. Data about the range of health treatments available to expectant mothers in 2021 K4 was 96.7% and K1 was 100%. Based on data on mental health problems, with two pregnant women experiencing depression throughout their pregnancy and a history of prior mental health

illnesses, Polanharjo Klaten Health Center had the highest rate of these cases (DKK Klaten, 2022). An initial investigation conducted at the Polanharjo Community Health Center in Klaten revealed that ANC services for pregnant women were carried out every day. Specifically, the integrated ANC services were carried out every Tuesday and Saturday with an average ANC visit of around 5-8 pregnant women with 2-3 implementing midwives every day. Midwives said that currently, they had not specifically conducted mental health screening for pregnant women. Five pregnant women who had ANC visits were interviewed, and the results showed that they were content with their present pregnancy. Two expectant mothers expressed concern about their pregnancies because they were currently 37 years old and had a history of miscarriage in previous pregnancies. Based on the background of this problem, the authors are interested in conducting a study at Polanharjo Community Health Center in Klaten about the factors that affect pregnant women's mental health

METHOD

This quantitative study uses a cross-sectional methodology and a descriptive-analytic design. The place of the research was the Polanharjo Community Health Center in Klaten, Central Java Province, Indonesia. The research period was October 2022 - August 2023. All pregnant women who received ANC visits at the Polanharjo Community Health Center in Klaten in May to June made up the study's population, totaling 105 respondents. The number of sample members was determined using the Slovin formula with an error of 5% means a 95% confidence level (Sugiyono, 2021). The sampling method was non-probability sampling consecutive sampling obtained a sample of 83 respondents. Samples were taken after fulfilling the exclusion and inclusion indicators. Inclusion characteristics included pregnant women at the Polanharjo Klaten KIA Polyclinic, married, have no history of mental health disorders, and did not consume drugs, alcohol or drugs, and pregnant women who had not experienced domestic violence. Exclusion criteria were pregnant women who could not write and read and also did not have the willingness to be respondents.

In this study, the dependent variable and the independent variable are the two variables. The study's independent variables are things that affect pregnant women's mental health including age, education, employment, social support, gravida, history of pregnancy, unplanned pregnancy, and chronic physical illness/physical disability, and the dependent variable (dependent) is the mental health of expectant mother.

Pregnant women's mental health is the dependent variable. It is classified into two categories: normal and abnormal. The parameter of the normal category is if the DASS-21 score results are in the normal category (no depression score 0-9, no anxiety score 0-7, no stress score 0-14). The parameter of the abnormal category is if the DASS-21 score results are in the abnormal category (depression score ≥ 10 , anxiety score ≥ 8 , stress score ≥ 15). The independent variables are a range of characteristics that impact the mental health of expectant mothers, such as age, which falls into two categories: low-risk (20–35 years old) and high-risk (less than 20 or above 35 years old), education in the low education category ($<$ junior high school) and high education category ($>$ junior high school), employment categorized as working and not working, social support categorized as high support (score >42) and low support (score ≤ 42), gravida categorized as primigravida and multigravida, history of pregnancy categorized as having complications if the mother had experienced a miscarriage or cesarean section and no, planned pregnancy was categorized as yes and no, and maternal physical illness/disability was categorized as yes and no.

The research instrument was a respondent characteristic questionnaire, the DASS-21 questionnaire, and the Multidimensional Scale of Perceived Social Support (MSPSS) questionnaire. There were 21 items altogether among the three subscales of the DASS-21 questionnaire (7 for anxiety, 7 for depression, and 7 for stress) (Lovibond & Lovibond, 1995). The Indonesian version of the DASS-21 questionnaire instrument has been proven to be standard so it can be used in this study without

retesting its reliability and validity. The DASS-21 has good reliability, construct, and concurrent validity for use with pregnant women (Silva *et al.*, 2022). Reliability test results in Indonesia are satisfactory for the depression subscale (0.872), anxiety (0.806), and stress (0.816) (Muttaqin & Ripa, 2021).

The social support instrument used the standard MSPSS questionnaire which represented an individual's perspective regarding the availability of support from the closest person, partner, friends, or family (Zimet *et al.*, 1988). According to the analysis's findings, the MSPSS reliability score in Indonesia was 0.77, and the Cronbach's alpha value was 0.85. These results indicated that this measuring instrument was considered a very good category and can distinguish the level of high and low category support (Sulistiani *et al.*, 2022).

The data collection method was begun by preparing a proposal and preliminary studies. The proposal had received approval. Ethical clearance had been obtained from the Ethics Institute of Yogyakarta Aisyiyah University. Research permits were submitted to the research location. In the next stage, an apperception with the midwife and informed consent were conducted, followed by collecting research data. The data obtained was in the form of secondary data and primary data. This study applied the principles of research ethics including beneficence, non-maleficence, anonymity, confidentiality, and ethical clearance.

Data processing techniques and data analysis used Microsoft Excel and SPSS computer assistance programs. The frequency distribution was employed in univariate data analysis. Bivariate analysis used the Chi-square test to obtain information on the significant influence between each dependent variable and the independent variable with 95% confidence ($\alpha = 0.05$). Multivariate analysis used logistic regression. Model selection was done hierarchically until a statistically fit model was obtained (Hastono, 2020).

RESULT AND DISCUSSION

RESULT

Univariate analysis was used to visualize the distribution of frequencies and percentages of each independent variable (education, age, employment, social support, gravida, history of pregnancy, unplanned pregnancy, and chronic physical illness/physical disability) against the dependent variable (normal and not normal mental health) which had been obtained from the research. The results are presented in the following frequency distribution table:

No	Variables	Frequency (f)	Percentage (%)
1	Age		
	Low Risk	67	80.7
	High Risk	16	19.3
2	Education		
	High	71	85.5
	Low	12	14.5
3	Occupation		
	Work	23	27.7
	Not Work	60	72.3
4	Gravida		
	Primigravida	28	33.7
	Multigravida	55	66.3
5	Social Support		
	High Support	75	90
	Low Support	8	10

6	Unplanned Pregnancy		
	Planned	82	98.8
	Unplanned	1	1.2
7	Chronic physical illness/physical disability		
	Yes	82	98.8
	No	1	1.2
8	Pregnancy history		
	No complications	61	73.5
	There are complications	22	26.5
	a. History of miscarriage	9	40.9
	b. History of SC	13	59.1
9	Gestational Age		
	Trimester I	8	9.6
	Trimester II	35	42.2
	Trimester III	40	48.2
10	Mental Health History		
	No	83	100
	Yes	0	0
11	Consuming drugs, smoking, alcohol/drugs		
	No	83	100
	Yes	0	0
12	Domestic Violence		
	No	83	100
	Yes	0	0
	Total	83	100

Table 1. Distribution of Characteristics in Frequency of Pregnant Women at the Polanharjo Community Health Center in Klaten

Table 1 indicates that most expectant mothers belonged to the low-risk age group (20-35 years old) with an amount of 80.7%. The dominance of pregnant women had high levels of education of 85.5%. From a dominant occupational perspective, pregnant women did not work (housewives) 72.3%. Based on the social support variable, most pregnant women received high support of 90%. Most mothers were multigravida at 66.3% with a gestational age in the third trimester at 40.8%. In terms of pregnancy history, most pregnant women had no complications in previous pregnancies, amounting to 73.5%. Most pregnant women indicated that this was a planned pregnancy and did not have chronic physical illness or physical disability, respectively 98.8%. All pregnant women (100%) stated that they were married, had no history of mental health disorders, had never smoked/consumed drugs/alcohol, and had not experienced domestic violence.

No	Mental Health	Categories	Frequency (f)	Percentage (%)
1	Normal	Not depressed	83	100
		No anxiety	63	75.9
		No stress	83	100
	Total		63	75.9
2	Not Normal	Depressed	0	0
		Anxiety	20	24.1
		Stress	0	0
	Total		20	24.1

Table 2. Frequency Distribution of Mental Health for Pregnant Women at the Polanharjo Community Health Center in Klaten

Based on Table 2, the majority of pregnant women's mental health was normal, namely 63 respondents (75.9%).

No	Questions	Answers			
		Never	Sometimes	Often	Very Often
		f	f	f	f
1	I couldn't feel any positive feelings at all	68	12	3	0
2	I don't seem to have the strength to do an activity anymore	64	18	1	0
3	I feel like I have no future	75	6	2	0
4	I felt hopeless and sad	71	12	0	0
5	I don't feel enthusiastic/lose interest in anything	66	16	1	0
6	I feel that I am worthless	73	10	0	0
7	I feel like my life is meaningless	74	9	0	0

Table 3. Answers to Depression-Level Question Items

No	Questions	Answers			
		Never	Sometimes	Often	Very Often
		f	f	f	f
1	I feel like my lips are often dry	22	38	16	7
2	I have difficulty breathing (for example: often panting or unable to breathe even though I haven't done any physical activity before)	54	24	5	0
3	My body is shaking (for example: hands, feet, etc.)	63	19	1	0
4	I feel worried about situations when I might panic and embarrass myself	57	19	7	0
5	I panic easily	50	27	6	0
6	I sweat easily, even though it's not hot and I haven't done any physical activity before	37	33	10	3
7	I feel scared for no certain reason	57	25	1	0

Table 4 Answers to Anxiety Level Question Items

No	Questions	Answers			
		Never	Sometimes	Often	Very Often
		f	f	f	f
1	I find myself getting angry easily over simple things	21	55	7	0
2	I tend to overreact to situations	54	28	1	0
3	I feel like I have wasted a lot of energy worrying	69	13	1	0
4	I find myself getting restless easily	56	27	0	0
5	I find it difficult to relax	62	21	0	0
6	I cannot accept anything that would prevent me from completing what I am doing	67	16	0	0
7	I feel like a person who is easily moved	44	34	5	0

Table 5 Answers to Stress Level Question Items

Bivariate analysis used chi-square testing to obtain information on whether there was an influence or not and to determine the next step, namely multivariate analysis. The outcomes of the bivariate analysis for the independent variables and dependent variable are as follows.

No	Age	Mental Health of Pregnant Women							
		Normal		Abnormal		Total		P Value	OR
		f	%	f	%	f	%		
1	Low risk	52	62.6	15	18.1	67	80.6	0.519	1.576
2	High risk	11	13.3	5	6	16	19.4		
	Total	63	75.9	20	24.1	83	100		
No	Education	Mental Health of Pregnant Women							
		Normal		Abnormal		Total		P Value	OR
		f	%	f	%	f	%		
1	High	57	68.7	14	16.9	71	85.6	0.034	4.071
2	Low	6	7.2	6	7.2	12	14.4		
	Total	63	75.9	20	24.1	83	100		
No	Occupation	Mental Health of Pregnant Women							
		Normal		Abnormal		Total		P Value	OR
		f	%	f	%	f	%		
1	Work	18	21.7	5	6	23	27.7	1.000	1.2
2	Not Work	45	54.2	15	18.1	60	72.3		
	Total	63	75.9	20	24.1	83	100		
No	Social Support	Mental Health of Pregnant Women							
		Normal		Abnormal		Total		P Value	OR
		f	%	f	%	f	%		
1	High Support	61	73.5	14	16.9	75	90.4	0.002	13.071
2	Low Support	2	2.4	6	7.2	8	9.6		
	Total	63	75.9	20	24.1	83	100		
No	Gravida	Mental Health of Pregnant Women							
		Normal		Abnormal		Total		P Value	OR
		f	%	f	%	f	%		
1	Primigravida	26	31.3	2	2.4	28	33.7	0.013	6.324
2	Multigravida	37	44.6	18	21.7	55	66.3		
	Total	63	75.9	20	24.1	83	100		

Table 6 Results of Bivariate Analysis

No	Pregnancy History	Mental Health of Pregnant Women							
		Normal		Abnormal		Total		P value	OR
		f	%	f	%	f	%		
1	No Complication	52	62.6	9	10.8	61	73.5	0.003	5.778
2	There are complications	11	13.3	11	13.3	22	26.5		
	Total	63	75.9	20	24.1	83	100		
No	Unplanned pregnancy	Mental Health of Pregnant Women							
		Normal		Abnormal		Total		P value	OR
		f	%	f	%	f	%		
1	Planned	62	74.7	20	24.1	82	98.8	1.000	1.323
2	Unplanned	1	1.2	0	0	1	1.2		
	Total	63	75.9	20	24.1	83	100		
No	Chronic physical illness/physical disability	Mental Health of Pregnant Women							
		Normal		Abnormal		Total		P value	OR
		f	%	f	%	f	%		
1	No	63	75.9	19	22.9	82	98.8	0.241	4.316
2	Yes	0	0	1	1.2	1	1.2		
	Total	63	75.9	20	24.1	83	100		

In Table 6, it is evident that most expectant mothers at low risk and high risk had normal mental health. The proportion of normal mental health at low-risk age was 62.6%, and high risk was 13.3%. Based on the calculation results, the p-value of 0.519 suggests no significant association between maternal age and mental health in pregnant women. Pregnant women with a higher level of education exhibited normal levels of mental health (68.7%), whereas among pregnant women with a lower level of education, 7.2% exhibited normal mental health, while the remainder showed abnormal mental health. The calculations resulted in a p-value of 0.034 (<0.05) and $r = 0.249$, indicating a significant correlation between education and the mental health of pregnant women, although the effect was small. Pregnant women who did not work, i.e., housewives, or worked more exhibited normal mental health. The proportion of pregnant women with normal mental health was 54.2% for non-working and 21.7% for working women. The p-value calculation from this study showed no significant impact of work on the mental health of pregnant women, with a result of 1.000.

In Table 6, it is also known that pregnant women with high social support had normal mental health (73.5%), while pregnant women with low support had abnormal mental health (7.2%). The computation that followed produced a p-value of 0.002 (<0.05), with $r = 0.389$. It indicates that while there is a minimal degree of influence, social support is a major driver of pregnant women's mental health. The majority of primigravida and multigravida mothers had normal mental health, namely 31.3% and 44.6%. Based on the resulting calculation, a p-value of 0.013 (< 0.05) was obtained with an r-value of 0.283. This indicates a significant correlation between gravida and mental health among pregnant women, but with a low level of impact.

In Table 6, it can be understood that more pregnant women with no previous pregnancy complications had normal mental health (62.6%), whereas pregnant women who experienced complications during prior pregnancies exhibited normal and abnormal mental health, respectively 13.3%. A p-value of 0.003 (<0.05) was found based on the computation results, where $r = 0.364$. It indicates that there was a low impact but a significant factor between pregnant women's mental health and their history of pregnancy. Expectant mothers who planned pregnancies had normal mental health 74.7%. There was 1 pregnant woman who did not plan her pregnancy with normal mental health status (1.2%). Considering the outcomes of the computation, a p-value of 1.000 was obtained, which means that there was no determinant significance between pregnancy planning and the mental health of pregnant women. Pregnant women did not have physical illness; chronic/physical disability had normal mental health 75.9%. There was 1 pregnant woman with a disease (high blood pressure) who had an abnormal mental health status (1.2%). A p-value of 0.241 was produced based on the calculation findings, indicating that there was no significant relationship between the mother's physical impairment or chronic disease and the mental health of expectant mothers.

Multivariate analysis used logistic regression with the following results:

Variables	Sig.	Exp (B)	95% C.I for EXP(B)	
			Lower	Upper
Social Support	0.034	0.138	0.022	0.860
Pregnancy History	0.153	0.386	0.105	1.426
Mother's Illness	1.000	0.000	0.000	
Education	0.479	0.569	0.120	2.703
Gravida	0.275	0.386	0.70	2.131

Table 7 Final Model Analysis Results

Step	-2 Log likelihood	Cox dan Snell R Square	Chi-square
1	71.002 ^a	.220	.330

Table 8 Multivariate Analysis of Factors that Influence the Mental Health of Pregnant Women

Based on Table 7 of the results of the final model of multivariate analysis, it is known that the most dominant variable that determines pregnant women's mental health is positively correlated with social support (p-value = 0.034) (OR 0.138). Based on Table 8 of the multivariate logistic regression analysis examining factors that affect the mental health of pregnant women, the results for the Cox and Snell R Square tests indicate a value of 0.330. This showed that the capability of factor variables in the level of explaining the dependent variable was at 33%. This indicates that education, social support, gravida, and pregnancy history had a significant simultaneous effect on the mental health of 33% of pregnant women.

Discussion

Mental Health for Expectant Mothers at the Polanharjo Community Health Center in Klaten

Based on research results, the majority (75.9%) of pregnant women exhibited normal mental health. These results are consistent with previous research conducted in Ethiopia, which found that 74.66% of pregnant women had good mental health (Bante *et al.*, 2021). A mentally healthy condition is a condition in which an individual can develop socially, spiritually, mentally, and physically and has awareness of his own abilities, can contribute to his community, works productively, and can cope with stress. (Anindyjati *et al.*, 2022).

The study findings indicated that 20 pregnant women (24.1%) exhibited abnormal mental health, defined as experiencing anxiety, with 2 pregnant women with an anxiety score of 9 and 18 pregnant women with an anxiety score of 8. The findings of this investigation align with Australian research, which demonstrated that pregnant women exhibit good mental health (40.5%), experience anxiety (19%), stress (15.5%), and depression (25%) (Davis *et al.*, 2023).

The study concluded that most pregnant women with abnormal mental health were multigravid and in their third trimester. This aligns with previous meta-analyses which found multigravid women in their first and third trimesters to be more vulnerable to mental health disorders compared to other pregnant women (Yan *et al.*, 2020). During the third trimester, pregnant women begin to be realistic in preparing for the birth of their babies, and then pregnant women search for information regarding the welfare of their babies more intensively. Pregnant women increase their awareness of the signs of labor because their baby can be born at any time during this period. Expectant mothers worry about the birthing process and their unborn child's physical perfection (Pangesti, 2018).

Mental health disorders are conditions where individuals experience disturbances in their feelings, behaviors and which are manifested in the form of a set of symptoms or/and meaningful behavioral transformations and can also cause obstacles and suffering at the level of carrying out the role of people in the context of being human. Anxiety disorders, psychosis disorders, depression disorders, and post-traumatic stress disorder (PTSD) are a few of the mental illnesses that are frequently present in expectant and new mothers (Anindyjati *et al.*, 2022).

Uncertain hormonal changes in a woman's body during pregnancy and labor can cause more sensitive sensations and emotional instability, while the origin of perinatal mental problems is not known for certain (WHO, 2022). Causes of anxiety include worry, namely negative self-thoughts, such as worry that the pregnant woman will experience failure in her pregnancy for the second time, emotionality, namely self-reactions to autonomic nervous stimulation, such as cold sweats, tension, and palpitations, as well as obstacles and disturbances at the level of completing tasks (task generated interference), which is a tendency experienced by someone who always feels stressed because of the ratio (Nia Ariestha Azis, 2017).

Based on the results of the questionnaire for pregnant women with anxiety, symptoms were obtained including mothers experiencing dry lips, difficulty breathing, body shaking, and feeling worried, panicking easily, sweating easily, and feeling afraid for no certain reason. This is in line with the theory that states that anxiety is a feeling of discomfort and worry, followed by psychological or physical symptoms (Anindyjati *et al*, 2022). Symptoms of anxiety vary from person to person, typically manifesting as mental and emotional symptoms including persistent worry, tension, and feelings of impending doom. Additionally, physical symptoms such as insomnia, rapid heart rate, dizziness, chest or stomach pain, headache, and nausea may arise. Anxiety can also result in behavioral changes, such as avoidance of feared situations, reluctance to leave the home, or hypervigilance to perceived threats. A symptom of all anxiety disorders is feeling very worried or afraid for long periods (ACOG, 2021).

Risk factors that can influence the mother in anxiety include interaction with the health care system, relationship with partner, comorbid depression, unplanned pregnancy, history of positive mental illness, marital status, parity, age, education, history of miscarriage, social support, and gestational age. However, the biggest risk factors that can influence anxiety during pregnancy and childbirth are age and parity. The effects of uncontrolled anxiety during pregnancy can impact the mother's psychological condition, making her more vulnerable to postnatal depression and anxiety symptoms (Isnaini *et al.*, 2020).

In this study, there were no pregnant women who suffered from depression. This is different from the results of research by Faisal Curry (2021) which found that of 800 pregnant women respondents. 11.8% of pregnant women experienced symptoms indicating prenatal depression. Depression is a condition where individuals experience the main symptoms of feeling depressed almost all the time, such as feeling sad, losing pleasure and interest in almost all activities, getting tired easily, having no energy, and also decreasing their activities (Anindyjati *et al*, 2022). From the responses to the depression level questionnaire, it was discovered that 18 pregnant women occasionally felt too weak to perform an activity and 16 pregnant women occasionally experienced a lack of interest in anything.

This study indicates that no pregnant women experienced stress. However, these findings contrast with those of Yazia's (2022) research which revealed that 26.6% of expectant mothers' encountered moderate stress, 31.2% suffered from mild stress, and 42.2% were not affected by stress. Based on the research findings, it is evident that 55 respondents reported feeling irritable due to minor matters and 34 respondents felt emotionally reactive. These results were obtained through the analysis of responses to stress-level queries answered by the participants.

The effect of age on expectant mothers' mental health at the Polanharjo Community Health Center in Klaten

The study results revealed that 67 respondents (80.7%) fell within the low-risk age group of 20-35 years. The average age of the participants was 29.9 years old. These findings are consistent with research in Surakarta that reported a majority of pregnant women also falling within the 20-35 years age range (86%) (Kusumawati *et al.*, 2022). The research findings align with the theory that the optimal age range for pregnancy and childbirth is between 20 and 35 years old, coinciding with the development of reproductive organs and considering emotional, social, and maternal caregiving factors. This age range enhances maternal physical and mental preparedness to handle child-rearing tasks, thereby enabling effective problem-solving abilities. Mothers are healthier and prepared in an economic, social, psychological, emotional, and physical context so that they can reduce the factors that trigger pregnancy depression (Wulandari & Perwitasari, 2021).

The bivariate analysis results reveal a p-value greater than 0.05 (0.519), indicating that there is no significant correlation between age and mental health among pregnant women at the Polanharjo Community Health Center in Klaten. These findings align with similar studies conducted in Malaysia, Jeddah, and Turkey, highlighting that age does not impact depression, anxiety, and stress during pregnancy (Nagandla *et al.*, 2016; Khouj *et al.*, 2022; Yildirim, 2022). Ages that are at risk or not at risk have the same probability of mental health problems occurring during pregnancy. This is because during the pregnancy period, there are changes in terms of hormones, changes in physical or body shape, cravings, and can experience problems in the context of physical health (infectious diseases and not infectious disease) and/or mental (emotional instability such as easily anxious, sad, angry, offended, aggressive behavior, and so on) (Nurjasmi *et al.*, 2021). Pregnancy is always correlated with functional transformations at the psychological level of pregnant women, such as ambivalence and changes in the context of moods that often have variations in anxiety, to depressive responses (Bjelica & Kapor-Stanulovic, 2004).

The study found that 5 high-risk pregnant women (>35 years old) experienced abnormal mental health (6.1%). This aligns with previous research indicating that anxiety in pregnancy is common among older women (>35 years old) (Bayrampour *et al.*, 2012), and that women with three or more children have a 36 times higher risk of prenatal depression (Magalhaes *et al.*, 2021).

The effect of education on expectant mothers' mental health at the Polanharjo Community Health Center in Klaten

According to the study's findings, most respondents were highly educated (> junior high school) at 85.5%. This is in line with Kusumawati's research (2022) that 76.7% of the respondents who were pregnant had a high level of education (Kusumawati *et al.*, 2022). The outcome of the analysis obtained a p-value <0.05 (0.034) with $r = 0.249$, indicating a low impact of education on the mental well-being of pregnant women receiving care at the Polanharjo Community Health Center in Klaten. Notably, a mother's educational attainment affects her ability to grasp and internalize prenatal information, which can foster a favorable psychological state and consequently ease the burden of pregnancy-related stressors (Rinata & Andayani, 2018). The findings of this study support previous research indicating a correlation between education level and anxiety among pregnant women. Furthermore, higher education levels tend to act as a protective factor against prenatal stress. In other words, pregnant women with more education generally experience fewer symptoms of anxiety and depression (Kotimaki *et al.*, 2020).

The findings indicated that the mental health of 57 respondents (68.7%) with high levels of education was normal. This was consistent with study findings that showed an individual's level of education correlates with both his level of intellectual maturity and the quality of his knowledge. They tend to pay more attention to the health of themselves and their family (Rosiana Ulfah *et al.*, 2022).

The results showed that 6 respondents (7.2%) with low education had abnormal mental health. Better socioeconomic level is directly correlated with education, and mental health during pregnancy is negatively correlated with socioeconomic position. Women who have less education are more likely to have mental health issues (Adina *et al.*, 2022).

The effect of occupation on expectant mothers' mental health at the Polanharjo Community Health Center in Klaten

Most respondents, according to the study's findings, did not work (housewives) as much as 72.3%. This was comparable to Kusumawati's study, which found that housewives made up the majority of the respondents who were pregnant (Kusumawati *et al.*, 2022). The analysis results obtained a p-

value > 0.05 (1,000), which means that there was no significant effect of occupation on the mental health of pregnant women at the Polanharjo Community Health Center in Klaten. These findings align with prior studies in Malaysia and Jeddah, which also found no substantial association between occupation and depression, anxiety, and stress during pregnancy (Nagandla *et al.*, 2016; Khouj *et al.*, 2022).

Working and non-working mothers (housewives) are equally likely to experience abnormal mental health during pregnancy. This is because working mothers tend to experience stress due to their workload which has an impact on mental health during pregnancy (Suyani, 2020).

Pregnant women need costs for prenatal care, delivery costs, baby equipment costs, and others. If pregnant women do not work, they can become anxious or worried about not being able to meet these needs. Poor mental health during pregnancy generally occurs in women with low incomes and who do not work, indirectly affecting their psychological condition. This aligns with research findings (Karmaliani *et al.*, 2009; Madeghe *et al.*, 2021).

The effect of social support on expectant mothers' mental health at the Polanharjo Community Health Center in Klaten

The study revealed that 90% of pregnant women received substantial social support, consistent with Evi's (2018) research findings on high levels of social support for expectant mothers (Rinata & Andayani, 2018). The analysis yielded significant results ($p < 0.05$, 0.002) indicating a low effect of social support on the mental health of pregnant women at the Polanharjo Community Health Center in Klaten. These findings align with prior studies demonstrating the significant impact of familial support, including from husbands, in reducing anxiety for pregnant women (Pangesti, 2018).

The study results revealed that all respondents (100%) were married and did not report any incidents of domestic violence. These findings align with the theory that assuming the role of a mother during pregnancy is a social occasion that involves the husband, family, and surrounding environment. To support the achievement of this role, pregnant women really need support from the people closest to them in social relationships. The adjustment of pregnant women can be attributed to their capacity to manage the stresses and challenges brought about by the physical and psychological changes that arise during pregnancy.

The findings of this research align with prior studies that indicate a correlation between family support and psychological fluctuations in expectant women (Zakiyah, 2022). Social support aids pregnant women in reducing their risk, whereas the absence of social support leads to the onset of antenatal depression (Getinet *et al.*, 2018). Women who receive strong social support are 79% less likely to suffer from antenatal depression (Belay *et al.*, 2019).

The study results indicate that 6 participants (7.2%) experiencing low support exhibited abnormal mental health. This finding aligns with prior research demonstrating that antenatal mental health disorders manifest 89% more frequently among pregnant women lacking spousal support (Biratu & Haile, 2015). Women who lack social support from their husbands are three times more prone to antenatal depression than those who obtain social support (Zegeye, 2018).

The effect of gravida on expectant mothers' mental health at the Polanharjo Community Health Center in Klaten

The study found that 66.3% of participants were multigravida, and the analysis revealed a significant association between gravida and the mental health of pregnant women at the Polanharjo Community Health Center in Klaten ($p < 0.05$; $r = 0.283$). However, the effect size was small. The study population was similar to that in prior research conducted in Ethiopia, where multigravidity

was also prevalent (Faisal-Cury *et al.*, 2021). The findings of this research align with related studies conducted in Jeddah, indicating that parity plays a consequential role in the development of depression, anxiety, and stress during pregnancy (Khouj *et al.*, 2022), that the number of children related to the occurrence of problems in pregnancy, childbirth, and the puerperium (Martínez-Galiano *et al.*, 2019).

The research results showed that 18 multigravida respondents (21.7%) had abnormal mental health. The study's findings were consistent with research conducted in Ghana, which found that multigravidas had increased pregnancy risks related to mental health (Acheanpong *et al.*, 2022). In multigravida mothers, anxiety can be caused by the mother's imagination about the birth process, the mother's concerns about the health condition of her pregnant body, concerns about the possibility of miscarriage, babies born imperfect or deformed, babies born prematurely and giving birth to twins, as well as decision-making factors, and imagination about previous births (Isnaini *et al.*, 2020).

The study's findings also demonstrated that primigravida mothers had abnormal mental health (2.4%). This was in line with the theory that anxiety in primigravidas was normal because the first pregnancy for the prospective mother was a crisis period in her life. Primiparous mothers are really looking forward to the birth of their first child. It is something so exciting they cannot wait to see and caress their baby, but the feeling of fear of the baby being born with defects, and fear of the birth process will add to the pain to feelings of anxiety (Dinopawe *et al.*, 2021; Rosiana Ulfah *et al.*, 2022).

The effect of pregnancy history on expectant mothers' mental health at the Polanharjo Community Health Center in Klaten

The study findings indicated that most expectant mothers (73.5%) did not have a previous history of pregnancy complications. The analysis results revealed a significant impact between pregnancy history and maternal mental health among pregnant women at the Polanharjo Community Health Center in Klaten, with a low effect size ($r = 0.364$) and a p-value of <0.05 (0.003). This aligns with research indicating that women may experience subclinical distress with mild mood disturbances or anxiety disorders following a traumatic birth process (Watson *et al.*, 2021). Pregnancy-related depression is three times as frequent in those with a bad obstetric history. A traumatic event may develop a psychiatric disorder that affects subsequent pregnancies (Kusumawati *et al.*, 2022).

According to the study's findings, 22 expectant mothers have previously experienced pregnancy-related problems. 9 respondents had experienced a miscarriage and 13 respondents had experienced SC surgery. According to the study's findings, impaired mental health affected 11 pregnant women (13.3%) who had a history of pregnancy difficulties. This was consistent with many studies that demonstrated a strong link between mental health conditions experienced by mothers during their pregnancies and cesarean delivery (Moameri *et al.*, 2019). The severity of symptoms of stress, anxiety, and depression was substantially correlated with a history of cesarean delivery (Khouj *et al.*, 2022). Women with spontaneous vaginal birth experience fewer symptoms of postpartum depression and stress. Cesarean section delivery was specifically associated with anxiety symptoms. There is an influence of previous birth experiences that can influence the mode of delivery and mental health before and after birth (Skov *et al.*, 2022).

A history of miscarriage directly contributes to women's mental health problems. Miscarriage is a traumatic event for women. Feelings of grief and lack of enthusiasm are unavoidable, and have an impact on a more severe mental condition, both in the short and long term (Reardon, 2018; Alqahtani A *et al.*, 2018). Women who have experienced previous miscarriages display elevated levels of anxiety and depression during pregnancy, which persist for nearly three years following

the birth of a healthy baby. One of the impacts of miscarriage is the influence on the woman's psychological condition in subsequent pregnancies (Nia Ariestha Azis, 2017).

The effect of unplanned pregnancy on expectant mothers' mental health at the Polanharjo Community Health Center in Klaten

Most pregnant women planned their pregnancies, according to the research findings. The analysis's findings revealed that the p-value was > 0.05 (1.000), indicating that there was no discernible relationship between unintended pregnancies and pregnant women's mental health at the Polanharjo Community Health Center in Klaten. The study's respondents were the same as those found in an Ethiopian study that found most pregnant women planned their pregnancies (Faisal-Cury *et al.*, 2021). The study's findings aligned with research conducted in Iran, indicating that unwanted pregnancy did not have an impact on anxiety and depression levels in pregnant women. Psychological changes during pregnancy could be reduced as the pregnancy progresses (Alipour *et al.*, 2018).

The research results also showed that 1 pregnant woman was not planning a pregnancy with normal mental health. This was because the pregnant woman was multigravida and received good social support. This was not in line with research that stated that unwanted pregnancies were high-risk pregnancies that caused psychological stress and had an impact on behavior during pregnancy (Alfiyatussaidah *et al.*, 2020). Compared to pregnant women whose pregnancies were planned, those whose pregnancies are unplanned are nearly three times as likely to experience depression (Biratu & Haile, 2015; Kusumawati *et al.*, 2022). This is possible because pregnancy brings about changes in the body, mind, and hormones. so pregnancy requires physical, psychological, and financial preparation. Increasing fathers' participation in child care and reducing marital conflict may help reduce the detrimental impact of unintended pregnancy on perinatal mental health (Nuryati & Amir, 2022).

The effect of chronic physical illness/physical disability on expectant mothers' mental health at the Polanharjo Community Health Center in Klaten

The study found that most mothers did not experience chronic physical illness or disability. Further analysis revealed a p-value of >0.05 (0.241), indicating that chronic physical illness/disability did not significantly impact the mental health of pregnant women at the Polanharjo Community Health Center in Klaten.

The research results also showed that 1 pregnant woman with high blood pressure experienced abnormal mental health. According to research findings, the physical health condition of the mother is a risk factor for developing mental health issues during pregnancy. This could be due to a psychological fear of encountering other complications in the current pregnancy (Getinet *et al.*, 2018).

Hypertension can be experienced during pregnancy. The incidence of hypertension during pregnancy ranges from 5-15% and is among the top three causes of maternal mortality and morbidity. in addition to infection and bleeding (Genatha, 2018). Headache is a significant factor of antenatal depressive symptoms. This is supported by several studies that anxiety levels increase in pregnancy hypertension, as well as in women with gestational and pregestational diabetes (Hoedjes *et al.*, 2011; Horsley *et al.*, 2019). Another study reported that pregnant women with hypertension were 1.68 times more likely to develop prenatal depression than those without the condition (Acheanpong *et al.*, 2022).

The most influential factors on the mental health of expectant mothers at the Polanharjo Community Health Center in Klaten

The multivariate analysis results revealed that education, social support, gravida, and maternal pregnancy history impacted the mental health of pregnant women by 33% at the Polanharjo Community Health Center in Klaten. This implies that other unexplored factors like the age or education level of the husband and family income continue to affect pregnant women's mental health. These findings are consistent with prior research that highlights the primary determinants for antenatal mental health disorders, including education, number of children, a history of preceding pregnancy complications, and lack of social support (Zegeye, 2018; Setyorini *et al.*, 2023).

Pregnancy for women is a new opportunity to become a woman with new responsibilities. During pregnancy, women try to adapt to their new role as mothers. They process more complex social and cognitive learning. Pregnancy is a natural process, but it brings changes to women including physical, social, psychological, cultural, and spiritual aspects (WHO, 2014).

The analysis results indicated that social support was the most impactful factor on the mental health of pregnant women at the Polanharjo Community Health Center in Klaten, with a p-value of 0.034. Pregnant women with low social support had a 1.38 times higher chance of experiencing abnormal mental health compared to those with high social support. Support from family and spouse appeared to have a significant association with reducing anxiety levels. The higher the support given, the less anxiety the pregnant woman will have. Vice versa, the lower the family support, the higher the anxiety (Filippetti *et al.*, 2022).

Social support is an important thing to build coping mechanisms for pregnant women. Horizontal support can be provided by the husband, family, or health workers. Husband's support for pregnant women can be divided into three, namely support in the forms of information, psychological support, and physical support (Halim & Kurniawan, 2018). Social support can be emotional support (e.g. sharing problems or feelings) or practical support from friends, family, or community members (e.g. caring for children, or providing food). Antenatal or parenting classes can also serve as peer support groups (WHO, 2022). Better family functioning and social support can reduce anxiety during pregnancy (Huang *et al.*, 2022).

The findings of this study confirmed previous research, indicating that social support can decrease the risk of antenatal depression in pregnant women, while the absence of such support can contribute to its development (Getinet *et al.*, 2018). There exists a correlation between maternal family support and the psychological changes experienced by pregnant women (Zakiyah, 2022). Antenatal depression is 89% more likely to occur in pregnant women who experience a lack of spousal support (Biratu & Haile, 2015). Women who receive adequate social support are 79% less likely to experience prenatal depression (Belay *et al.*, 2019). Women who did not receive social support from their spouses were three times more prone to antenatal depression compared to those who did receive social support (Zegeye, 2018). The study results from Yogyakarta indicate a correlation between family support and psychological changes in expecting mothers (Zakiyah, 2022).

Support for pregnant women can also be provided by health workers (midwives, nurses, and doctors) in healthcare facilities through maternal and child health services which can improve the mental health of mothers during the perinatal period (Lail *et al.*, 2020). This is in accordance with

Islamic teachings, which require humans to be able to manifest a good relationship with Allah SWT, with each other, with nature, and with the environment. The role of Islam is to help humans to protect their souls and prevent mental disorders and foster mental health conditions (Noor *et al.*, 2022).

LIMITATION OF THE STUDY

The weakness found in this study is that there are factors related to the mental health of pregnant women that have not been studied. This is due to limited time and power. It is hoped that future researchers can conduct research using a mixed method, involve all factors that have not been studied, and may have something to do with the mental health of pregnant women.

CONCLUSIONS AND SUGGESTIONS

The study determined that the mental health of expecting women attending the Polanharjo Community Health Center in Klaten was within the normal range, with 63 (75.9%) falling under this category. The research discovered that age, employment status, having an unplanned pregnancy, and maternal illness/physical disability did not impact the mental health of pregnant women at the Polanharjo Community Health Center in Klaten. There was a significant impact of education, gravida, social support, and pregnancy history on the mental health of pregnant women at the Polanharjo Community Health Center in Klaten. Social support, with a p-value of 0.034, had the greatest influence on the mental health of pregnant women at the Polanharjo Klaten Health Center.

Suggestions are aimed at the Head of the Klaten District Health Office where policies are needed to increase support for pregnant women by further increasing the role of class activities for pregnant women and early detection by looking at the mothers' previous pregnancy history so that they can detect the mental health of pregnant women. It is hoped that the Head of the Community Health Center can provide input and information for the community health center to prevent mental health disorders during the antenatal period such as early screening of pregnant women with risk factors. Midwives are expected to be able to carry out early detection of mental health in pregnant women through clinical interviews and carry out initial management that prioritizes psychoeducation and counseling to increase support for mothers during pregnancy. Pregnant women should be more active in taking part in classes for pregnant women held by the community health centers to get more support in the pregnancy process and increase ANC visits to health facilities to reduce the risk of mental health disorders during pregnancy. Future researchers can conduct more complete and in-depth research quantitatively and qualitatively with a wider setting and more diverse characteristics aimed at factors that have not been researched and are related to the mental health of pregnant women.

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Ethical Considerations

The researchers first carried out an ethical test at the Research Ethics Commission (KEP) of 'Aisyiyah University, Yogyakarta. This research has received ethical approval from KEP Universitas 'Aisyiyah Yogyakarta number 2779/KEP-UNISA/IV/2023 dated 11 April 2023.

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Conflict of Interest Statement

In this research, there are no conflicts of interest among researchers. Researchers will be responsible for the content and writing of the research.

REFERENCES

- Acheanpong, K., Pan, X., Kaminga, A. C., & Liu, A. (2022). Prevalence and risk factors of prenatal depression among pregnant women attending antenatal clinic at Adventist Hospital, Bekwai Municipality, Ghana. *Medicine (United States)*, 101(10), E28862. <https://doi.org/10.1097/MD.00000000000028862>
- Adina, J., Morawska, A., Mitchell, A. E., Haslam, D., & Ayuku, D. (2022). Depression and anxiety in second and third trimesters among pregnant women in Kenya: A hospital-based prevalence study. *Journal of Affective Disorders Reports*, 10(July). <https://doi.org/10.1016/j.jadr.2022.100447>
- Alfiyatussaidah, A., Nasir, S., Wahiduddin, W., Suriah, S., Razak, A., & Bintara, A. (2020). Coping Behavior among Mothers Age 35 Years and Over with Unwanted Pregnancy in the Working Area of Kassi-Kassi Health Center Makassar City, Indonesia. *Interdisciplinary Journal Papier Human Review*, 1(2), 13–21. <https://doi.org/10.47667/ijphr.v1i2.42>
- Alipour, Z., Gholam, R., ALI, A., & Kazemi, A. (2018). Psychological profiles of risk for antenatal depression and anxiety in Iranian sociocultural context. *Journal of Education and Health Promotion*, December, 1–7. <https://doi.org/10.4103/jehp.jehp>
- Alqahtani A, Al Khedair K, Al-Jeheiman R, Al-Turki H, & Al N. (2018). Anxiety and depression during pregnancy in women attending clinics in a University Hospital in Eastern province of Saudi Arabia: Prevalence and associated factors. *International Journal of Women's Health* [revista en Internet] 2018 [acceso 17 de febrero de. *International Journal of Women's Health*, 101–108. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5826248/pdf/ijwh-10-101.pdf>
- Anindyajati, G. dkk. (2022). *Modul Kesehatan Jiwa Ibu Hamil dan Pasca Melahirkan Panduan Untuk Tenaga Kesehatan*.
- Anindyajati et al. (2022). *Modul PINTAR Nakes-Final_PPT(16Mar23).pdf*.

- Arinda, Y. D., & Herdayati, M. (2021). Masalah Kesehatan Mental pada Wanita Hamil Selama Pandemi COVID-19. *Jurnal Kesehatan Vokasional*, 6(1), 32. <https://doi.org/10.22146/jkesvo.62784>
- Bante, A., Mersha, A., Zerdo, Z., Wassihun, B., & Yeheyis, T. (2021). Comorbid anxiety and depression: Prevalence and associated factors among pregnant women in Arba Minch zuria district, Gamo zone, southern Ethiopia. *PLoS ONE*, 16(3 March), 1–15. <https://doi.org/10.1371/journal.pone.0248331>
- Bayrampour, H., Heaman, M., Duncan, K. A., & Tough, S. (2012). Comparison of perception of pregnancy risk of nulliparous women of advanced maternal age and younger age. *Journal of Midwifery & Women's Health*, 57(5), 445–453. <https://doi.org/10.1111/j.1542-2011.2012.00188.x>
- Belay, Y. A., Moges, N. A., Hiksa, F. F., Arado, K. K., & Liben, M. L. (2018). Prevalence of antenatal depression and associated factors among pregnant women attending antenatal care at Dubti Hospital: A case of pastoralist region in northeast Ethiopia. *Depression Research and Treatment*, 2018. <https://doi.org/10.1155/2018/1659089>
- Belay, Y. A., Moges, N. A., Hiksa, F. F., Arado, K. K., & Liben, M. L. (2019). Corrigendum to: Prevalence of antenatal depression and associated factors among pregnant women attending antenatal care at dubti hospital: A case of pastoralist region in Northeast Ethiopia (Depression Research and Treatment (2018) 2018 (1659089) DOI: 10. *Depression Research and Treatment*, 2019. <https://doi.org/10.1155/2019/3921639>
- Biratu, A., & Haile, D. (2015). Prevalence of antenatal depression and associated factors among pregnant women in Addis Ababa, Ethiopia: A cross-sectional study. *Reproductive Health*, 12(1), 1–9. <https://doi.org/10.1186/s12978-015-0092-x>
- Bjelica, A., & Kapor-Stanulović, N. (2004). [Pregnancy as a psychological event]. *Medicinski pregled*, 57(3–4), 144–148. <https://doi.org/10.2298/mpns0404144b>
- Boyce, P., Galbally, M., & Gregoire, A. (2018). Pregnancy: The earliest opportunity for prevention and early intervention for mental disorders. In D. Bhugra, K. Bhui, S. Y. S. Wong, S. E. Gilman, D. Bhugra, K. Bhui, S. Yeung Shan Wong, & S. E. Gilman (Eds.), *Oxford Textbook of Public Mental Health* (p. 0). Oxford University Press. <https://doi.org/10.1093/med/9780198792994.003.0041>
- Davis, D., Sheehy, A., Nightingale, H., Vitry-smith, S. De, Taylor, J., & Cummins, A. (2023). *Anxiety , stress , and depression in Australian pregnant women during the COVID-19 pandemic : A cross sectional study*. 119. <https://doi.org/10.1016/j.midw.2023.103619>
- Dinopawe, A., Makatita, B., & Alerbitu, K. L. (2021). Motivasi Suami dan Paritas Mempengaruhi Kecemasan Ibu Hamil Menjelang. *Kesehatan Metro Sai Wawai*, 14(1), 87–93.
- DKK Klaten. (2022). *Profil Kesehatan Kabupaten Klaten 2021* (Issue Februari, pp. 18–19).
- Faisal-Cury, A., Rocha, A. C., Elise Machado Ribeiro Silotto, A., & Maurício de Oliveira Rodrigues, D. (2021). Prevalence and associated risk factors of antenatal depression among Brazilian pregnant women: A population-based study. *Journal of Affective Disorders Reports*, 5, 100166. <https://doi.org/10.1016/j.jadr.2021.100166>
- Ferraro, A. A., Rohde, L. A., Polanczyk, G. V., Argeu, A., Miguel, E. C., Grisi, S. J. F. E., & Fleitlich-Bilyk, B. (2017). The specific and combined role of domestic violence and mental health disorders during pregnancy on new-born health. *BMC Pregnancy and Childbirth*, 17(1),

1–10. <https://doi.org/10.1186/s12884-017-1438-x>

- Filippetti, M. L., Clarke, A. D. F., & Rigato, S. (2022). The mental health crisis of expectant women in the UK: effects of the COVID-19 pandemic on prenatal mental health, antenatal attachment and social support. *BMC Pregnancy and Childbirth*, 22(1), 1–10. <https://doi.org/10.1186/s12884-022-04387-7>
- Fisher, J., de Mello, M. C., Patel, V., Rahman, A., Tran, T., Holton, S., & Holmes, W. (2012). Prevalence and determinants of common perinatal mental disorders in women in low-and lower-middle-income countries: A systematic review. *Bulletin of the World Health Organization*, 90(2), 139–149. <https://doi.org/10.2471/BLT.11.091850>
- Genatha, D. W. (2018). The Relationship Between Depression and Hypertension Incident in Pregnant Women. *Jurnal Berkala Epidemiologi*, 6(3), 209. <https://doi.org/10.20473/jbe.v6i32018.209-218>
- Getinet, W., Amare, T., Boru, B., Shumet, S., Worku, W., & Azale, T. (2018). Prevalence and Risk Factors for Antenatal Depression in Ethiopia: Systematic Review. *Depression Research and Treatment*, 2018. <https://doi.org/10.1155/2018/3649269>
- Glover, V. (2019). The Effects of Prenatal Stress on Child Behavioural and Cognitive Outcomes Start at the Beginning. *Encyclopedia on Early Childhood Development*, 1–5.
- Halim, N., Artania, & Kurniawan, A. (2018). Gambaran Dukungan Suami Terhadap Primigravida yang Mengalami Kecemasan. *Jurnal Psikologi Klinis Dan Kesehatan Mental Tahun*, 7, 84–96.
- Handayani, R. T., W, A., TA, J., & S, C. (2020). Effect of Antenatal Mental Health Disorder on Fetal Growth: A Systematic Review. *Journal of Maternal and Child Health*, 5(2), 147–153. <https://doi.org/10.26911/thejmch.2020.05.02.04>
- Hastono, S. P. (2020). *Analisa Data Bidang Kesehatan*. 1–212.
- Huang, J., Xu, L., Xu, Z., Luo, Y., Liao, B., Li, Y., & Shi, Y. (2022). The relationship among pregnancy-related anxiety, perceived social support, family function and resilience in Chinese pregnant women: a structural equation modeling analysis. *BMC Women's Health*, 22(1), 1–11. <https://doi.org/10.1186/s12905-022-02145-7>
- Isnaini, I., Hayati, E. N., & Bashori, K. (2020). Identifikasi Faktor Risiko, Dampak dan Intervensi Kecemasan Menghadapi Persalinan pada Ibu Hamil Trimester Ketiga. *Analitika*, 12(2), 112–122. <https://doi.org/10.31289/analitika.v12i2.3382>
- Karmaliani, R., Asad, N., Bann, C. M., Moss, N., McClure, E. M., Pasha, O., Wright, L. L., & Goldenberg, R. L. (2009). Prevalence of anxiety, depression and associated factors among pregnant women of Hyderabad, Pakistan. *International Journal of Social Psychiatry*, 55(5), 414–424. <https://doi.org/10.1177/0020764008094645>
- Kemenkes. (2018). Laporan Provinsi Jawa Tengah Riskesdas 2018. In *Kementerian Kesehatan RI*.
- Kemenkes RI. (2021). *Peraturan Menteri Kesehatan RI No 21 Tahun 2021 Tentang Penyelenggaraan Pelayanan Kesehatan Masa Sebelum Hamil, Masa Hamil, Persalinan, dan Masa Sesudah Melahirkan, Pelayanan Kontrasepsi dan Pelayanan Kesehatan Seksual*.
- Khouj, M. A., Albasri, S., Albishri, A. A., Softa, S. M., Almaslamani, A. S., & Ahmad, H. M. (2022). Prevalence of Stress, Anxiety, and Depression Among Pregnant Women in Jeddah. *Cureus*, 14(7). <https://doi.org/10.7759/cureus.27174>

- Kotimäki, S., Härkönen, J., Karlsson, L., Karlsson, H., & Scheinin, N. M. (2020). Educational differences in prenatal anxiety and depressive symptoms and the role of childhood circumstances. *SSM - Population Health*, 12. <https://doi.org/10.1016/j.ssmph.2020.100690>
- Kusumawati, Y., Salsabila, D. A., Widyawati, W., & Dewi, F. S. T. (2022). Depression and Anxiety as Mental Health Disorders That Affect Pregnancy: A Case Study in Surakarta, Indonesia. *Journal of Medicinal and Chemical Sciences*, 5(5), 866–873. <https://doi.org/10.26655/JMCHEMSCI.2022.5.20>
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the depression anxiety stress scales* (P. F. of Australia (ed.); 2nd ed.). Psychology Foundation of Australia.
- Madeghe, B. A., Kogi-Makau, W., Ngala, S., & Kumar, M. (2021). Nutritional Factors Associated With Maternal Depression Among Pregnant Women in Urban Low-Income Settlements in Nairobi, Kenya. *Food and Nutrition Bulletin*, 42(3), 334–346. <https://doi.org/10.1177/037957212111025123>
- Magalhaes, A. G., Souza, D. E. de, Barros, W. C. T. dos S., Eufrásio, L. S., Nascimento Júnior, L. S. do, & Viana, E. de S. R. (2021). Influência da paridade no desenvolvimento da depressão em mulheres brasileiras. *Research, Society and Development*, 10(4), e59910414516. <https://doi.org/10.33448/rsd-v10i4.14516>
- Martínez-Galiano, J. M., Hernández-Martínez, A., Rodríguez-Almagro, J., Delgado-Rodríguez, M., & Gómez-Salgado, J. (2019). Relationship between parity and the problems that appear in the postpartum period. *Scientific Reports*, 9(1), 1–8. <https://doi.org/10.1038/s41598-019-47881-3>
- Moameri, H., Nematollahi, S., Yaseri, M., Gharaee, H. A., Karimi, R., & Holakouie-Naieni, K. (2019). The relationship between maternal mental health during pregnancy and type of delivery in the suburbs of Bandar Abbas during 2017-2018. *Medical Journal of the Islamic Republic of Iran*, 33(1). <https://doi.org/10.34171/mjiri.33.108>
- Mochache, K., Mathai, M., Gachuno, O., Stoep, A., & Kumar, M. (2018). Depression during pregnancy and preterm delivery: A prospective cohort study among women attending antenatal clinic at Pumwani Maternity Hospital. *Annals of General Psychiatry*, 17(1), 4–11. <https://doi.org/10.1186/s12991-018-0202-6>
- Muttaqin, D., & Ripa, S. (2021). Psychometric properties of the Indonesian version of the Depression Anxiety Stress Scale: Factor structure, reliability, gender, and age measurement invariance. *Psikohumaniora: Jurnal Penelitian Psikologi*, 6(1), 61–76. <https://doi.org/10.21580/pjpp.v6i1.7815>
- Nagandla, K., Nalliah, S., Yin, L., Majeed, Z., Ismail, I., Zubaidah, S., Ragavan, U., & Krishnan, S. (2016). Prevalence and associated risk factors of depression, anxiety and stress in pregnancy. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 5(7), 2380–2388. <https://doi.org/10.18203/2320-1770.ijrcog20162132>
- Nia Ariestha Azis. (2017). *Strategi Coping Terhadap Kecemasan Pada Ibu Hamil dengan Riwayat Keguguran di Kehamilan Sebelumnya*. 05(01), 144–157.
- Noor, A., Tanjung, I., Setiwan, C., Tasawuf, J., Psikoterapi, D., Uin, U., Gunung, S., & Bandung, D. (2022). Peran Agama Islam terhadap Kesehatan Mental menurut Zakiah Daradjat. *Gunung Djati Conference Series*, 8, 214–225.
- Nugraha, M. A., & Keliat, B. A. (2020). Depresi selama kehamilan sebagai faktor risiko stunting. *Jurnal Ilmu Keperawatan Jiwa*, 3(3), 249–262.

- Nurjismi, E., Jubaedah, A., Sunarsih, N. E., & Dkk. (2021). Modul Pelatihan Midwifery update. In *Ikatan Bidan Indonesia* (p. 559).
<http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=2009790613&site=ehost-live>
- Nuryati, T., & Amir, Y. (2022). Mental Health Problems of Pregnant Women, the Causes, and the Need for Social Support. *Jurnal Biometrika Dan Kependudukan*, 11(1), 80–88.
<https://doi.org/10.20473/jbk.v11i1.2022.80-88>
- Pangesti, W. D. (2018). Adaptasi psikologis ibu hamil dalam pencapaian peran sebagai ibu di puskesmas kembaran ii kabupaten banyumas. *Viva Medika*, 10.
- Pasaribu, N. (2021). Risk Factors of Domestic Violence in Pregnancy and Its Correlation with Mental Health Disorders. *Scientia Psychiatrica*, 2(4), 177–182.
- Reardon, D. C. (2018). The abortion and mental health controversy: A comprehensive literature review of common ground agreements, disagreements, actionable recommendations, and research opportunities. *SAGE Open Medicine*, 6, 205031211880762.
<https://doi.org/10.1177/2050312118807624>
- Rinata, E., & Andayani, G. A. (2018). Karakteristik ibu (usia, paritas, pendidikan) dan dukungan keluarga dengan kecemasan ibu hamil trimester III. *Medisains*, 16(1), 14.
<https://doi.org/10.30595/medisains.v16i1.2063>
- Rosiana Ulfah, H., Al Hasbi, H., & Kurniawati, E. (2022). the Relationship of Pregnant Mother's Anxiety With Parity During the Covid-19 Pandemic. *Proceeding of International Conference on Science, Health, And Technology*, 407–414. <https://doi.org/10.47701/icohetech.v3i1.2242>
- Setyorini, C., Ismarwati, I., & Mamnuah, M. (2023). Risk Factors for Depression in Pregnancy: Scoping Review. *Jurnal Aisyah : Jurnal Ilmu Kesehatan*, 8(2), 141–152.
<https://doi.org/10.30604/jika.v8i2.1738>
- Silva, S. A., Zanon, R. B., & Pereira, V. A. (2022). Depression, Anxiety and Stress Scale (DASS-21): Psychometric properties in pregnant women. *Psicologia - Teoria e Prática*, 24(2), 1–16.
<https://doi.org/10.5935/1980-6906/eptppa13525.en>
- Sudziute, K., Murauskienė, G., Jarienė, K., Jaras, A., Minkauskienė, M., Adomaitienė, V., & Nedzelskienė, I. (2020). Pre-existing mental health disorders affect pregnancy and neonatal outcomes: A retrospective cohort study. *BMC Pregnancy and Childbirth*, 20(1), 1–7.
<https://doi.org/10.1186/s12884-020-03094-5>
- Sugiyono, S. (2021). *Statistika Untuk Penelitian* (31st ed.). Alfabeta.
- Sulistiani, W., Fajrianthi, F., & Kristiana, I. F. (2022). Validation of the Indonesian Version of the Multidimensional Scale of Perceived Social Support (MSPSS): A Rasch Model Approach. *Jurnal Psikologi*, 21(1), 89–103. <https://doi.org/10.14710/jp.21.1.89-103>
- Suyani. (2020). Hubungan Tingkat Pendidikan Dan Status Pekerjaan Dengan Kecemasan Pada Ibu Hamil Trimester III. *Jurnal Kesehatan Masyarakat*, 8, 19–28.
- Tamiru, D., Misgana, T., Tariku, M., Tesfaye, D., Alemu, D., Weldesenbet, A. B., Gebremichael, B., & Dheresa, M. (2022). Prevalence and Associated Factors of Common Mental Disorders Among Pregnant Mothers in Rural Eastern Ethiopia. *Frontiers in Psychiatry*, 13(March), 1–10.
<https://doi.org/10.3389/fpsy.2022.843984>
- Vijay, J., & Patel, K. K. (2020). Risk factors of infant mortality in Bangladesh. *Clinical*

Epidemiology and Global Health, 8(1), 211–214. <https://doi.org/10.1016/j.cegh.2019.07.003>

Watson, K., White, C., Hall, H., & Hewitt, A. (2021). Women's experiences of birth trauma: A scoping review. *Women and Birth*, 34(5), 417–424. <https://doi.org/https://doi.org/10.1016/j.wombi.2020.09.016>

WHO. (2014). *Social Determinants Of Mental Health*.

WHO. (2022). *Guide for integration of perinatal mental health in maternal and child health services*. 66. <https://www.who.int/publications/i/item/9789240057142>

Wulandari, R. P., & Perwitasari. (2021). Hubungan Usia Ibu dan Paritas Dengan Gejala Depresi Pada Kehamilan. *Midwifery and Reproduction*, 4(2), 81–85.

Yan, H., Ding, Y., & Guo, W. (2020). Mental Health of Pregnant and Postpartum Women During the Coronavirus Disease 2019 Pandemic: A Systematic Review and Meta-Analysis. *Frontiers in Psychology*, 11(November), 1–12. <https://doi.org/10.3389/fpsyg.2020.617001>

Zakiyah, L. D. F. Z. (2022). Hubungan Dukungan Keluarga Dengan Adaptasi Perubahan Psikologi Pada Ibu Hamil. *Jurnal Kebidanan Indonesia*, 13(1), 23–31.

Zegeye, A. et al. (2018). Prevalence and determinants of antenatal depression in Ethiopia: A systematic review and meta-analysis. *BMC Pregnancy and Childbirth*, 14(2), 1–11. <https://doi.org/10.1371/journal.pone.0211764>

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, 52(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2