

Psychological Response (Depression) Pregnant Women During the Covid-19 Pandemic in East Java Region: Regression Analysis

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Abstract---Introduction: This COVID-19 epidemic causes anxiety effects on the entire population especially to pregnant women. Pregnancy is an important period for a mother who often causes anxiety. Anxiety in pregnant women is associated with various changes that occur during pregnancy. The purpose of this study is to analyze the psychological response (Depression) of pregnant women to compliance with antenatal care during the COVID-19 pandemic in the East Java. **Materials and Methods:** Qualitative analytic research design with the cross-sectional approach, with depressive research variables, maternal age, gestational age, and parity, 76 pregnant women in the East Java as research subjects, online data collection using Google forms distributed to mothers pregnant, data were collected from April 14 to May 8, 2020, after obtaining ethical approval from the Ngudia Husada Madura STIKes, then data were analyzed using SPSS 24.0 for Windows with the Spearman Rank statistical test and ordinal regression. **Result:** Results showed that age, parity, and gestational age have a significant relationship with depression in pregnant women during the COVID-19 pandemic, while psychological responses (depression) 59.2% mild depression, 3.9% moderate and 2.6% severe, and the results of the ordinal regression test were highly significantly related to depression is maternal gestational age and parity, maternal age at risk OR: 5,829 times will increase depression and OR: 11,108 primigravida parity will increase depression during pregnancy in the COVID-19 pandemic. **Conclusion:** Gestational age and parity are significantly associated with depression in pregnant women during the pandemic and depression assessment results, pregnant women experience mild, moderate, and even severe depression, so that intensive supervision is needed especially in high-risk pregnant women. ANC monitoring can still be carried out with a note of making an appointment with a midwife or health worker.

Keywords---Depression, maternal age, gestational age, parity, Covid-19

I. Introduction

Pathogenic agents were identified as the novel 2019 corona virus (SARS-CoV-2) and World Health Organization (WHO) states that the outbreak of the COVID-19 virus is a public health emergency that is becoming public health emergency that is becoming current international attention [1]. At the beginning of the outbreak, many were unknown that it was transmitted through direct exposure at the local animal market [2]. COVID-19 transmission from person to person was revealed to the public by the Chinese government on January 20, 2020, and that asymptomatic individuals are potential source of infection that transmits the virus [1], [3]. This COVID-19 epidemic causes the effects of anxiety on the entire population, especially on pregnant women. Pregnancy is an important period for a mother who often causes anxiety. Anxiety in pregnant women is associated with various changes that occur during pregnancy. Therefore, pregnant women need the skills to manage emotions to deal with perceived anxiety [4].

Based on the results of the study found that pregnant women after the COVID-19 epidemic had a significantly higher rate of depressive symptoms (26.0% vs 29.6%, $P = 0.02$) than pregnant women before getting information about the presence of the COVID 19 epidemic [1]. As for depression, found the age group with the highest level of severe depression between ages 20 to 29 (6.9%), followed at ages 30 to 39 years with 6.5%. The age of both groups showed data from the highest summation of severe, moderate, and mild depression with 29.2% and 25.1%, respectively [5]. Pregnant women who assessed during the COVID-19 pandemic found more stress and psychiatric symptoms than pregnant women who assessed before the pandemic, especially in the form of depression and anxiety symptoms. Considering prenatal pressure on mother and child is very dangerous, and there is an increase in symptoms, intensive surveillance should be carried out on pregnant women [6]-[27].

Pregnant women who often feel anxiety and fear cause an increase in the sympathetic nervous system work. The sympathetic nervous system releases hormones into the bloodstream to prepare the body for emergencies. The autonomic nervous system then activates the adrenal glands which affect the system on the hormone epinephrine. Increased adrenaline and noradrenaline or epinephrine and norepinephrine hormones cause biochemical dysregulation of the body, resulting in physical tension of pregnant women and an increase in overall emotional intensity, and evidence shows that pregnant women who feel anxious and depressed will have an impact on the growth and development of their fetus, premature births will occur and neurological disorders [7] - [10].

Maternal prenatal psychological pressure often occurs in the community population of pregnant women [11], the main triggers such as health crises and natural disasters will increase prenatal stress and have long-term effects on child development [12]. 8 Corona virus 2019 (COVID-19) has affected people all over the world and often interferes with

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medical practice in non-COVID-19 cases and specifically in prenatal care [13], [15]. Although pregnancy is generally believed to be something pleasing to most women, some women experience various negative emotions during pregnancy that lead to anxiety and depression. Problems in maternal mental health are associated with short-term and long-term risks to the overall health and functioning of the affected mother, as well as the physical, cognitive, and psychological development of children. Conditions such as extreme stress, emergencies and conflict, and natural disasters can increase the risk of perinatal mental health. Therefore, it is evident that pregnant women are vulnerable to mental health during the COVID-19 pandemic [15].

Several studies on COVID-19 and pregnancy have been published recently, but the impact of this pandemic on maternal mental health has not been properly evaluated. However, it is important to consider the possibility of an increased risk to avoid adverse effects, especially on pregnant women. Based on the interviews results from several midwives revealed that a decrease in visiting of pregnant women because integrated Posyandu was abolished due to the presence of a COVID-19 pandemic and visiting to the practice also decreased [14]-[28]. Although preliminary data from China shows that there is no increased risk of infection and morbidity on pregnant women compared to the general population [15], different picture emerges because outbreaks have escalated into global pandemic. Pregnant women may be at risk of having more severe disease, preterm births are more common, and maternal and newborn deaths have been reported. Furthermore, the risk of miscarriage associated with COVID-19 remains unclear, although symptoms of severe acute respiratory syndrome due to corona virus-2 (SARS-COV-2) in second-trimester placenta have been found [16]. This uncertainty tends to increase psychological stress and can even lead to an increase in pregnancy termination rates.

This study was first conducted in the East Java because there has been no definitive data on psychological responses (Depression) in pregnant women during the COVID-19 pandemic, so researchers are interested in doing this research because from several international journals many pregnant women experience depression during pregnancy.

II. Materials and Methods

The study design analytic qualitative cross-sectional approach, variables of the study were depression, maternal age, gestational age, parity, and research subjects was pregnant women in the East Java as total 76 people, collecting data as online using google form which was distributed to pregnant women. Data were collected from April 14 to May 8, 2020, after obtaining ethical approval from Ngudias Husada Madura STIKes, then data were analyzed using SPSS 24.0 for Windows with the statistical test of Spearman rank and ordinal regression and significant level of 0.05. The data is displayed with frequency distribution table

III. Result & Discussion

Table 1 Characteristics of pregnant women in East Java

No	Variable		M%	p-value
1	Minimum			
	Minimum Risk of	29	38.2	0000
	Reproductive Age	47	61.8	
2	Age Pregnancy			0000
	1-3.9months	32	42.1	
	4-6.9months	37	48.7	
	7-9 months	7	9.2	
4	Parity			0,000
	Primigravida	50	65.8	
	Multigravida / Grandemultigravida	26	34.2	
5	Psychological Response (Depression)			
	Normal	26	34.2	
	Mild	45	59.2	
	Medium	3	3.9	
	Weight	2	2.6	

Based on the results of the statistical test Rank-Spearman obtained from three variables researched which is determinant from psychological response (depression) of pregnant women during the COVID-19 pandemic, variables of age, gestational age and parity have significant relationship with psychological responses (depression) of pregnant women, while the results of psychological response studies (depression) obtained 3.9 results % moderate and 2.6% moderate and severe depression, although most were normal and mild. More than half is belong to mild depression although it's belong to mild but there are already symptoms of psychological response (depression) during the COVID-19 pandemic. Most pregnant women answered feeling nervous, anxious, or anxious without knowing the cause, and very worried about contracting the corona virus, feeling afraid to do a midwifery examination or other health care workers.

Table 2 Logistic Regression statistical test

No	Variable	Wald	Lower	Upper	p-value
1	Age				
	Age at Risk	0.277	-2.290	3,762	0.633
2	Reproductive pregnancy Age				
	1-3.9 months	5.829	-5.721	-0.594	0.016*
	4-6.9 months				
	7-9 months				
4	Parity				
	Primigravida	11.108	-10.199	-2.645	0.001*
	Multigravida / Grandemultigravida				

The results showed that the results of the ordinal regression statistical test obtained from three variables, two variables are significantly associated with psychological responses (depression) in pregnant women during the COVID-19 pandemic. It can be seen that the early gestational age of both trimesters 1 and 2, 5,829 times will increase psychological responses (depression) in pregnant women during the pandemic COVID-19 and primigravida parity 11,108 will increase psychological responses (depression) in pregnant women.

Psychologically, pregnant women feel fear, anxiety, and various other emotions that appear suddenly. Unstable psychological changes occur in the first trimester and are usually caused by physical discomfort, for example, body that was slimmer now is enlarged, to reduce the confidence in pregnant women. When pregnant, it is normal for expectant mothers to experience mood swings. Mood swing, which is changing in emotions and moods fluctuating up and down. Most pregnant women experience it, only some are mild and some are extreme [4]. Physiologically pregnant women undergo psychological changes, so it depends on pregnant women how to manage their emotions properly, with the presence of the COVID-19 pandemic this will increase psychological responses in pregnant women, this needs attention and supervision continuously considering the impact of psychological responses can be short and long term impacts especially on the fetus that is conceived.

The results showed after an assessment with DASS (Depression, Anxiety, Stress Scale) obtained results of mothers experiencing psychological responses (depression) whether mild, moderate and severe, although most of them experienced normal psychological response, so with the presence of this COVID-19 pandemic indeed give psychological impact to pregnant women, from the assessment results many pregnant women who feel anxious, worried, anxious, insomnia because of fear of contracting the corona virus, worried because they cannot check their pregnancy to health workers. Short-term consequences of prenatal depression and anxiety on the physical health of pregnant women include obstetric complications and physical symptoms, both of which are related to fetal and neonatal growth [9], [18]. Recent research reveals a series of small cases that assess maternal and fetal outcomes from COVID-19 cases, the first pregnancy in central London hospital [18], and want to share some pilot data on levels of anxiety and depression of pregnant women for 11 weeks the last of the pandemics where mothers experienced mild, moderate and severe psychological responses with score of, 5, 10, 11 as a cut-off point for assessing psychological responses. The assessment used is the Generalized Anxiety Score 7 (GAD-7), which found that the median value rises when in the UK before being locked down. Pilot data in the UK show that maternal anxiety levels at the end of the pandemic appear to be low, with depression following the same pattern of low. This is likely due to increased information available and guarantees through social media, health care professionalism, and primary care. Nevertheless, despite these convincing findings, we agree with Dr. Thapa and colleagues that maternal mental health should not be ignored at the expense of the more obvious physical effects of COVID-19 disease during this period [15]-[29]. Depression and / or anxiety are also common complications of pregnancy, with international prevalence rates ranging between 8 and 36% [20]. The experience of depression and / or anxiety tends to peak in the third trimester, with rates as high as 21.6% for depression and 35.8% for anxiety and this study was studied in primigravida pregnant women [21].

The results showed that from three variables of maternal age, gestational age, and parity significantly correlated with the psychological response (depression) in pregnant women during the COVID-19 pandemic, this psychological response was also inseparable from the factors that influenced it. Based on the logistic regression research results, revealed that gestational age and parity are very significantly related to psychological responses (depression), it can be seen in table 2 that gestational age will increase 5,829 times the occurrence of psychological responses (depression) in pregnant women, especially during the pandemic. Anxiety is associated with an early gestational age below 12 weeks and an increased risk of preterm birth among African-American women [22].

The parity variable will also increase 11,108 times the occurrence of psychological responses (depression) in pregnant women. Psychological response (depression) is mostly experienced by pregnant women with early trimester 1 and 2 pregnancies. The results showed that almost all (97.4%) third-trimester pregnant women with multigravida parity

experienced no anxiety and mild anxiety compared to pregnant women with primigravida parity [23]. Zamriati et al., (2013) reported that pregnant women with primigravida parity (54%) experienced moderate anxiety and severe anxiety compared to pregnant women with multigravida parity [24], during early pregnancy there was an adaptation process with the pregnancy, pregnant women often experience psychological responses and this is something that naturally depends on pregnant women how to manage their emotions properly, so that psychological responses can be good or not good. Whereas the parity was found in the pregnancy of the first child or primigravida which experienced many psychological responses (depression). Research on maternal age has no significant relationship with psychological responses in pregnant women, in line with previous studies revealed no significant relationship was observed between maternal age and mental health [25]. Although some studies show that the level of mental health problems is higher among younger women, several studies have reported no relationship between mental health and age [26], and the results of this study are consistent with this study.

IV. Conclusion

Gestational age and parity are significantly related to psychological responses (depression) in pregnant women during the COVID-19 pandemic, and maternal age has no significant relationship with psychological responses in pregnant women, whereas pregnant women experience psychological responses (depression) during the COVID pandemic -19 whether mild, moderate and severe depression, it is evident that at the time of the COVID-19 pandemic this affected psychological responses not only in the general population but also in pregnant women.

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