*Volume 12 No. 2 Desember 2021*

# JURNAL ILMU KESEHATAN

ISSN : 2087-1287

STIKES KARYA HUSADA KEDIRI

**Jurnal Ilmu Kesehatan**
Terbit sebanyak 2 (Dua) kali setahun pada Bulan Juni dan Desember
Berisi tulisan yang diangkat dari hasil penelitian di bidang kesehatan dan artikel kesehatan

**Susunan Pengelola Jurnal ILKES STIKES Karya Husada Kediri**



Alamat Redaksi : **STIKES Karya Husada Kediri**
Jln. Soekarno Hatta No.7, Kotak Pos 153, Telp. (0354) 399912
Pare- Kediri
Website : www.stikes-khkediri.ac.id
Email: stikes_lppmkh@yahoo.com

# Kata Pengantar

Puji syukur kami panjatkan kehadirat Allah SWT karena atas limpahan Rahmat-Nya kepada kami sehingga kami mampu menyelesaikan “Jurnal Ilmu Kesehatan STIKES Karya Husada Kediri” Volume 12 Nomor 2 Desember 2021.

Penerbitan jurnal ini dilakukan dengan tujuan meningkatkan dan mewujudkan Tri Dharma Perguruan Tinggi, sebagai salah satu sarana penyampaian informasi di bidang kesehatan yang diakses oleh segenap lapisan masyarakat sebagai amanat mewujudkan cita-cita bangsa mencerdaskan kehidupan bangsa adalah tanggung jawab keluarga, masyarakat, dan pemerintah, sedangkan STIKES Karya Husada Kediri yang merupakan bagian dari komunitas terpanggil untuk ikut serta menangani dan merampungkan amanat ini, bersama keluarga dan pemerintah.

Di dalam penyelesaian Jurnal Ilmu Kesehatan ini, bimbingan serta dukungan dari banyak pihak telah sangat membantu, untuk itu kami ucapkan rasa hormat dan terima kasih pada semua pihak yang telah memberikan dukungan moril, spiritual, dan materiil dalam membantu penyelesaian Jurnal Ilmu Kesehatan STIKES Karya Husada Kediri.

Kami menyadari bahwa dalam Jurnla Ilmu Kesehatan ini masih jauh dari kesempurnaan, oleh karena itu kami mengharapkan kritik dan saran yang bersifat membangun. Semoga jurnal ini dapat bermanfaat bagi kita semua.

Pare, Desember 2021

Tim Redaksi

# Daftar Isi

# THE EFFECT OF FAMILY SUPPORT AND SOCIAL SUPPORT ON THE INCIDENCE OF POSTPARTUM DEPRESSION

**Estiningtyas[1], Anindhita Yudha Cahyaningtyas[2], Sri Sugiarsi[3]**

[1]Nursing Study Program, STIKes Mitra Husada Karanganyar, bidanesti@gmail.com, 085742999666

[2]Nursing Study Program, Mitra Husada Karanganyar Health College, anindhitayudha03@gmail.com, 081393657543

[3]Health Information Management Study Program, STIKes Mitra Husada Karanganyar, sri.sugiarsi14@gmail.com, 081804501090

***Abstract***

*Postpartum depression (PPD) is a critical complication of labour with significant adverse effects on the mother and infant. In general, PPD occurs in the 4-6 weeks after delivery. Family and social support are needed by mothers to cope with stress during the postpartum period caused by sudden hormonal changes that influence mood swings, domestic workload, and caring for infant and mother during the postpartum period, resulting in fatigue and lack of sleep. The purpose of the study was to analyze the effect of family and social support on PPD occurrence. This study used an analytic observational research design with a cross-sectional approach. This study's population was postpartum mothers at 0-6 weeks in the Health Agency of Sukoharjo Regency work area. The sampling technique used Multistage Random Sampling with a sample size of 160 respondents. The instruments used were questionnaire of the family support, social support, and EPDS (Edinburgh Postnatal Depression Scale). Data analysis used logistic regression and Odd Ratio. The results of the analysis of family support data are P-value 0.027 <(0.05) and OR value 5.787, and social support P-value 0.025 <(0.05) and OR value 5.693. The P-value result means a significant effect of family support and social support on the occurrence of PPD where mothers who lack family and social support will be at risk to experience PPD, with each risk 5.787 times higher and 5.693 times higher, respectively. Health workers are expected to emphasize the importance of family and social support for postpartum mothers in emotional support and technical support by helping postpartum mothers take care of infants, self-care, and homework to reduce the risk of postpartum depression.*

***Keywords**: Depression, social support, family support*

**Abstrak**

Depresi postpartum (PPD) merupakan komplikasi persalinan yang serius yang mengakibatkan efek buruk yang signifikan terhadap ibu dan bayinya. Dukungan keluarga dan sosial diperlukan bagi ibu selama masa nifas sebagai mekanisme koping dari stres yang disebabkan perubahan hormonal yang mempengaruhi perubahan emosi, beban domestik, aktivitas perawatan bayi, diri, dan rumah tangga selama nifas yang mengakibatkan kelelahan dan kurang tidur. Tujuan dari studi adalah untuk menganalisis pengaruh dukungan keluarga dan sosial terhadap kejadian PPD.
Studi ini menggunakan rancangan penelitian observasional analitik dengan pendekatan cross-sectional. Populasi pada penelitian ini adalah ibu bersalin pada 0-6 minggu di wilayah kerja Dinas Kesehatan Kabupaten Sukoharjo. Teknik sampling menggunakan Multistage Random Sampling dengan besar sampel 160 responden. Instrumen yang digunakan adalah kuesioner dukungan keluarga, dukungan sosial, dan EPDS (Edinburgh Postnatal Depression Scale). Analisis data menggunakan regresi logistik dan Odd Ratio.
Hasil analisis data dukungan keluarga P-value 0,027<(0,05) dan nilai OR 5,787, dan dukungan sosial P-value 0,025<(0,05) dan nilai OR 5,693. Ini berarti terdapat pengaruh yang signifikan antara dukungan keluarga dan dukungan sosial terhadap kejadian PPD dimana ibu yang kurang mendapat dukungan keluarga dan sosial akan mengalami PPD dengan masing masing berisiko 5,787 kali dan 5,693 kali. Tenaga kesehatan diharapkan dapat menekankan pentingnya dukungan keluarga dan sosial pada ibu nifas berupa dukungan emosional maupun dukungan secara teknis dengan membantu ibu nifas melakukan perawatan bayi, perawatan diri, dan pekerjaan rumah untuk menurunkan resiko terjadinya depresi postpartum.

**Kata kunci**: Depresi, dukungan sosial, dukungan keluarga

Alamat Korespondensi Penulis :
**Anindhita Yudha Cahyaningtyas**
Email : anindhitayudha03@gmail.com
Alamat : Jl. Ahmad Yani No 167 Papahan Tasikmadu, Karanganyar, 57722

## INTRODUCTION

Postpartum depression (PPD) occurs in 11% to 20.4% of women who give birth, is

a severe complication of delivery, where there are significant adverse effects on both mother and infant. For mothers, PPD can cause mental and physical symptoms that affect the quality of life and productivity [1]. It can interfere with mother and infant interaction, bonding attachment, breastfeeding, and sleep quality for an infant. Traditionally, the treatment for mothers with PPD is providing antidepressants and psychotherapy [2].

In general, PPD occurs 4-6 weeks after delivery, and symptoms are similar to those of major depression, such as loss of interest in activities for pleasure, sleep disturbances, appetite disorders, low energy level, feelings of worthlessness or guilt, decreased concentration, ease anger, anxiety, and suicidal thoughts. Pregnancy and childbirth are two critical events in a woman's life. The birth of an infant provides a quick transition to roles and responsibilities. The postpartum is a critical period where the woman has a high risk of experiencing postpartum depression [3]. PPD is a severe mental health problem. The Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-V) defines PPD as part of a significant depressive disorder [4]. PPD is also defined symptomatically using the Edinburgh Postnatal Depression Scale (EPDS) [5].

The prevalence of PPD in developing countries varies, between 5.2-74%, where the lowest prevalence is in Pakistan and the highest is in Turkey [6]. Meanwhile, in Indonesia, 14 million people experience depression and anxiety disorders [7]. Untreated PPD can lead to problems in children such as low cognitive function, behavioural disorders, inability to control emotions, violent behaviour, and mental and medical disorders in adolescence [8 9 10]. For mothers, PPD results in overweight problems, alcohol and drug consumption, social relationship problems, breastfeeding problems, or persistent depression than those who receive therapy [11].

Insufficient social support is a determinant of postpartum depression. Social support for pregnant women consists of support from several sources and can be measured from different gestational periods. Distinguishing social support from several sources measured at a specific gestational period impacts the prevention of postpartum depression. Lack of family support is an essential factor in postpartum depression [12].

Social support is information or feedback from others that show that someone is loved and cared for, valued and respected, and is involved in a network of communication and mutual obligations. In postpartum mothers, strong social support and family support (not husband) showed fewer depressive symptoms than mothers who lacked support [10].

Peer support by telephone is also effective in preventing the incidence of postpartum depression [13]. Social support influences the incidence of PPD in adolescent mothers [14 15].

Support by telephone allows mothers to express feelings or problems with other postpartum mothers, thus reduces the emotional burden.

In Indonesia, social support from the environment is from the general view that

women who have just given birth until three months get special attention from their families. During two months after delivery, mothers and infants will receive support from older sisters and in-laws who meet the needs of the mother and infant and assist in domestic matters such as cleaning the house, washing diapers and infant clothes, helping to care for infants at home and in health care facilities [16].

Family support is the attitude, action and acceptance of the family towards supportive family members who always ready to provide help and assistance if needed. In this case, the mother will know that other people care, appreciate and love her [17]. Husband's support is a determinant for the incidence of PPD in addition to the burden of infant care and the sex of the infant that is not as expected [16]. Mothers with low self-esteem and lack of support from their husbands tend to experience PPD in the first 1 and 2 months of delivery [18]. Mothers who do not get satisfaction from their relationship with their husbands during postpartum experience a risk of PPD 3 times greater than mothers who are satisfied with their relationship with their husbands [16].

## METHODS AND MATERIALS

This study used an analytic observational study design with a cross-sectional approach with data collection through questionnaires and direct interviews. This research was conducted in Sukoharjo Regency within three months. Independent variables of the study were social support and family support, whereas the dependent variable was the incident of postpartum depression. The sample used in this study was 160 respondents. The sampling technique in this study was Multistage Random Sampling. Inclusion criteria: postpartum mothers 1-6 weeks, literate, no previous history of mental disorders. Exclusion criteria: mothers who were not willing to be respondents. The research instrument used was the EPDS (Edinburgh Postnatal Depression Scale) screening tool to measure depression in postpartum mothers. The first phase began with data collection for postpartum mothers in the working area of the Puskesmas in the Sukoharjo District Health Office. The second stage was to visit the postpartum mother's house. The data were analyzed using logistic regression at a significance level of 0.05, determining this variable's OR value.

## RESULT AND DISCUSSION

**Table 1. Characteristics of the Respondents**

| | Characteristic | ∑ | % |
|---|---|---|---|
| 1 | Age | | |
| | < 20 ≥35 years old | 66 | 41,4 |
| | 20 to 35 years old | 94 | 58,6 |
| 2 | Occupation | | |
| | Homemakers | 97 | 60,6 |
| | Working | 63 | 39,4 |
| 3 | Level of Education | | |
| | Lower level | 45 | 28,1 |
| | Higher-level | 115 | 71,4 |
| | | **160** | **100** |

Based on Table 1, most of the respondents aged 20 to 35 have as many as 94 respondents (58.6%). Characteristics of respondents based on occupation found that

majority were homemakers, with 97 respondents (60.6%). Most of the respondents, as many as 115 respondents (71.4%), had higher education levels.

**Table 2. Incidence of Postpartum Depression**

| Postpartum Depression | f | % |
|---|---|---|
| Not Depressed | 129 | 80,6 |
| Depressed | 31 | 19,4 |
| **Total** | **160** | **100** |

Table 2 indicates that most mothers did not experience PPD as many as 129 respondents (80.6%), while 31 respondents (19.4%) experienced depression.

**Table 3. Family Support to Postpartum Mothers**

| Family Support | f | % |
|---|---|---|
| Inadequate | 47 | 29,4 |
| Adequate | 113 | 70,6 |
| **Total** | **160** | **100** |

Table 3 illustrates that most mothers received adequate family support as many as 113 respondents (70.6%), while 47 respondents reported inadequate family support.

**Tabel 4. Social Support for Postpartum Mothers**

| Social Support | f | % |
|---|---|---|
| Inadequate | 32 | 20 |
| Adequate | 128 | 80 |
| **Total** | **160** | **100** |

Table 4 shows that most mothers received adequate social support as many as 128 respondents (80%), and 32 respondents felt they received inadequate social support.

**Table 5. Test of Hypothesis**

| Variable | P-Value | Exp(B)=OR |
|---|---|---|
| Family Support | 0.027 | 5.787 |
| Social Support | 0.025 | 5.693 |
| **Total** | **160** | **100** |

Based on table 5, the logistic regression test results were obtained with a P-value of 0.027 <(0.05), meaning that there is a significant influence between family support and the incidence of postpartum depression (PPD). The OR value of 5.787 indicates that mothers who get inadequate family support risk 5.787 times experiencing PPD.

Meanwhile, the statistical test result for the variable social support P-value 0.025 <(0.05) means a significant influence between social support and the incidence of PPD. The OR value of 5.693 shows that mothers who get poor social support risk 5.693 times experiencing PPD.

Postpartum depression (PPD) is the result of several physical and emotional factors. According to the U.S Department of Health and Human Services [19], after the infant is born, the hormones estrogen and progesterone in the postpartum mother's body drop rapidly. This rapid drop in hormone levels creates chemical changes in the brain that cause mood swings. Mothers who cannot rest adequately during childbirth, poor

sleep quality, leading to fatigue and body discomfort contributing to symptoms of PPD [20].

Despite many years of research aimed at identifying the causes of postpartum depression (PPD) and developing effective screening, prevention, and treatment methods, the incidents of PPD are not decreasing, affecting between 7 and 20% of women following delivery [20]. Researchers speculated that PPD is caused by the sudden change in the reproductive hormones estradiol and progesterone before and shortly after delivery [21].

Although many researchers found that sudden change in reproductive hormone levels is associated with PPD [22-28], several studies have failed to determine the association between hormone concentrations and PPD symptoms. For example, cross-sectional human studies examining between-group differences in ovarian hormone levels and depressive symptoms during postpartum have failed to demonstrate an association between absolute estrogen and progesterone concentrations and PPD [29-31]. In contrast, studies that have treated PPD with estradiol have successfully reduced depressive symptoms [25-32], and animal studies have demonstrated that estradiol and progesterone withdrawal provoke depression-like behavior [24,27,28].

Despite the numerous study of the contributing factors on the hormonal level, other variables on interpersonal interaction showed significant contribution in the incidents of PPD. One of the contributing factors is family support. It is beneficial in reducing emotional burdens and activities related to infant care and self-care, which require a lot of time and energy. Families provide mental support by being available to be a place to share their burdens with their thoughts and a place to ask questions when there are things that are not understood about childbirth and infant care. The family also supports household chores such as cleaning the house, washing infant diapers, providing food during childbirth and postpartum, and facilitating medical check-ups and the infant's need for vaccinations.

The workload and thoughts that are the primary source of fatigue and discomfort are lighter, and the mother feels happy because her family always supports and helps her. Suppose family support is not enough, usually because the mother has lived in her own house separate from other families. Mothers have to do more postpartum care for mothers and care for their infants because their families' support is inadequate. The mother could not tell her feelings or ask questions to the family. The emotional burden becomes heavier, which causes the mother to feel that there is no one to lighten the emotional burden caused by sudden hormonal changes.

The decrease of mothers' emotional burden, chores, and infants' care prevents the brain from releasing stress hormones such as cortisol and adrenaline. These hormones affect the cardiovascular system by increasing blood pressure, elevating heart rate, and higher level of fats in blood (cholesterol and triglycerides). Also, increase in

blood glucose levels in the evening, and loss of appetite. These are risk factors affecting heart disease, atherosclerosis , stroke, obesity, and diabetes. Other than that, increased cortisol and adrenaline levels in the blood also induce anxiety, depression, sleep disturbances, and lack of interest in physical activity, memory and decision-making [29]. The controlled level of stress hormones in mothers' blood reduces the risk of postpartum depression.

Lack of family support is also felt when the mother does not get help doing housework and caring for her infant, which results in the mother's fatigue, lack of sleep, lack of emotional support. These conditions induce the release of cortisol and adrenaline in the bloodstream. Mothers tend to experience depressive symptoms such as loss of interest in fun activities, sleep disturbances, appetite disorders, loss of energy, feelings of worthlessness or guilt, decreased concentration, irritability, anxiety, even if left untreated, which will result in suicidal thoughts.

In line with this study's results, Alavi and Jannati [20] examined the relationship between perceived social support and self-esteem, found that social support, especially by family, dramatically influences the development of self-esteem. Self-esteem and social support play an essential role in health, mental progress and social support quality improvement. Furthermore, Urbayatun stated that family support has a significant effect on reducing the incidence of postpartum depression [34].

According to these results, adequate family support increases the perception of self-esteem for mothers. On the other hand, a lack of family support for mothers reduces the mother's self-esteem, resulting in feelings of inferiority that lead to postpartum depression.

The hypothesis test results of the social support variable on the incidence of PPD showed a significant influence between social support on the incidence of PPD, as evidenced by a P-value of 0.025 <(0.05). The OR value of 5.693 shows that mothers who received inadequate social support risk 5.693 times experiencing PPD.

Studies that support these findings Vaezi, Soojoodi, Banihashemi & Nojomi stated that there is an inverse relationship between social support and postpartum depression after adjusting for confounding variables such as the history of depression, infant illness, and drugs taken during pregnancy [35]. It means, that the the higher quality of social support, the lower risk of PPD.

Another study that agrees with these findings by Milgrom, Hirshler, Reece, Holt, and Gewmill stated that there is a significant relationship between social support and stress related to infant care. Two aspects of social support in strengthening maternal self-esteem and willingness to be reliable are strongly associated with depression and anxiety in the first eight months postpartum [36]. Neighbours are the nearest people which mothers meet every day. The constructive interaction with neighbours during postpartum and the concerns related to infants and self-care enhance maternal self-esteem. If neighbours are also giving positive attention to infants, maternal self-esteem is also increased.

Likewise, the study by Demiroz & Tastan stated that social support and postpartum depression are closely related. A woman with little social support, poor health, and high stress tend to experience depression [37]. Little social support is also indicated when there is unhealthy emotional interaction with closest neighbours, which add to the emotional burden of postpartum mothers. Mothers with intense emotional burden will have decreased function of cognitive which leads to poor self-care. Emotion is closely related to releasing stress hormones adrenaline and cortisol that will influence the cardiovascular, gastrointestinal, and nervous systems, thus creating poor health.

Another form of social support provided by the community is providing the information needed by mothers during the postpartum period and inviting postpartum mothers to continue participating in community activities such as recitation and meetings in their neighbourhood. Mothers who had their first infants did not have enough information and experience in childbearing. The fear of making mistakes in infant care can also be stressful. First-time mothers need peers who have more information and experience in childbearing to ask for information and skill in childbearing to promote infants' growth, development, and health status.

In Sukoharjo, there are routine monthly meetings among women. Women may join that meeting to share information related to family, childbearing, female reproductive health, mental health and other information related to women. Attending this meeting is essential in improving knowledge among mothers, especially first-time mothers. Nevertheless, sometimes, the early postpartum period prevents mothers to attend the meeting because of the healing process of the reproductive organ, recovery for mothers with vaginal delivery and caesarean section, and psychological development during postpartum such as letting in, taking hold and letting go. Neighbours must also understand that mothers who can not attend a meeting because of the early postpartum stage are supported and not secluded from the next meeting.

A lack of social support would be perceived as secluded from the community where mothers are expected to belong. Some mothers feeling of being secluded would lead to the feeling of rejection, unwelcomed, loneliness, and sadness. Her cognitive does not function as well as when mothers are socially supported by the neighbour that would create negative thinking about herself and her condition. Negative thinking that occurs daily, in addition to the increased workload of taking care of herself and the infants, brings her into a negative downward spiral of depression.

Researchers found surprising evidence that the pain of being excluded is not so different from the pain of physical injury. Rejection also has profound implications for an individual’s psychological state and society in general. Social rejection can influence emotion, cognition and even physical health. Mothers who routinely feel excluded have poorer sleep quality and worse immune systems than people with strong social support [38].

Among mothers in Indonesia, social support is an essential aspect of basic emotional needs. Women feel secure when they have secure social support. A social culture practice in Sukoharjo Regency, during the significant momentum like postpartum and childbirth, mothers expect that neighbours would visit them in their house to give their hopes and blessings to the wellness of neonates/infants. The neighbour visit is also a sign that mothers and family is included in the society. This practice brings optimistic hopes and emotions to mothers.

Moreover, social support is not only implemented after childbirth but also during pregnancy. During pregnancy, mothers and family hold thanksgiving on the third and seventh months of pregnancy inviting neighbours. The attendance of neighbours also indicates that mothers and family are well accepted by neighbours. This practice brings good emotion to mothers during pregnancy, reducing the stress hormone levels in the blood.

**CONCLUSIONS AND SUGGESTIONS**

There is a significant influence between family support and social support on the incidence of depression. Mothers who received inadequate family support increased their risk of experiencing PPD 5,787 times. Mothers who lack family support are at 5,693 times the risk of experiencing PPD.

It is recommended that health workers emphasize the importance of family and social support for postpartum mothers in the form of emotional and technical support by helping postpartum mothers carry out infant care, self-care, housework, facilitate medical care to reduce the risk of postpartum depression.

**REFERENCE**

[1]. Da Costa D, Dritsa M, Rippen N, Lowensteyn I, Khalife S. 2006. Health-related quality of life in postpartum depressed women. Arch Women's Ment Health.;9(2):95–102.

[2]. Yonkers KA, Lin H, Howell HB, Heath AC, Cohen LS. 2008. Pharmacologic treatment of postpartum women with new-onset major depressive disorder: a randomized controlled trial with paroxetine. *J Clin Psychiat*.;69(4):659–665.

[3]. Cristescu, T, Behrman, S, Jones, SV. 2015. Be vigilant for perinatal mental health problems. Practitioner; 259(1780): 19–232.

[4]. American Psychiatric Association. 2013. Diagnostic and statistical manual of mental disorders (5th ed., text revision). Washington, DC.

[5]. O'Hara, MW, Wisner, KL. 2014. Perinatal mental illness: definition, description and aetiology. Best Pract Res Clin Obstet Gynaecol; 28(1): 3–12.

[6]. Norhayati, MN, Nik Hazlina, NH, Asrenee, AR. 2014. Magnitude and risk factors for postpartum symptoms: a literature review. J Affect Disord; 175: 34–52.

[7]. Ministry of Health, Republic of Indonesia. 2014. Basic Health Statistics Profile of Indonesia 2013. Jakarta: Ministry of the Health Republic of Indonesia.

[8]. Misri, S, Reebye, P, Kendrick, K. 2006. Internalizing behaviours in 4-year-old children exposed in utero to psychotropic medications. Am J Psychiatry; 163(6): 1026–1032.

[9]. Sohr-Preston, SL, Scaramella, LV. 2006. Implications of timing of maternal depressive symptoms for early cognitive and language development. Clin Child Fam Psychol Rev;9(1): 65–83.

[10].Oberlander, TF, Reebye, P, Misri, S. 2007. Externalizing and attentional behaviours in children of depressed mothers treated with a selective serotonin reuptake inhibitor antidepressant during pregnancy. Arch Pediatr Adolesc Med; 161(1): 22–29.

[11].Xie RH, Yang J, Liao S, Xie H, Walker M, Wen SW. 2010. Prenatal family support, postnatal family support and postpartum depression. Aust N Z J Obstet Gynaecol. Aug;50(4):340-5. doi: 10.1111/j.1479-828X.2010.01185.x. PubMed PMID: 20716261.

[12].Gjerdingen, D., McGovern, P., Attanasio, L., Johnson, P. J., & Kozhimannil, K. B. 2014. Maternal depressive symptoms, employment, and social support. Journal of the American Board of Family Medicine: JABFM, 27(1), 87–96. doi:10.3122/jabfm.2014.01.130126.

[13].Dennis CL, Hodnett E, Kenton L, Weston J, Zupancic J, Stewart DE, Kiss A. 2009. Effect of peer support on prevention of postnatal depression among high-risk women: multisite randomized controlled trial. BMJ. Jan 15;338:a3064. doi: 10.1136/BMJ.a3064.

[14].Brown JD, Harris SK, Woods ER, et al. 2012. A longitudinal study of depressive symptoms and social support in adolescent mothers. Matern Child Health J; 16: 894-901.

[15].Haga SM, Ulleberg P, Slinning K, et al. 2012. A longitudinal study of postpartum depressive symptoms: Multilevel growth curve analyses of emotion regulation strategies, breastfeeding self-efficacy, and social support. Arch. Women's Mental Health 15: 175-184.

[16].Nurbaeti I, Deoisres W, Hengudomsub P. 2018. Postpartum Depression in Indonesian Mothers: Its Changes and Predicting Factors. Pacific Rim International Journal of Nursing Research;22(2):93-05.

[17].Friedman, M. 2010. Buku Ajar Keperawatan keluarga : Riset , Teori, dan Praktek. Edisi ke-5. Jakarta : EGC.

[18].Falah-Hassani K, Shiri R, Dennis CL. 2016. Prevalence and risk factors for comorbid postpartum depressive symptomatology and anxiety. J Affect Disord; 198: 142–147.

[19].U.S Department of Health and Human Services. 2017. Postpartum Depression Facts. National Institute of Mental Health. NIH Publication No, 13-8000.

[20].Alavi, S., and Janati Fard, F. 2011. The Relationship Between Perceived Social Support and Self-Esteem an A Group of Carpet Weavers in Villages of Nain City, Iran Occupational Health Journal, 1 (9): 1-8.

[21].Gavin NI, Gaynes BN, Lohr KN, Meltzer-Brody S, Gartlehner G, Swinson T. Perinatal depression: a systematic review of prevalence and incidence. Obstet Gynecol. 2005;106 (5 Pt 1):1071–83.

[22].Hendrick V, Altshuler LL, Suri R. Hormonal changes in the postpartum and implications for postpartum depression. Psychosomatics. 1998;39(2):93–101.

[23].Bloch M, Schmidt PJ, Danaceau M, Murphy J, Nieman L, Rubinow DR. Effects of gonadal steroids in women with a history of postpartum depression. Am J Psychiatry. 2000;157(10831472):924–930.

[24].Galea LA, Wide JK, Barr AM. Estradiol alleviates depressive-like symptoms in a novel animal model of postpartum depression. Behav Brain Res. 2001;122(1):1–9.

[25].Gregoire AJ, Kumar R, Everitt B, Henderson AF, Studd JW. Transdermal oestrogen for treatment of severe postnatal depression. Lancet. 1996;347(9006):930–933.

[26].Sichel DA, Cohen LS, Robertson LM, Ruttenberg A, Rosenbaum JF. Prophylactic estrogen in recurrent postpartum affective disorder. Biol Psychiatry.1995;38(8750040):814–818.

[27].Stoffel EC, Craft RM. Ovarian hormone withdrawal-induced “depression” in female rats. Physiol Behav. 2004;83(15581673):505–513.

[28]. Suda S, Segi-Nishida E, Newton SS, Duman RS. A postpartum model in rat: behavioral and gene expression changes induced by ovarian steroid deprivation. Biol Psychiatry. 2008;64(18471802):311–319.

[29].Buckwalter JG, Stanczyk FZ, McCleary CA, et al. Pregnancy, the postpartum, and steroid hormones: effects on cognition and mood. Psychoneuroendocrinology. 1999;24(10098220):69–84.

[30].Heidrich A, Schleyer M, Spingler H, et al. Postpartum blues: relationship between not-protein bound steroid hormones in plasma and postpartum mood changes. J Affect Disord. 1994;30(8201129):93–98.

[31].O’Hara MW, Schlechte JA, Lewis DA, Varner MW. Controlled prospective study of postpartum mood disorders: psychological, environmental, and hormonal variables. J Abnorm Psychol. 1991;100(1):63–73.

[32].Ahokas A, Kaukoranta J, Wahlbeck K, Aito M. Estrogen deficiency in severe postpartum depression: successful treatment with sublingual physiologic 17beta-estradiol: a preliminary study. J Clin Psychiatry. 2001;62(5):332–6.

[33].Caroline Davidge-Pitts, MBBCH, Bruce McEwen, PHD, Robert Sapolsky, PHD. Stress and Your Health. Hormone Health Network. https://www.hormone.org/your-health-and-hormones/stress-and-your-health.

[34].Urbayatun, Siti. 2010. Gambaran Tingkat Depresi pada Ibu Post Partum di RSU PKU Muhammadiyah Gombong. Jurnal Ilmiah Kesehatan Keperawatan, Volume 3, No. 2, Juni 2010.

[35].Vaezi A, Soojoodi F, Banihashemi AT, Nojomi M. 2018. The association between social support and postpartum depression in women: A cross-sectional study. Women Birth. Apr;32(2):e238-e242. doi: 10.1016/j.wombi.2018.07.014. Epub Sep 28.PubMed PMID: 30274879.

[36].Milgrom J, Hirshler Y, Reece J, Holt C, Gemmill AW. 2019. Social Support-A Protective Factor for Depressed Perinatal Women?. Int. J. Environ. Res. Public Health, 16, 1426; doi:10.3390/ijerph16081426.

[37].Demiroz HP, Tastan K. 2018. The Effect of Perceived Social Support on Postpartum Depression. J Surg Med;2(3):298-302.

[38].Weir K. The pain of social rejection. American Psychological Association 2012, Vol 43, No. 4 Print version: page 50.https://www.apa.org/monitor/2012/04/rejection.