

Original Article

Stress Level Of Pregnant Women During The Pandemic Covid-19

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ARTICLE INFO	ABSTRACT
<p>Article History: Submit : May 31, 2023 Revised : June 9, 2023 Accepted : June 30, 2023</p>	<p>Background: High stress during pregnancy can undoubtedly harm both the mother and the fetus. Stress is the body's generalized reaction to every load and its generalized patterns of reaction and adaptability. This study aimed to gauge the stress levels of expectant mothers in Kalianyar Village, Ngronggot District, and Nganjuk Regency during the Covid-19 Pandemic.</p> <p>Methods: Descriptive research design, population, and a sample of 25 respondents with a sampling technique, "total sampling". The research was conducted on December 15-26, 2020, Stress Levels for Pregnant Women During the COVID-19 Pandemic, a research variable measured by a questionnaire, was examined by percentage, and quantitatively interpreted.</p> <p>Results: The research results were obtained from 25 respondents. Almost all respondents experienced moderate stress, as many as 20 respondents (80%). A small portion of the respondents experienced severe stress, as many as 5 respondents (20%).</p> <p>Conclusion: This is influenced by several factors, namely: age, education, occupation, history of pregnancy, gestational age, information about Covid-19, sources of information about Covid-19, and history of pregnancy examinations (ANC). It is hoped that pregnant women can control stress, get support from their families, consistently implement health protocols, and think positively during pregnancy during the Covid-19 pandemic.</p>
<p>Keywords: Stress Level, Pregnancy, Covid-19</p>	

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Introduction

A woman's pregnancy is both joyful and upsetting. Pregnancy is a significant life event for pregnant women and their partners. However, pregnancy can also be a sign of a maturation crisis, which can make people feel stressed and anxious about potential risks to their health, particularly during labor and delivery ([Kamariyah, Nurul, Yasi Anggasari, 2014](#)).

Stress is a situation where a demand is not specific or specific and requires a person to respond or take action. Experiencing stress too often can disrupt health, life, appearance, behavior, and attitudes. Stress in pregnant women is related to the safety and health of the baby to be born ([Qodriyah, 2015](#)). Pregnant women who experience stress can cause their blood pressure to rise. Plague pandemic period Corona Virus Disease 2019 (Covid-19), which has hit 215



countries in the world, is causing everyone stress and anxiety because the virus can infect from human to human. It does not rule out the possibility of pregnant women. A pregnant woman will face various challenges and psychological changes that can result in high-stress levels. Pregnancy with high-stress levels can undoubtedly harm the mother and fetus. Pregnancy with high stress during this pandemic does not only have an impact on primiparous pregnancies but also has an impact on multiparous pregnancies ([Arisanti, 2021](#); [Asmariyah et al., 2021](#); [Muzayyana & Saleh, 2021](#)).

The World Health Organization (WHO) informs that research is being carried out to understand the impact of Covid-19 infection on pregnant women. Meanwhile, the data needed to study this matter is still limited, so there is no evidence that pregnant women are at high risk ([Sulistyawati, 2011](#)). However, due to body and immune system changes, pregnant women can be infected with several viruses, including respiratory ones. The metabolic system in pregnant women also experiences changes, unlike ordinary people. During the pandemic, all activities were carried out online Work From Home (WFH), as long as WFH caused the pregnancy rate to increase during Covid-19 pandemic.

Data from the National Population and Family Planning Agency (BKKBN) in 2020, more than 400 thousand unplanned pregnancies occurred in Indonesia during the pandemic. In East Java, the positive number of Covid-19 in February was 68,547 people, up to 1.13%. In March, 278,365 people, up to 4.68%. In April, 414,708 people, up to 7.07%. The latest update from the East Java Covid-19 handling acceleration task force shows that the number of pregnant women exposed to the coronavirus has reached 42 people. This condition makes pregnant women anxious and worried about this virus about the condition of their

pregnancy. Research conducted by Fazdria and Meliani Sukmadewi Harahap with the title "Description of the Level of Anxiety in Pregnant Women in Facing Childbirth in Tualang Teungoh Village, Langsa District, Langsa City Regency, 2014" obtained results from 25 people (total sampling), the majority of respondents had a moderate level of anxiety and weight as many as 12 respondents (48%). Of the 3 (100%) respondents aged <20 years had symptoms of severe anxiety, and of the 4 respondents aged >35 years, the % had moderate and severe symptoms of anxiety 50%. In conclusion, most respondents experienced severe anxiety symptoms in primiparas and grande multiparas, while multiparas experienced moderate anxiety symptoms. In the long run, severe anxiety in pregnant women can cause stress.

Pregnant women will experience physical and psychological changes (feelings of anxiety, fear, and pressure) ([Guyton, A. C., 2008](#)). It is essential that the role of the family and the mother is to maintain the physical and psychological condition of the mother. Both of these processes mutually support the birth process, the physiological changes of pregnancy cause rapid and fundamental changes in body shape ([KHOIRUNISA, 2021](#); [Muchsin, 2021](#); [Sehmawati & Permatasari, 2020](#); [Veftisia et al., 2020](#)). Changes in self-image, feelings of anxiety about becoming parents, and a lack of support from partners and family can cause many changes in the psychological condition of pregnant women.

Maternal anxiety and depression are prevalent during and after pregnancy ([Herron, 1977](#)). Feelings of worry about the health condition of the mother and fetus and the delivery process can also affect the mother's psychological condition. The psychological condition of pregnant women determines the condition of the baby both physically and psychologically. Many studies have proven that the mother's emotional

stability can affect the child's emotional stability. During pregnancy, the mother will experience physical and psychological changes. One of the psychological changes in pregnant women is stress. Pregnant women are often worried about the condition of the fetus they are carrying, and sometimes, mothers feel stressed and worried if they mothers can be exposed to viruses and diseases because pregnant women are one of the groups in society most susceptible to health problems. How pregnant women can go through their pregnancy until delivery and control stress levels during the Covid-19 pandemic is a challenge in itself for pregnant women.

The Covid-19 virus has disrupted pregnancy plans and caused increased anxiety in most pregnant women who question how the virus will impact the baby's birth. Most pregnant women feel anxious about giving birth without being accompanied by the people they care about beside them directly. Some are worried about being infected with Covid-19 and affecting their pregnancy and its impact on the delivery process. To break the chain of transmission of the Covid-19 virus, it is possible in the digital era to connect and conduct health consultations with doctors only via smartphones, which are increasingly popular in society. Health consultations during pregnancy during a pandemic can now be done via remote or online consultations. This online consultation has both positive and negative impacts. The positive impact is that mothers feel safe and comfortable because they don't have to leave the house and don't have much direct contact with other people during health consultations, and this policy can break the chain of transmission of the Covid-19 virus. The negative impact is that mothers feel anxious because they cannot know the condition of their wombs directly, and mothers feel dissatisfied with online health

consultations.

The impact of increased stress, anxiety, and feelings of depression in pregnancy can change physiological parameters, namely increased regulatory activity hypothalamic pituitary adrenal (HPA) axes. The HPA is one of the main stress systems in the human body that regulates the release of glucocorticoid, namely cortisol. While the system adrenal medullary sympathetic (SAM), a second important regulator of human stress reactivity, releases catecholamines norepinephrine (NO) and day epinephrine (E). Maternal and fetal cortisol levels are highly correlated, and cortisol is known to cause growth retardation and may also affect fetal brain development.²

Premature birth and low birth weight can result from stress during pregnancy, as well as inhibition and failure of fetal growth and length of gestation. Reduced blood supply to the uterus and elevated arterial blood pressure can also impact the placenta's functionality. Increased hormones may contribute to several health issues brought on by maternal stress, including preeclampsia and pregnancy-related hypertension ([Qodriyah, 2015](#)). Efforts that pregnant women can make at this time to overcome psychological problems of stress and maintain pregnancy in pregnant women during the Covid-19 pandemic are to fulfill their physical, social, and psychological needs. Physical needs can be met by families and caregivers through education on the prevention of Covid-19 following government recommendations to implement health protocols such as reducing activities in public places, prohibiting crowds, social restrictions (social distancing) and physical distancing (physical distancing), wearing a mask, diligently washing hands, always fulfilling adequate nutrition to boost the immune system and exercise regularly.

Nurses and families can meet social needs by motivating pregnant women about the importance of preventing Covid-19 and providing family assistance to pregnant women during pregnancy and delivery. Pregnant women who need social interaction can invite friends, relatives, and the parenting community to interact virtually.

Families and caregivers can meet psychological needs by managing stress by reducing activities that exacerbate stress, interacting with family and other people according to health protocols, and increasing our faith so that prolonged stress does not occur. And the most important thing to prevent high levels of stress in pregnant women is the support of a support system that can help mothers healthily manage stress; this can be done independently and can be started with distraction and relaxation methods, as well as good support, especially from friends and family to lean on when needed and can provide support and motivation as encouragement or encouragement. With this support, you can overcome stress better and find a way out.

Research Objectives To Know the Level of Stress in Pregnant Women during the Covid-19 Pandemic in Kalianyar Village, Ngronggot District, Nganjuk Regency

Methods

Events or the condition of the population at that time. The design of this research uses a descriptive method. The population in this research is all pregnant women during the Covid-19 Pandemic in Kalianyar Village, Ngronggot District, Nganjuk Regency, a total of 25 people. A sample of 25 respondents was taken through the technique Total sampling. The research was conducted on 15-26 December 2020; The instrument used a questionnaire with variables, research variable Stress Level of Pregnant Women

during the Covid-19 Pandemic. Data analysis assessing measurement perceived Stress Scale (PSS), there are five answer choices provided for each statement provided, namely:

0 : Never.

1 : Rarely (1-2 times).

2 : Sometimes (3-4 times).

3 : Almost often (5-6 times) .

4 : Very often (more than 6 times)

Furthermore, respondents were asked to answer questions by circling the answers provided, individual scores on PSS (Perceived Stress Scale) can range from 0 to 40 with a higher score indicating severe perceived stress ([Scale et al., 1983](#)).

- a. Scores range from 0-13 for mild stress.
- b. Scores ranging from 14-26 moderate stress.
- c. Scores range from 27-40 severe stress.

This research has an ethical clearance number

249/EC/LPPM/STIKES/KH/XII/2020, from the STIKES Karya Husada Kediri Research Ethics Commission.

Results

Based on the ages of the 25 respondents, the majority of respondents aged 16-25 were 13 respondents (52%) and almost half of the respondents aged 25-35 were 12 respondents (48%). Based on the last education of the 25 respondents, 17 respondents (68%) had high school education, and almost half of the respondents' last education was tertiary, 8 respondents (32%). Based on the jobs of the 25 respondents, the majority were housewives, 16 respondents (67%), a small half of the respondents had labor jobs, were self-employed, and private employees, 1 respondent (4%).

Based on the pregnancy history of 25 respondents, most of the respondents had a history of first pregnancy, 17 respondents

(68%), a small half of the respondents had a history of third pregnancy, 1 respondent (4%). Based on the gestational age of the 25 respondents, almost half of the respondents had 10 respondents (40%) in the 1st trimester, and a small half of the respondents had the 3rd trimester of pregnancy, 6 respondents (24%). Based on obtaining information from 25 respondents, all of the respondents received information on Covid-19, a total of 25 respondents (100%). Based on media information from 25 respondents, most respondents got information on covid-19 from electronic media, a number of 16 respondents (64%), a small half of the respondents got information on covid-19 from families, a number of 3 respondents (12%).

Based on carrying out ANC from 25 respondents, almost all respondents carried out ANC (pregnancy checks) at the midwife, 20 respondents (83%), a small number of respondents did online ANC (pregnancy checks), and 1 respondent (4%). Almost all respondents did ANC (pregnancy check-ups) at the Midwife, with A total of 20 respondents (83%),

Table 1 Characteristics of Respondents Stress Level of Pregnant Mothers During the Covid-19 Pandemic in Kalianyar, Ngronggot District, Nganjuk Regency

No	Variable	N = 58	Percentage
1	Age		
	16-25 th	13	52%
	25-25 th	12	48%
2	Education		
	PT	8	68%
	SMK / SMA	17	32%
	Middle/Junior High School	0	0
	No school	0	0
3	Work		
	IRT	16	64%
	Laborer	1	4%
	Self-employed	1	4%
	Private officer	1	4%

	civil servant	6	24%
4	History of Beauty		
	I	17	46,5%
	II	7	38%
	III	1	15,5%
5	Gestational Age		
	Trimester I	10	40%
	Trimester II	9	36%
	Trimester III	6	24%
6	Have You Ever Obtained Information? Once	25	100%
7	Information Media		
	electronic	16	64%
	Medical	6	24%
	Family	3	12%
8	History of the ANC		
	Midwife	20	80%
	Public health center	3	12%
	Daring	2	8%

Table 2. Stress levels in pregnant women during the Covid19 pandemic in Kalianyar, Ngronggot District, Nganjuk Regency

NO	CRITERIA	N =	PROCENTAG E
1	Light Stress	0	0
2	Moderate Stress	20	80%
3	Heavy Stress	5	20%
	Amount	25	100%

Based on the table above shows that a total of 25 respondents, almost all respondents experienced moderate stress, 20 respondents (80%), a small portion of respondents experienced severe stress, 5 respondents (20%), and no respondents experienced mild stress.

Discussion

Twenty-five participants in a study done in Kaliannyar Village, Ngronggot District, and Nganjuk Regency reported moderate stress levels between December 15, 2020, and 20 (80 percent). Regarding the description of the stress level of pregnant women during the Covid-19



pandemic, a small half of the respondents experienced severe stress, a small number of 5 respondents (20 percent), and none experienced mild stress.

A pregnant woman's body goes through physiological and psychological changes during pregnancy. These alterations are mostly the result of hormonal impacts, specifically a rise in the hormones progesterone and estrogen ([Carrandi et al., 2022](#); [Mitayani, 2009](#)). The hormonal changes during pregnancy also contribute to emotional alterations, making you feel unpredictable, forgetful, and frequently lightheaded. This makes the mother feel uneasy when pregnant and produces stress, which is characterized by the mother's frequent moodiness. During the pregnancy, the mother and spouse experience significant psychological changes.

Emotional disturbances in the form of stress or depression experienced in pregnancy will affect the fetus. Because the fetus is in a period of formation at that time, stress or depression in pregnant women that cannot be handled properly will result in stunted growth or low birth weight babies. The psychological impacts on pregnant women include being sensitive, lazy, asking for more attention, easily jealous, and anxious.

Stress is the body's non-specific response to every load demand and general reaction patterns and adaptations. Several physical and biological factors, such as hormonal changes, previous illnesses, psychological factors, perceptions, emotions, and psychological situations, and environmental factors cause stress, such as natural disasters and bad relationships between family, friends, or friends. Or unable to accept the illness. Stress is divided into three levels: mild stress is stress that is faced every day, moderate stress is stress that lasts longer than mild stress, and severe

stress is stress that lasts a long time or years.

The results of the study found that almost all respondents with moderate stress levels, namely 20 respondents (83%). Some factors that can affect moderate stress levels in pregnant women can be seen from general data, namely gestational age, place of ANC examination (pregnancy check-up), and the last education of pregnant women.

The factor that affects the moderate stress level of pregnant women is gestational age. The general data found that almost half of the respondents were in the first trimester of pregnancy, namely 9 respondents (45%). The first trimester is often exciting to see if a pregnancy is progressing properly. This will be especially evident in women who have had multiple miscarriages and in female health professionals who are concerned about the possibility of another miscarriage or teratoma ([American College of Obstetricians and Gynecologists Committee on Obstetric Practice, 2010](#)); ([Diagnostic and Statistical Manual of Mental Disorders, 1994](#)); ([Practice Guideline for the Treatment of Patients With Major Depressive Disorder, 2010](#)). In addition, concerns about the womb, frequent vomiting at the beginning of the first trimester, and other problems can also cause stress and depression for mothers. The mother will constantly worry about her baby's health, which will make her feel depressed ([Kaplan H.I, 1998](#)). It can be concluded that mothers with moderate levels of stress usually occur in the first trimester of pregnancy because, in the first trimester of pregnancy, there will be many changes, one of which is changes in hormone secretion which make them uncomfortable and make pregnant women enter a phase of stress and depression. Plus, pregnancy is a huge life change, and combined with rapidly changing hormones, crying during the first trimester may be caused by feelings of

extreme happiness, anxiety, or fear that something will happen to the baby. In the second and third trimesters of pregnancy, the mother will experience severe stress due to her physical condition and more drastic emotional changes, as well as stress due to the preparation for childbirth.

Another factor that affects moderate stress is pregnancy examination (ANC). The results showed that all respondents had ANC (pregnancy check-ups) at the nearest midwife, 16 respondents (80%). By carrying out pregnancy checks, it is hoped that pregnant women can increase their awareness and have physical, mental, and financial readiness to deal with emergencies that can arise at any time ([jannah, A.W & Widajaka, 2012](#)). Antenatal care is indeed essential during pregnancy; this is, of course, useful to know the condition of the womb and what actions should be taken by the doctor during the examination. However, due to the Covid-19 pandemic, pregnant women are always wary of crowded places such as Puskesmas; therefore, many pregnant women use the facilities at the nearest midwife so that mothers feel safer and more comfortable. If you must go to the hospital to check yourself, you should still comply with the health protocol by implementing 3M (washing your hands, wearing a mask, and keeping your distance).

Education is a factor in moderate stress levels in pregnant women. The study results showed that most of the respondents had a senior high school education of 15 respondents (75%). Education and income level support a person to care about his health. Mothers with higher education will be more thorough in finding, collecting, and assessing health information to add insight into pregnant women ([Wells et al., 2011](#)). Pregnant women with higher education will be more selective in filtering information obtained from online media, friends, and family. Pregnant women with low education

can cause stress during the Covid-19 pandemic due to a lack of knowledge about stress management in pregnant women.

The research results found that a small half of the respondents with a high level of stress were 4 respondents (17%). Factors that can affect severe stress can be seen from general data, namely the work of the pregnant woman, the age of the pregnant woman, and the history of the mother's pregnancy.

The factor that can affect severe stress is work; a small half of the respondents are career women (working), namely 1 respondent (25%). A heavy workload can increase the hormone prostaglandin, an increase in this hormone that can trigger earlier labor¹⁵. The condition of pregnant and non-pregnant women workers clearly cannot be equated, and even though they still occupy the field of work for women, pregnant workers require restrictions and relief related to their health or safety¹⁶. Pregnant women who work during pregnancy will experience more stress than pregnant women who do not work. Working during pregnancy will cause stress due to disruption of daily activities; besides that, the threat of being expelled from work due to weak physical condition and decreased performance exacerbates the stress that pregnant women have. This factor is what causes pregnant women to experience severe stress easily.

The next factor is the mother's age, and the results showed that half of the female respondents were aged 15-25 years, namely 2 respondents (50%). Teenage mothers will experience psychological risks, namely stress, severe depression, stopping not to continue their education, abuse of their babies, and feeling alienated because their environment and friends are far away.¹⁷ This is what causes young mothers to be at risk of experiencing severe stress because they are not ready psychologically.

Women who get pregnant at a young age are unable and not ready to become parents. Their age may be relatively young, so they are not yet psychologically mature enough to carry out the role of motherhood.

Women aged 15-25 are also more at risk of experiencing pregnancy than women aged 25-35. This happens because women aged 15-25 have a high risk of marriage, leading to increased pregnancies during the Covid-19 pandemic. Pregnancy during the Covid-19 pandemic will cause stress. Stress is experienced by pregnant women because mothers are often worried about the condition of the fetus they contain. Sometimes mothers feel stressed and anxious if they mother is vulnerable to viruses and diseases. In addition, mothers feel worried about giving birth without being directly accompanied by the people they care about beside them, and pregnant women often question the impact of pregnancy during the Covid-19 pandemic on pregnancy and the birth process.

The next factor that can affect severe stress is a history of pregnancy. The study results showed that half of the respondents had a history of primiparous pregnancies (first pregnancies), namely 2 respondents (50%). When pregnant with their first child, expectant mothers will feel worried and happy while full of hope about what they experienced during pregnancy until delivery¹⁸. Primiparous pregnant women are more at risk of experiencing stress during pregnancy because this is the first time they are pregnant, so they will adapt to their new conditions, especially during the Covid-19 pandemic, which made them more aware of their surroundings, in contrast to multiparous pregnant women who are experienced and can control high-stress levels.

Conclusion

The research results obtained that almost all respondents have moderate stress criteria. This is influenced by several factors: age, education, occupation, history of pregnancy, gestational age, information about Covid-19, sources of information about Covid-19, and history of pregnancy examinations (ANC). It is hoped that pregnant women can control stress, get support from their families, always implement health protocols, and think positively during pregnancy during the Covid-19 pandemic.

Authors Contributions

The author carries out tasks from data collection, data analysis, and making discussions to making manuscripts.

Conflicts of Interest

All research teams agree with the final results of this study, and there is no conflict of interest in this study.

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