



## Prenatal distress and increased psychosocial risks in the postpartum period among Indonesian women<sup>☆</sup>



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### Abstract

**Objective:** This study aimed to identify the relationship between prenatal distress and postpartum psychosocial conditions in Indonesia.

**Method:** This cross-sectional study involved 162 pregnant women in Cianjur, West Java, Indonesia, selected by two stages of cluster sampling. We used Indonesian versions of the Prenatal Distress Questionnaire (PDQ) and Postnatal Risk Questionnaire (PNRQ) as research instruments. **Results:** The results showed more than a quarter of pregnant women (34%) experience high prenatal distress and are at risk of postpartum psychosocial conditions (27%). It was also found that prenatal distress was associated with postpartum psychosocial conditions ( $p < 0.05$ , OR 3.36, 95% CI 1.63–6.92).

**Conclusions:** Postpartum psychosocial conditions are influenced by prenatal distress. This study suggests screening for prenatal distress in mothers from early pregnancy. Awareness of psychosocial state during the prenatal period is essential for preventing problems in the postpartum period.

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### Introduction

Prenatal distress has an impact on maternal psychosocial conditions during the postpartum period because the risk

of prenatal distress continues through childbirth and can be worsened by negative experiences during childbirth. Education level, parity, pregnancy planning, pregnancy discomfort, postpartum discomfort, and level of social support can also affect postpartum psychosocial conditions. Such issues need to be addressed to ensure that poor psychosocial conditions during pregnancy do not develop into psychosocial problems in the postpartum period.

Maternal mental health forms part of global public health priorities, and maternal mental health conditions in Indonesia still require attention regarding both emotional and

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mental disorders. Based on Indonesia Basic Health Research (RISKESDAS), 6% of the Indonesian population have psychological or mental disorders. West Java is one of the provinces with the highest percentage of emotional disorders (9.3%), with a large number of women affected.<sup>1</sup>

Psychological distress during pregnancy, known as prenatal distress, is related to poor pregnancy conditions, negative childbirth experiences, and experiences during the postpartum period.<sup>2</sup> Disturbed psychosocial conditions of postpartum mothers contribute to the incidence of postpartum blues, postpartum depression, obsessive-compulsive disorder, post-traumatic stress disorder, postpartum psychosis, disruption of the breastfeeding process, interruption of interaction between mother and baby, and child abuse.<sup>3-7</sup> A study in Germany of 78 pregnant women showed that mothers who experience psychological distress, especially anxiety, during pregnancy might be at risk of suffering postpartum depression.<sup>8</sup> Research in the United States in 496 children also showed that acts of child abuse tended to be carried out by mothers with disturbed psychosocial conditions.<sup>9</sup>

Psychosocial problems experienced by mothers postpartum have a negative impact on child development and parenting patterns. Data from the Social Welfare Education and Research Agency showed that there was an increase in neglect of children up to five years of age, to 4,131,722 cases in 2015.<sup>10</sup> This statistic suggests that postpartum maternal psychosocial problems have a significant impact on children's well-being. Also, a widespread phenomenon was highlighted recently by the case of a postpartum mother in Tangerang who murdered her newborn baby.<sup>11</sup> Infant murder carried out by a mother after childbirth is an extreme form of the postpartum maternal psychosocial disorder.

Meanwhile, studies conducted in Indonesia show 55% of pregnant women experience anxiety.<sup>12</sup> One of the consequences of anxiety is a significant fear of facing childbirth.<sup>13</sup> Distress in pregnancy and before delivery needed to be detected early and followed up through distress measurements and such measurements need to be adjusted to the corresponding period of pregnancy. In Indonesia, there are no current studies on the impact of prenatal distress on postpartum maternal psychosocial conditions. Research is therefore needed to identify the relationship between prenatal distress and postpartum maternal psychosocial conditions.

## Method

This cross-sectional study was carried out over two months in nine areas of the Community Health Center in Cianjur Regency, West Java Province, with 162 pregnant women as respondents. Probability sampling in the form of two-stage cluster sampling was used, with the first step being to choose a cluster randomly. Of the 45 Community Health Centers in Cianjur Regency, nine working areas were chosen. Elements were then selected randomly from each cluster using a consecutive sampling method. Inclusion criteria used were third-trimester pregnant women with gestational age of 36–40 weeks, married, and able to read and write. Exclusion criteria were mothers experiencing health problems in

pregnancy such as anemia, gestational diabetes mellitus, and gestational hypertension.

Measurement of prenatal distress variables for the study used the Indonesian version of the Prenatal Distress Questionnaire (PDQ) with 17 questions and a reliability score of 0.85, while postpartum maternal psychosocial condition variables were measured using the Indonesian version of the Postnatal Risk Questionnaire (PNRQ) with 12 questions and a reliability score of 0.81. The data gathered was analyzed using chi-squared and *t*-tests. This study received ethical approval from the Faculty of Nursing Ethics Committee, Universitas Indonesia, No. 160/UN2.F12.D/HKP.02.04/2018.

## Results

The result shows that median maternal age was 29 (SD 5.82), in the range of 16–55, while median family income was Rp2000k (SD 996k), in the range of Rp500k to Rp8000k at 95% confidence interval. It was found that the majority of mothers in the sample had only primary education, were multigravida, planned their pregnancies, did not experience discomfort, had positive childbirth experiences, felt dissatisfied with their husband's support, had high levels of social support, experienced low distress, and had no risk of postpartum psychosocial problems (Table 1).

It was found that the pregnant women who experienced high distress and had a risk of postpartum psychosocial conditions of 43.6%, compared to pregnant women with low distress who had a risk of postpartum psychosocial conditions of 18.7%. In addition, it was found that there was a relationship between prenatal distress and postpartum maternal psychosocial conditions (OR=3.36; 95% CI 1.63; 6.92) (Table 2).

A further relationship was found between pregnancy planning, physical discomfort during pregnancy, postpartum discomfort, social support during pregnancy, and social support during postpartum, and postpartum maternal psychosocial conditions ( $p < 0.05$ ) (Table 3).

## Discussion

The results of the study found a relationship between prenatal distress and postpartum maternal psychosocial conditions. Low prenatal distress and absence of risk for postpartum psychosocial conditions can, among other causes, be the result of cultural factors. In general, people in the Cianjur (Sundanese) community are known for being friendly, religious, and highly spiritual. Spiritual belief is believed to be a psychological foundation for the avoidance of anxiety, stress, and depression.<sup>14</sup> In addition, in Sundanese culture there is an influential proverb which provides an underlying philosophy in the life of the tribe, namely "*Indung anu ngandung, Bapa anu ngayuga*", which means that a mother is pregnant for nine months with difficulty, and that after birth the father is the one who guides, maintains, and provides a living. Through this basic philosophy, pregnant women usually get significant attention, particularly from their parents. Also, pregnant women tend to get more support from the surrounding social environment. Both of these factors can improve the psychological well-being of pregnant women.

**Table 1** The characteristics of respondents ( $n = 162$ ).

Variable	$n$ (%)
<i>Education level</i>	
Primary	87 (53.7)
Secondary	49 (30.2)
High school	26 (16.0)
<i>Parity</i>	
Primigravida	39 (24.1)
Multigravida	120 (74.1)
Grand multigravida	3 (1.9)
<i>Pregnancy planning</i>	
Unplanned	71 (43.8)
Planned	91 (56.2)
<i>Physical discomfort during pregnancy</i>	
Uncomfortable	78 (48.1)
Comfortable	84 (51.9)
<b>Postpartum discomfort</b>	
<i>Physical</i>	
Uncomfortable	37 (22.8)
Comfortable	125 (77.2)
<i>Psychological</i>	
Uncomfortable	19 (11.7)
Comfortable	143 (88.3)
<i>General</i>	
Uncomfortable	18 (11.1)
Comfortable	144 (88.9)
<i>Childbirth experience</i>	
Negative experience	74 (45.7)
Positive experience	88 (54.3)
<i>Satisfaction with husband's support during pregnancy</i>	
Dissatisfied	112 (69.1)
Satisfied	50 (30.9)
<i>Satisfaction with husband's support during postpartum</i>	
Dissatisfied	103 (63.6)
Satisfied	59 (36.4)
<i>Social support during pregnancy</i>	
Low	4 (2.5)
Medium	38 (23.5)
High	120 (74.1)
<i>Social support during postpartum</i>	
Low	2 (1.2)
Medium	25 (15.4)
High	135 (83.3)
<i>Prenatal distress</i>	
High	55 (34.0)
Low	107 (66.0)
<i>Postpartum psychosocial condition</i>	
At risk	44 (27.2)
Not at risk	118 (72.8)

The pregnancy period is relatively short in the mental development and well-being of an individual. However, pregnancy is not immune from distress, and distress during pregnancy can progress into the postpartum period. Research conducted in Latin America among 203 pregnant women, which stated that stressful conditions during pregnancy could cause adverse postpartum maternal psychosocial conditions,<sup>15</sup> supports this view. A similar study in 84 pregnant women in Italy showed that there was a relationship between prenatal distress and postpartum maternal psychosocial conditions ( $p = 0.004$ ).<sup>16</sup>

Prenatal distress is a public health problem which can occur at any time from conception until the first year after giving birth and can occur in both primigravida and multigravida mothers. The prevalence of depression in the antenatal period is directly proportional to the incidence of postnatal depression, and so this may be a factor that causes postnatal depression.<sup>17</sup>

The effects of prenatal distress include impaired fetal growth, preterm childbirth, temperament problems in infants, and low birth weight babies (LBW).<sup>18</sup> Prenatal distress conditions that are not appropriately treated can also result in smaller head circumference, a low Apgar score, higher cortisol levels at birth, changes in heart rate frequency, and distress in the fetus. These factors will have a detrimental effect on the mother and child in the long term.<sup>19</sup>

Prenatal distress is also related to disturbed adolescent development. This is supported by a study of 160 mothers in Portugal that reported prenatal distress could influence violent and antisocial behavior in the teenage period.<sup>19</sup> Another adverse effect of prenatal distress for the mother is obstetric complications, including the risk of miscarriage, preeclampsia, and gestational diabetes.<sup>20</sup>

These findings of this research are also supported by a study of 46 pregnant women in America that reported a relationship between prenatal and postpartum distress ( $p = 0.01$ ).<sup>21</sup> Disrupted psychosocial conditions affect the physical and emotional health and well-being of mothers, babies and other children, and interrupt the bond between mother and baby postpartum.<sup>22</sup> Meanwhile, the mother's mood influences the bonding process and affects the growth and development of the baby.<sup>23</sup> A study carried out among 103 adolescent postpartum mothers reported that there was a relationship between the psychosocial conditions of postpartum mothers and the bond between mother and baby.<sup>24</sup> The status of maternal mental health during the postpartum period can thus be seen to contribute to the welfare of the baby and subsequent phases of the child's life.

Physical discomfort experienced by mothers during pregnancy can affect postpartum maternal psychosocial conditions. This view is supported by research conducted among 211 pregnant women in Finland, which showed a relationship between discomfort during pregnancy and postpartum maternal psychosocial conditions ( $p = 0.001$ ).<sup>24</sup> Physical conditions experienced by the mother also cause discomfort during the postpartum period<sup>25</sup>; research conducted on 1,011 pregnant women in Turkey that showed an association between postpartum discomfort and psy-

**Table 2** Relationship between prenatal distress and postpartum psychosocial conditions ( $n = 162$ ).

Prenatal distress	Postpartum psychosocial condition		<i>p</i> Value	OR (95% CI)
	At risk <i>n</i> (%)	Not at risk <i>n</i> (%)		
High	24 (43.6)	31 (56.4)	0.001*	3.36 (1.63; 6.92)
Low	20 (18.7)	87 (81.3)		

\* Significant at  $\alpha = 0.05$ .**Table 3** Relationship between characteristics of respondents and postpartum psychosocial conditions ( $n = 162$ ).

Variable	Postpartum psychosocial condition		<i>p</i> Value
	At risk <i>n</i> (%)	Not at risk <i>n</i> (%)	
<i>Education level</i>			
Primary	23 (26.4)	64 (73.6)	0.823
Secondary + high school	21 (28.0)	54 (72.0)	
<i>Parity</i>			
Primigravida	11 (28.2)	28 (71.8)	0.866
Multigravida + grand multigravida	33 (26.8)	90 (73.2)	
<i>Pregnancy planning</i>			
Unplanned	26 (36.6)	45 (63.4)	0.017*
Planned	18 (19.8)	73 (80.2)	
<i>Physical discomfort during pregnancy</i>			
Uncomfortable	32 (41.0)	46 (59.0)	0.001*
Comfortable	12 (14.3)	72 (85.7)	
<b>Postpartum discomfort</b>			
<i>Physical</i>			
Uncomfortable	20 (54.0)	17 (46.0)	0.001*
Comfortable	24 (19.2)	101 (80.2)	
<i>Psychological</i>			
Uncomfortable	12 (63.1)	7 (36.9)	0.001*
Comfortable	32 (22.3)	111 (77.7)	
<i>General</i>			
Uncomfortable	12 (66.7)	6 (33.3)	0.001*
Comfortable	32 (22.2)	112 (77.8)	
<i>Childbirth experience</i>			
Negative experience	24 (32.4)	50 (67.6)	0.167*
Positive experience	20 (22.7)	68 (77.3)	
<i>Satisfaction with husband's support during pregnancy</i>			
Dissatisfied	32 (28.6)	80 (71.4)	0.546
Satisfied	12 (24.0)	38 (76.0)	
<i>Satisfaction with husband's support during postpartum</i>			
Dissatisfied	23 (22.3)	80 (77.7)	0.068
Satisfied	21 (35.6)	38 (64.4)	
<i>Social support during pregnancy</i>			
Low + medium	18 (42.9)	24 (57.1)	0.008*
High	26 (21.7)	94 (78.3)	
<i>Social support during postpartum</i>			
Low + medium	13 (48.1)	14 (51.9)	0.007*
High	31 (23.0)	104 (77.0)	

\* Significant at  $\alpha = 0.05$ .

chosoal conditions of postpartum mothers with  $p=0.000$  (OR = 4.492; 95% CI 1.03; 2.62)<sup>26</sup> also supports this finding.

As well as considerations of comfort, pregnant and postpartum women also need to plan pregnancy as early as possible. A study of pregnant women in Turkey and Indonesia showed a relationship between pregnancy planning and postpartum maternal psychosocial conditions.<sup>26,27</sup> Continuous ambivalent reactions will appear in unplanned pregnancies,<sup>28</sup> while a mother who plans her pregnancy tends to have a strong affection for her fetus and adequate bonding with her baby during the postpartum period.<sup>29</sup>

This study reveals that the majority of mothers experienced low distress and had no risk of postpartum psychosocial conditions. However, although the level is relatively low, distress is an accumulation of other emotional disorders that still require attention from health services. The role of nurses in conducting screening for prenatal distress and postpartum psychosocial conditions is crucial in improving the mental well-being of the mother. Nursing interventions that can overcome prenatal distress include *dzikir* therapy, spiritual emotion freedom technique, deep breathing therapy, cognitive behavioral therapy, acupuncture, meditation, music therapy, guided imagery, hypnosis, and progressive muscle relaxation.

This study measured prenatal distress conditions during the third trimester. As distress is a psychological condition that fluctuates throughout pregnancy, distress measurements will be more effective if carried out in each trimester. The nursing intervention also needs to be tailored to the causes or problems experienced by mothers, and such tailoring requires risk factors that can cause distress in women of childbearing age to be identified. Future studies can compare the effects of prenatal distress on postpartum maternal psychosocial conditions in adolescent, primigravida, and multigravida mothers and in those who experience pregnancy complications. Longitudinal studies, qualitative studies, and research with specific interventions to address prenatal distress and problems with postpartum maternal psychosocial conditions can also be carried out.

## Conflict of interests

The authors declare no conflict of interest.

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