



The Ratu's Model: A prevention model of postpartum depression[☆]



Ratu Kusuma^{a,*}, Budi Anna Keliat^b, Yati Afiyanti^b, Evi Martha^b

^a *Departement of Nursing, Baiturrahim School of Health, Indonesia*

^b *Faculty of Nursing, Universitas Indonesia, Indonesia*

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KEYWORDS

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Abstract

Introduction: The Ratu's Model is a nursing model to prevent postpartum depression, is a product of Ratu's dissertation. Depression is one of the common psychological problem experienced by postpartum women. The number is estimated to reach 20% in Indonesia, 15–20% in the Riau Province, and must be pressed to 1%.

Objectives: This study aims to identify the effectiveness of Ratu's Model to prevent postpartum depression.

Method: Quasi-experiment research alongside with pre-post test analysis of the control group, number of the respondents was undergone among 54 women pregnant and the spouses in each intervention and control group. Educational intervention was given toward intervention group for 3 times, with 3 times monitoring, and 3 times measurement.

Result: A significant correlation between Ratu's Model with lowered postpartum depression incidence.

Conclusion: The Ratu's Model is effective lowering the incidence of postpartum depression.

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Introduction

Postpartum depression is a psychological disorder that might occur after few days of postpartum, it usually occurs in the week 2 or 3 and it may last for 1–2 years. The symptom consists sadness, easily offended, crying, sleep disorder, decreased libido, easily exhausted, hard to concentrate,

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* Corresponding author.

E-mail address: ratukusuma1975@gmail.com (R. Kusuma).

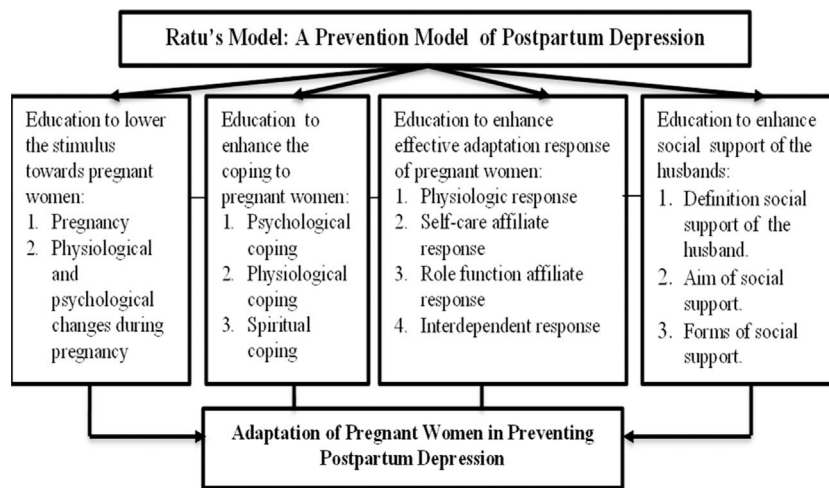


Figure 1 The Ratu's Model.

Table 1 The changed frequency of depression before and after being intervened by the Ratu's Model ($n = 108$).

Depression incidence	Intervention ($n = 54$)		Control ($n = 54$)		Total ($n = 108$)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Pretest	10	18.52	7	12.96	17	15.74
Posttest	4	7.41	7	12.96	11	10.19

guilty feeling, feeling unworthy, suspicious, lack interest to the baby, feeling unable being a mother, and even potentially harm the baby.^{1,2} The number is estimated to reach 20% in Indonesia, 15–20% in the Riau Province, postpartum depression must be pressed to 1%.^{3–7} The exact cause of postpartum depression has not yet been identified, some theorized that it is affected by biological, psychological, and demographic factors. The biologic factor means physiological changes occurred during pregnancy, labor, and postnatal, nutritional deficiencies, metabolic disorder, anemia, hormonal changes, fatty acid changes, and obstetric-related complications suffered by the pregnant women.^{2,4,7,8}

Some of psychosocial factors are past failure in marriage, husband's minimum support or any other significant others, domestic violence, history of depression in past pregnancy, history of depression in the family, and mood disorder during period of menstruation.^{4,9,10} Demographic factor consists of the age of the pregnant women, educational degree, working status, the number of children, and the norm and cultural perspectives in the society. The other factors are socio-economic factor and unhealthy lifestyle, such as smoking, consuming alcohol and drugs for recreational purpose.^{4,11}

Previous studies conducted by the researcher shows that the education provided in the healthcare services has not yet prioritized integrated prenatal care based on Roy Adaptation Model contextualized among pregnant women, including but not limited to the prioritization of nutrition preventing postpartum depression. Henceforth, a brand new Ratu's Model needs to be established.

Methods

This study is a quasi experimental pre–posttest with the control group. The study was undergone by implementing the model through providing education toward the pregnant women and their husbands and identifying the impact of the Ratu's Model to prevent postpartum depression. The samples in this study were the pregnant women in the second trimester (week 20–27). The intervention and the control group were then divided into 54 participants. The instrument used Edinburgh Postpartum Depression Scale (EPDS). This research was done in 4 health center in Kabupaten Kampar of Riau Province.

The Ratu's Model

The model involved four main components which were developed based on Roy Adaptation Model.¹² which were education to enhance stimulus of pregnant women, education to enhance coping mechanism, education to enhance adaptive behavioral response, and education to enhance social support of the husband. The more detailed of Ratu's Model is presented in Figure 1.

Education is provided toward the pregnant women and the husbands. Of the intervention group for 3 times for 27 days, each of the sessions was held in 9 days and every session was given 50–60 min period of time. After all the intervention ended, the visit would then be executed three

Table 2 The effectiveness of the Ratu's Model toward the lowered score of postpartum depression ($n = 108$).

Group	B	<i>p</i> value
Intervention and control	2.103	0.001

times as monitoring system toward the result of education. Multivariat analysis was done by using general linear model-repeated measure (GLM-RM).

Result

The effectiveness of the Ratu's Model toward the lowered incidence and score of pregnant women is presented in Tables 1 and 2.

Table 1 described the incidence of depression in both groups prior and subsequent to the intervention which reaches the number of 17 (15.74%). After being intervened, depression lowers to 60% in intervention group.

Table 2 described that the average score of the postpartum depression in the intervention group is found better than those in the control group with the distinction of 2103 ($p = 0.001$).

Discussion

Result of the study indicates that the Ratu's Model is effective in lowering the postpartum depression. The women in the intervention group have 60% of lowered chance of experiencing postpartum depression. The control group, however, do not have the same development. The psychoeducation and the counseling during the period of pregnancy may reduce the incidence of depression during and after the pregnancy.⁴ The psychoe and educational support group is effective in lowering the incidence of postpartum depression in the period of perinatal.¹³ Happiness: "Mom and Baby" package given to the women with postpartum depression, husband or the parents may lower the phenomenon of depression.¹⁴

The lowered incidence of the postpartum depression in the intervention group may also be caused by the nutrition consumed by the pregnant women, especially the nutrients that may even prevent postpartum depression. Based on the 12 weeks nutritional intake obtained from the respondents, it is known that pregnant women fulfill the intake of carbs, proteins, minerals, and the antioxidants. That 99% of pregnant women consuming B6, B9, vitamin E, vitamin D, omega-3 indicates lower symptoms of postpartum depression.¹⁵ Consumption of selenium in the 6 or 8 weeks old of postpartum phase in the intervention group lower the indication of postpartum depression.¹⁶

Conclusions

The Ratu's Model is effective to lowering the incidence of postpartum depression. Its is recommended that the Ratu's Model may be utilized as more focus in maternity nursing service to prevent of postpartum depression in any healthcare services.

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References

1. Reeder SJ, Martin LL, Griffin DK. Maternity nursing family, newborn and women's health care. 18th ed. USA: Lippincott Williams & Wilkins; 1997.
2. Stone SD, Menken AE. Perinatal & postpartum mood disorder's: perspectives & treatment guite for health care practitioner. New York: Springer Publishing Company; 2008.
3. Beck CT, Reynold MA, Rutoewski R. Maternity blues and postpartum depression. *J Obstetr Gynecol Neonatal Nurs*. 2003;21:42–8.
4. Fitelson E, Kim S, Baker AS, Leight K. Treatment of postpartum depression: clinical, psychological and pharmacological options. *Int J Women's Health*. 2011;3:1–14.
5. Ministry of Health of Republic of Indonesia. The regulation of Ministry of Health of Republic of Indonesia number 97, 2014, regarding preconception, prenatal, labor, and postnatal care, the procurement of contraception service as well as reproductive health service. Jakarta: Ministry of Health of Republic of Indonesia; 2014.
6. Centilino A, Zambaldi CF, Albuquerque TLC, Paes JA, Montenegro ACP, Saugey EV. Postpartum in Recife Brazil: prevalence & association with bio-socio-demographic factor. *J Bras Psiquiatr*. 2010;59:1–9.
7. Pearson E. Tesis Postpartum depression: does early education help firs time mothers recognize and seek early treatmen? Program Master in Northern Kentuck University. Publicized; 2008.
8. Cohen LS, Nonacs RM. Mood and anxiety disorder during pregnancy and postpartum. 4th ed. Washington, DC: American Psychiatric Publishing Inc; 2005.
9. Klainin P, Arthur DG. Postpartum depression in asia cultures: a literatur review. *Int J Nurs Stud*. 2009;1355–73.
10. Yamashita H, Yoshida K, Nakano K, Tashiro K. Postnatal depression in Japanese women detecting the early onset of postnatal depression by closely monitoring the postpartum mood. *Int J Affect Disord*. 2000;58:145–215.
11. Bloch M, Schmidt PJ, Danaceau M, Murphy J, Nieman L, Rubinow DR. Effects of gonadal steroid in women with history of postpartum depression. *Am J Psychiatry*. 2000;157:924–30.

12. Roy SC. *The Roy Adaptation Model*. 4th ed. London: Pearson; 2008.
13. Chabrol H, Challahan S. Prevention and treatment of postnatal depression. *Expert Rev Neurotherapeut*. 2007; 557–76.
14. Hutagaol ET, Unpublished The effectiveness if educational intervention in postpartum depression. Graduate Thesis of Faculty of Nursing Universitas Indonesia; 2010.
15. Leung BMY, et al. Prenatal micronutrient supplementation and postpartum depressive symptoms in pregnancy cohort. *BMC Pregnant Childbirth*. 2013;13.
16. Mokhber N, Namjoo M, Tara F, Boskabadi H, Rayman MP, Ghayour-Mobarhan M, et al. Effect of supplementation with selenium on postpartum depression: a randomized double blind placebo controlled trial. *J Matern Fetal Neonatal Med*. 2011;24:104–8.