



## Maternal age as a main factor influencing prenatal distress in Indonesian Primigravida<sup>☆</sup>



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### KEYWORDS

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### Abstract

**Objectives:** Pregnancy is a maturation crisis, especially for primigravida, which affects both mother and fetus well-being. This study aimed to identify prenatal distress in primigravida and its relationship with maternal age, educational background, income level, gestational age, social support, previous traumatic experiences, satisfaction with paternal support, and pregnancy planning.

**Methods:** This cross-sectional study involved 214 primigravidas in Serang City, Banten Province, Indonesia. Translated instruments, such as a socio-demographic questionnaire, PTSD Symptom Scale (PSS), the Multidimensional scale of perceived social support (MSPSS), London Measure of Unplanned Pregnancy Instrument (LMUP), Marital Adjustment Test (MAT), and Prenatal Distress Questionnaire (PDQ), were applied.

**Results:** The results revealed that most respondents experienced severe distress (55.6%). Maternal age is the most dominant factor influencing prenatal distress in primigravida (OR = 10.31; 95% CI: 4.7–22.6).

**Conclusions:** The younger the mother, the greater the extent of the psychosocial problems. A higher maternal age is assumed to be associated with greater adaptation to the changes occurring during pregnancy. Healthcare providers should be aware that pregnancy can lead to distress, especially in young primigravidas. Programs to maintain mental health during pregnancy should be implemented.

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## Introduction

For some women, pregnancy can cause distress.<sup>1</sup> Metabolic, biochemical, physiological, hematological and immunological changes, and also psychologic changes can happen during pregnancy.<sup>2</sup> The characteristic of pregnancy is the fluctuating of gonadal hormones. This condition influences the behavior of women who could not cope with it.<sup>1</sup> The pregnant woman experiences significant physiology changes to nurture and accommodate the developing of the fetus. These changes begin after conception and affect every organ system in the body. These changes are an adaptation of the body toward pregnancy.<sup>3</sup> Some women may not understand these conditions resulted in stressfully.

Prenatal distress is an emotional disorder which occurs in one of four pregnant women.<sup>4</sup> Pregnant women often do not realize the emergence of such symptoms because they assume that the symptoms are common to occur in pregnant women.

The prevalence of emotional disorders during pregnancy varied. In Bangladesh, the prevalence of Antepartum depressive and anxiety symptoms were 18% and 29%.<sup>5</sup> A study in New Zealand reported that pregnant women in the hospital experienced anxiety 47% and in the community settings 37%.<sup>6</sup> Among the 467 late pregnant women in China, the prevalence of antenatal anxiety was 20.6%.<sup>7</sup> In Genève, Switzerland, 37% of pregnant women experienced antenatal depression.<sup>8</sup>

The studies related to emotional status during pregnancy are limited. Most studies had a small sample size. A study in Sumatera involved 73 respondents reported that 98.54% of pregnant women experienced moderate and severe anxiety.<sup>9</sup> Another study by Rahmatika stated that about 41% of pregnant women had moderate and highly stressed.<sup>10</sup>

The previous study mentioned that several factors might disturb a healthy pregnancy. The factors include maternal age, social support, previous traumatic experiences, education level, income level, gestational age, the satisfaction of husband support and pregnancy planning.<sup>11-14</sup>

Arch reported that in the US, the status of first-time pregnant women was predicted associating with higher pregnancy distress.<sup>4</sup> The first-time pregnant women tended to have childbirth fear. They viewed the childbirth process identically with fearful, painful and more tension than any event in life.<sup>15</sup>

In Turkey, 48.5% women with severe prenatal distress tended to worry of having a premature baby, 27% worry about having an unhealthy baby, 18.8% worry about the pain during labor, and 12.8% felt tired and powerless during pregnancy. Meanwhile, the mother who had mild distress stated that the influencing factor of distress was the cost of medical examination and labor, quality of medical care, as well as the changes in socializing with others resulting pregnancy.<sup>16</sup>

The studies about distress during pregnancy in Indonesia are limited. Most studies discussed psychosocial problems in general, such as anxiety. Among pregnant women with complication, it found about 30% were in anxiety.<sup>17</sup> A qualitative study involving 13 adolescent pregnant women in

Indonesia reported that they experienced depressed, fear, sad, angry, annoyed, and confused. They were unpreparedness for pregnancy.<sup>18</sup>

Prenatal distress is categorized as a minor syndrome of mental disorders so that most people tend to ignore. Therefore, this problem is rarely diagnosed and not given care as it should be. The impact, the incident prenatal distress develops into postpartum blues, postpartum depression up to psychosis.<sup>4</sup>

The study of 360 pregnant women in America, 10% of these women were prenatal distress, and 6.8% of them continue after labor.<sup>19</sup> The incidence number of emotional breakdowns which caused prenatal distress in women during pregnancy is lower than an after-birth period. Kusumadewi et al. revealed that 50–70% of mothers after giving birth had postpartum blues, and 13% of them had postpartum depression.<sup>20</sup>

The Indonesian Government programs to improve the well-being of pregnant women is quite good, such as delivery guarantees includes pregnancy screening, childbirth assistance, postpartum care including family planning services and newborn care. The other programs such as home development of maternity home, monitoring optimization local area, midwife supporting partner, active management the third phase and program of the Expanding Maternal and Neonatal Survival (EMAS) in the form of reinforcement referral system network.<sup>21</sup>

Currently, the government programs focus on the health development goals to reduce Maternal Mortality Rate (MMR). The available programs are still not focused on psychosocial issues and the impact as well. The psychosocial aspects of pregnant women play an essential role in the mother and fetus wellbeing, especially in primigravida mothers who do not have experiences. Mother and the fetus wellbeing can be achieved if the mother adapts optimally during pregnancy. Therefore, the prevalence of prenatal distress and influencing factors are essential to identify its solutions and prevent adverse impact in the future.

## Method

This study applied a cross-sectional approach. The variables were maternal age, education level, income level, gestational age, social support, previous traumatic experiences, the satisfaction of paternal support, pregnancy planning and prenatal distress as the dependent variable.

Consecutive sampling was applied to select 214 primigravida mothers in the work area of a Community Health Center at Banten Province, Indonesia. Sample were married women who live with a husband, and able to read and write in Bahasa. They should not have a history of miscarriage, high blood pressure, diabetes, and other pregnancy complications.

For data collecting, we used an Indonesian version of PTSD Symptom Scale (PSS), The Multidimensional Scale of Perceived Social Support (MSPSS), London Measure of Unplanned Pregnancy Instrument (LMUP), Marital Adjustment Test (MAT), and Prenatal Distress Questionnaire (PDQ). The PSS for measuring previous traumatic experienced had been declared valid and reliable with alpha Cronbach 0.89.<sup>22</sup>

**Table 1** The characteristics of the respondent.

Characteristics	Total	
	N	%
<i>Maternal age</i>		
Teenagers	98	45.8
Adult	116	54.2
<i>Level of education</i>		
Elementary	44	20.6
Secondary	127	59.3
High	43	20.1
<i>Income level</i>		
Low	84	39.3
Enough	130	60.7
<i>Gestational age</i>		
Trimester 1	99	46.3
Trimester 2	62	29.0
Trimester 3	53	24.7

MSPSS previously was used by Zimet et al. to measure social support and had been declared valid and reliable as well with Cronbach alpha 0.92.<sup>23</sup> The LMUP instrument for measuring pregnancy planning and has been declared valid and reliable as well with Cronbach alpha 0.85.<sup>24</sup> The MAT used to measure maternal satisfaction toward the husband's support and had been declared valid and reliable with Cronbach alpha 0.74.<sup>25</sup> The PDQ was used to measure the level of prenatal distress and had been declared valid as well reliable with Cronbach alpha 0.85.<sup>26</sup>

This study was approved ethically by The Research Ethics Committee of the Faculty of Nursing, the Universitas Indonesia. During the research process, all ethical principles have been applied.

## Results

**Table 1** shows that the majority of primigravida was in the adult age range category (54.2%), education level was a secondary school (59.3%), income level was in enough category (60.7%), and they were in the first trimester of pregnancy (46.3%).

**Table 2** shows that the majority of primigravida achieved a moderate social support (36.5%), they had no symptoms of PTSD (59.3%), they planned pregnancy (55.1%), they were not satisfied with the husband support (53.3%), and they had high-level prenatal distress (55.6%).

**Table 3** shows several stages of logistic regression test. Regression test logistics used in this study to find out the dominant factors that affect the occurrence of prenatal distress in the primigravida. Logistic regression test used a backward stepwise method. The results showed that the dominant factors which influence prenatal distress is the maternal age (OR = 10.31).

## Discussion

The result shows that the majority of primigravida had severe prenatal distress. According to Contrada, prenatal

**Table 2** Social support, past experience, pregnancy planning, satisfaction on husband support, and prenatal distress.

Variables	Total	
	N	%
<i>Social support</i>		
Low	63	29.4
Moderate	78	36.5
High	73	34.1
<i>Previous traumatic experiences</i>		
No symptoms of PTSD	127	59.3
The symptoms of PTSD existed	87	40.7
<i>Pregnancy planning</i>		
Planned	118	55.1
Unplanned	96	44.9
<i>Satisfaction on paternal support</i>		
Satisfied	100	46.7
Not satisfied	114	53.3
<i>Prenatal distress</i>		
Low distress	95	44.4
High distress	119	55.6

distress is a condition occurring due to the maturation crisis pregnant women fail to cope with it.<sup>27</sup> The Distress can harm pregnancy because it is an accurate predictor of maternal health during labor, newborn and the postpartum period. Distress to the mother pregnant can reduce the level of adaptation psychosocial them. Mother's psychosocial adaptation pregnancy is closely related to the preparation of labor, relationship with a partner, and angle look at the role of mother.<sup>27</sup>

The study result of severe prenatal level distress in the primigravida is in line with the previous study<sup>16</sup> which found that most of the pregnant mothers in Turkey had prenatal distress. However, this is not in line with Woods, et al. of 1522 pregnant women in America who had an examination of pregnancy, the results stated that only a small proportion had experienced high distress.<sup>28</sup> America is a developed country, which may apply the high standard of Antenatal Care, including psychosocial aspects. This condition is undoubtedly different from a country that still struggles to decrease maternal mortality, so the focus of antenatal care is on the physical aspect or to prevent the complications. The stressor that may face with the women is not identified correctly. Rachmawati reported that the healthcare provider did not focus on the women and the fetus well-being overall, including how to provide pain management.<sup>29</sup> However, prenatal distress conditions may affect labor. Stress hormones, such as adrenaline interacting with receptors in the uterine muscle and inhibit contraction and slow down labor. Distress can real endanger pregnancy as it is accurate predictors of maternal health during labor, newborn and period after giving birth. In pregnant women who have high prenatal distress, the level can increase the risk of preterm birth even miscarriage.<sup>30</sup>

When a woman in delivery process is accompanied by fear, stress and very anxious and tense, unsure of himself, then tension this can cause pressure on the cervix and the

**Table 3** Logistic regression analysis.

Step	Variable	Sig	Exp (B)	CI 95%	
				Lower	Upper
1	Maternal age	0.000	10.84	4.08	28.81
	Income level	0.074	2.03	0.93	4.42
	Past Experience	0.805	0.88	0.33	2.37
	Pregnancy planning	0.004	3.19	1.46	6.96
	Satisfaction on paternal support	0.000	9.57	4.39	20.88
2	Maternal age	0.000	10.09	4.57	22.29
	Income level	0.075	2.02	0.93	4.40
	Pregnancy planning	0.003	3.23	1.49	7.00
	Satisfaction on paternal support	0.000	9.54	4.37	20.82
3	Maternal age	0.000	10.31	4.69	22.65
	Pregnancy planning	0.001	3.69	1.73	7.87
	Satisfaction on paternal support	0.000	9.92	4.57	21.54

uterus so much more than pain inflicted.<sup>11</sup> Fear of painful childbirth is more felt by a first-time prospective mother to give birth because there are no previous experiences. The misinformation and myths are thriving in the community about pregnancy and childbirth lead the women to be more afraid.<sup>31</sup>

This study revealed that maternal age was the most influential factor in stress during pregnancy. Mother with adolescence age has a chance of 10.31 times for prenatal distress compared to a mother with adult age. This finding is supported by the previous study which identifying that the age of pregnant women becomes one of the risk factors for stress. Increasingly low maternal age then it will increase his psychosocial problems.<sup>12</sup> On the contrary, increasingly high maternal age then social connections increasingly many and mothers are more relaxed at adjusting self during pregnancy.

Adult age for a woman is age who is said to be mature and ready to reproduce. So, at that age, women are expected to accept responsibility answer as a mother. Conversely, age less than 20 years old or categorized as teenagers is the age of transition where the psychosocial problem will increase as a result of the thinking process which is still unstable. Also, women age teenagers have not been right to enter stage reproduction. Age less than 20 years is the age of risk for pregnant women due to organs immature reproduction.<sup>12</sup> Some psychological changes during pregnancy are fundamental to himself and preparing his role as a mother accompanied by physical changes in his body. However, at that age women are not ready yet to accept the responsibility as a mother because they are still dependent on other people.<sup>32</sup>

Most young mothers experienced high prenatal distress. So, adolescent and her husband need to give an understanding of the most optimal pregnancy age to minimize the risks during pregnancy. Biologically the optimal length of a woman to have children between 20–35 years old.<sup>21</sup> If it exceeds the time, the range will increase the risk during pregnancy such as miscarriage, pregnancy outside the uterus, and other pregnancy complications. Other than that, pregnancy before the age of 20 is dangerous either both biologically psychologically.

This research investigated from one side only that is the pregnant woman, not involved perception from the other related parties such as husbands. Level prenatal distress in this study as well found not from psychiatric examination a comprehensive yet use instruments of self-report.

These findings revealed that most mothers are primigravida have high prenatal distress. Factor dominant influence of prenatal distress in the mother primigravida is the age of the mother. Mother with adolescence a chance 10.31 times experience prenatal distress compared with mother of adult age.

The findings confirm that psychosocial aspects of pregnant women are essential in antenatal care. Involving the husband are also part of psychosocial care throughout the prenatal period. The adequacy of husband support needs to measure from maternal satisfaction with the support provided by the husband. The adolescent mother needs to provide individual treatment including counseling related to complication prevention and childbirth preparation. The nurses also have an opportunity to encourage and motivate pregnant women and their husbands when antenatal visit. Other than that, nurses also play a role in increasing the understanding of the public about the importance of husband roles.

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