RESEARCH ARTICLE

Analysis of the effect of postpartum rehabilitation nursing on the management of postpartum depression

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Abstract

Objective: To study the effect of postpartum rehabilitation nursing on the management of postpartum depression.

Methods: A total of 100 primiparas were randomly selected in this study. They were divided into postpartum nursing intervention group (50 cases) and control group (50 cases). The data from prenatal and postpartum women were collected through questionnaires. The Edinburgh postpartum depression scale, social support scale, general self-efficacy scale, and mother' s role adaptation questionnaire were distributed to 100 pregnant women. By collecting the results of these questionnaires, the differences between the nursing intervention group and the control group were compared.

Results: The results showed that the proportion of postpartum depression in 50 primiparas after postpartum rehabilitation nursing was significantly lower than that of the control group. The physiological and psychological changes of primipara after childbirth would be significant, and would be subject to tremendous pressure from all aspects.

Conclusion: This change and pressure were the main causes of postpartum depression in primipara. Postpartum rehabilitation nursing can effectively alleviate primipara's postpartum depression.

Keywords: postpartum rehabilitation nursing, primipara, postpartum depression. (JPMA 70: 9 [Special Issue]; 2020)

Introduction

Under the tide of economic globalization, competition has increased with a rise in social development. Women are increasingly participating in international affairs. The legal status of women has risen thus providing extra responsibilities and pressures.

With these additive factors, postpartum depression has become one of the common negative emotions in puerperal women.[1] With the acceleration of life rhythm, women play a double role of taking care of their families and work at the same time. The various life, economic and work pressures they face are increasing, which has lead to an increase in the frequency of postpartum depression.[2] The rise in postpartum depression will not only affect the physical and mental health of the mother, but also affect the development of infants and children. This can result in adverse consequences and can even lead to thoughts of maternal suicide or infanticide.[3] As medical models and living standards continue to increase, the demand for perinatal care and neonatal health knowledge among pregnant women is also increasing. Compared with previous help provided by midwives, now most primiparas have poor self-care ability and low mental health.[4,5] A primipara experiences the first birth of her baby, she lacks the knowledge of normal pregnancy, childbirth, childcare, along with an inadequate psychological preparation. During pregnancy, the primipara is taken care of by relatives and remains happy. After childbirth, the relatives tend to shift their attention to the infant and the mother feels neglected and is prone to depression.[6]

Prevention of postpartum depression is mainly achieved through early screening, early detection, early intervention, early psychological counselling, health education, and the establishment of a reasonable health education system.[7] Domestic intervention studies are mostly conducted during the hospitalisation of pregnant women, which means before and after childbirth. Postpartum depression should be detected during hospitalization. Early detection will lead to early management with effective treatment thereby reducing the incidence of postpartum depression.[8] The research on postpartum depression in China is still in the preliminary stage, mainly focusing on the analysis of the influencing factors. Nevertheless, little research has been done on the methods of intervention and the evaluation of the effects of interventions. It is necessary to constantly observe the intervention experience at home and abroad, and improve the intervention measures of primipara postpartum depression.[9-16] The objective of this research was to study the effect of postpartum rehabilitation

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nursing on the prevention of postpartum depression.

Subjects and Methods

A total of 100 cases of primipara (obstetric delivery) were selected from the Second Affiliated Hospital of Shaanxi University of Traditional Chinese Medicine.

The sample size was calculated by the formula (1)

$$n_1 = n_2 = 2\,[u_\alpha + u_\beta / \delta/\sigma]^2 + 1/4\, u_\alpha^2$$

where u_α represents the standard normal difference corresponding to α level, u_β denotes the u value corresponding to type II error probability β, δ indicates the difference between the mean values of the scores of the two groups of primiparas on the Edinburgh Postpartum Depression Scale (EPDS), σ suggests the estimated value of the overall standard deviation, which is replaced by the sample standard deviation S, and the larger one is selected. According to the pretest results, δ=6.15, S=8.81, α=0.05, u_α=1.96, β=0.10, u_β=1.282, and n_1=n_2=44 cases. Considering about 15% of the sample loss rate and no response bias, the corrected sample size was calculated as 50 cases in the experimental group and 50 cases in the control group.

They were divided into intervention group (50 cases) and control group (50 cases) according to inclusion and exclusion criteria. Informed consent was signed by all patients or their families. This study was approved by the Ethics Committee of the Second Affiliated Hospital of Shaanxi University of Traditional Chinese Medicine.

The inclusion criteria were single-foetal primiparas aged 20-34 years with normal 30-42 weeks of pregnancy. The pregnant woman was taken care of by the relatives during puerperium. The family were educated with the ability to write. The maternal women and their families volunteered to participate in the study, signed informed consent, and were randomly grouped.

The exclusion criteria were, women with a history of mental illness or family history of mental illness or receiving relevant treatment. Severe organ diseases and chronic diseases during pregnancy or before pregnancy (such as chronic hypertension, chronic pulmonary diseases, heart disease, diabetes or liver and kidney diseases) were also excluded. The women with complications such as postpartum haemorrhage, uterine rupture or amniotic fluid embolism during or after preterm delivery were also excluded. HIV-positive, syphilis-positive, hepatitis, active tuberculosis and other infectious diseases were also not included. Other exclusion factors were those who refused breastfeeding or live with the infant due to maternal and infant health factors. Finally those women with pregnancy complications, emotional instability, mental disorders and who refused to communicate with survey personell and those who had experienced major stress events in the past three months were excluded.

A general information questionnaire for primipara before and after delivery was designed by the research team and the related obstetric nursing experts. After repeated revisions and examinations, it was subjected to a pre-test. It included the situation of pregnant women, their spouses and new-borns. The basic framework was formed from a large number of documents and was reviewed by the invited obstetric nursing experts. Specific contents included the age of primipara, the only child, the educational level of husband and wife, occupation and family income, the history of adverse pregnancy and childbirth, the mode of delivery, if the pregnancy was planned, what was the baby's gender expectation, sleep quality, husband-wife relationship, mother-in-law relationship, neonatal feeding and health status.

Edinburgh postpartum depression scale: Edinburgh postpartum depression scale (EPDS) was developed by Cox et al.[17] which has a good reliability and validity. EPDS was used for screening postpartum depression. In 1998, it was translated into the Chinese version and has been applied in domestic research. The internal consistency reliability and content validity was 0.76 and 0.93, respectively. The scale not only screened depression during pregnancy and postpartum, but also evaluated the effect of maternal depression. The revised EPDS contained10 items, each of which was divided into four levels, and each item was assigned 0-3 points. Among them, 1, 2 and 4 items were positive scoring, and the other 7 items were reverse scoring. The total score for each item was 0-30. The higher the score, the more severe the degree of depression. From the findings, the EPDS total score of $\geq$ 13 indicated positive postpartum depression screening and patients with varying degrees of depressive disorders. In this study, the scale was used as both screening tool and scoring scale.

The social support scale:[18] The social support scale was used to measure an individual's social support. Its retest reliability and validity coefficient was 0.92 and 0.86, respectively. The scale included three dimensions: objective support (3 items), subjective support (4 items) and utilization of social support (3 items), with a total of 10 items. Among them, the objective support referred to objective, visible and practical support. The subjective support referred to the emotional support that can be experienced, respected and understood. The utilization of social support reflected the individual's active use of social support, including the situation of talking, asking for help and participating in activities.

General self-efficacy scale: General self-efficiency scale (GSEs)[19] was compiled by Schwarzer et al. of Berlin Free University, Germany. The GSES used the Linkert 4 rating method with 10 projects and 1 dimension. The scoring method was: 4 points were totally correct, 3 points were mostly correct, 2 points were slightly correct and 1 point was totally incorrect. The higher the score, the higher the self-confidence. Below 10 points, self-efficacy was very low. Between 11 and 20 points, self-efficacy was low. Between 21 and 30 points, self-efficacy was high. Between 31 and 40 points, self-efficacy was very high.

Questionnaire on mother's role adaptation: The questionnaire included four aspects: the influence of infants on maternal life, the well-being of maternal role, the ability to take care of infants' daily life, beliefs and so on. There were 16 items in the questionnaire. The Linkert 5-level scoring method was used to score the lowest score and the highest score for each item. The total score was 16-80. The higher the score, the better the maternal role adaptation. The score of 64-80 indicated that the mother's role adaptation was good, 48-63 indicated that the mother's role adaptation was moderate and $\leq$ 47 indicated that the mother's role adaptation was poor.

Contents and methods of intervention: The control group received routine nursing care. During maternal hospitalization, the symptoms of mothers and infants were observed before and after delivery. Medication management, psychological nursing, rehabilitation diet and exercise education were carried out. Breastfeeding, neonatal bathing and touching were also necessary. Skin, buttocks and umbilical care were conducted. Neonatal stress response, facial colour and urine were observed to judge whether the baby was warm or cold. Primipara were given face-to-face education and handbooks. Before discharge they received guidance for a postnatal visit fourty-two days after delivery.

The intervention group adopted a more in-depth post-partum rehabilitation nursing model. The psychological and physical status of primipara and the problems encountered were assessed. A preliminary intervention plan was worked out with primipara and their families, so as to guide their families to actively participate in the care of their mothers and newborns, to build trust with each other, and to encourage primipara to do their own work as far as possible for the care of their newborns. This improved the ability of self-care. Child-rearing confidence and self-satisfaction could be enhanced to promote the adaptation role of the mother.

In the process of implementation, the method of explanation→ guidance→ practice→ guidance→ practice was used to explain and demonstrate the knowledge and skills if the primipara and their families had failed to grasp. Health education on postpartum depression was carried out among family members to understand the mental health status of puerpera as well as their families. According to the EPDS survey results, the key psychological guidance was provided to the puerpera.

Statistical Methods

All the data in the study were analysed by SPSS 18.0 statistical software in the Chinese version, with $P < 0.05$ as the statistical significance. The statistics of general data were expressed by frequency and percentage, and the measurement data were described by the mean standard deviation. The correlation between social support, self-efficacy and prenatal depression level of primipara was analysed. The balance test of general data of primipara in the two groups was analysed by two independent samples t-test and chi-square test. The postpartum depression situation of the two groups of primiparas was compared. The changes in the social support level and self-efficacy were evaluated by repeated measurement variance analysis. Two independent samples t-test and chi-square test were used to compare the differences of postpartum depression score, social support level, self-efficacy and maternal role adaptation between the two groups in order to evaluate the intervention effect.

Results

Equilibrium comparison of basic data of subjects: There were 100 subjects in the study group, 50 in the control group and 50 in the intervention group. The average age of the control group was 27.21±2.53 years old range (20-34 years). The average age of the intervention group was 26.67±3.58 years (range 21-33 years). T-test showed that t=-0050, P=0.961 > 0.05, and there was no significant difference. As shown in Figure-1, age, an only child, pregnancy planning, sex expectation of the baby, the relationship between husband and wife, sleep quality, delivery and feeding mode were not significantly different (P > 0.05).

The influence of postpartum nursing on social support of primipara: In general, the prenatal social support for primipara was 37.16±5.285, which belonged to the middle level. On the day of admission, there was no significant difference in the total scores of social supports and the scores of each dimension between the two groups (P >0.05), which proved that there was comparability. On the day of discharge, there was no significant difference in the total scores of social supports and each dimension between the two groups (P >0.05). At 42 days postpartum, there were significant differences in

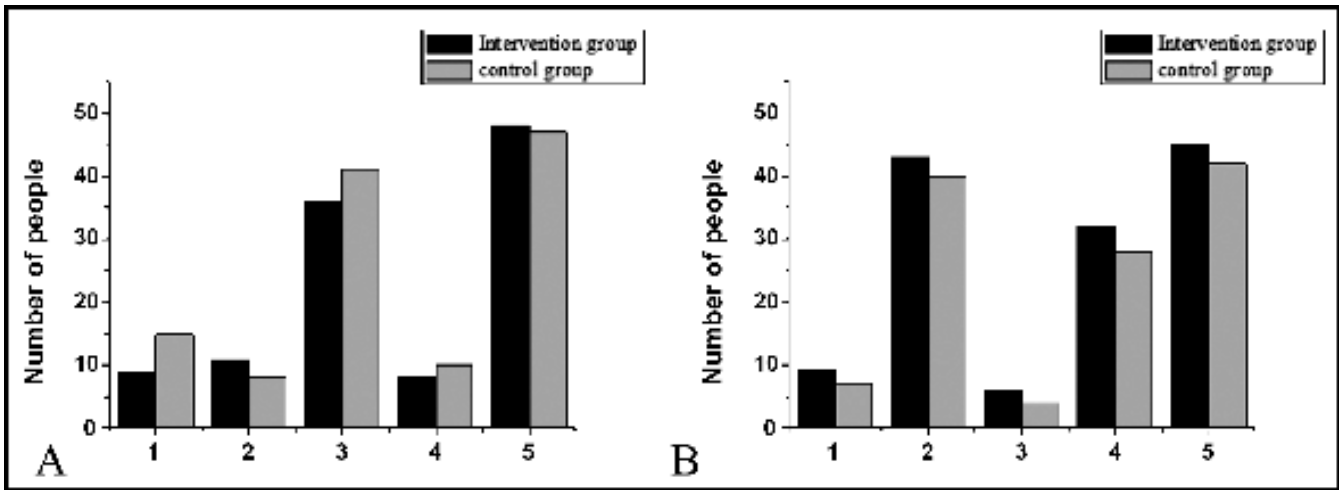

Figure-1: Comparison of basic data of primipara between two groups (A. Abscissa: 1. There is the only child. 2. There is a bad pregnancy history 3. It is the planned pregnancy 4. There is the expectation of the baby' s sex 5. A good relationship between husband and wife. B. Abscissa: 1. Primipara sleeps well in the last week 2. A good relationship between mother-in-law and daughter-in-law 3. Caesarean section 4. Breastfeeding 5. The baby is healthy).

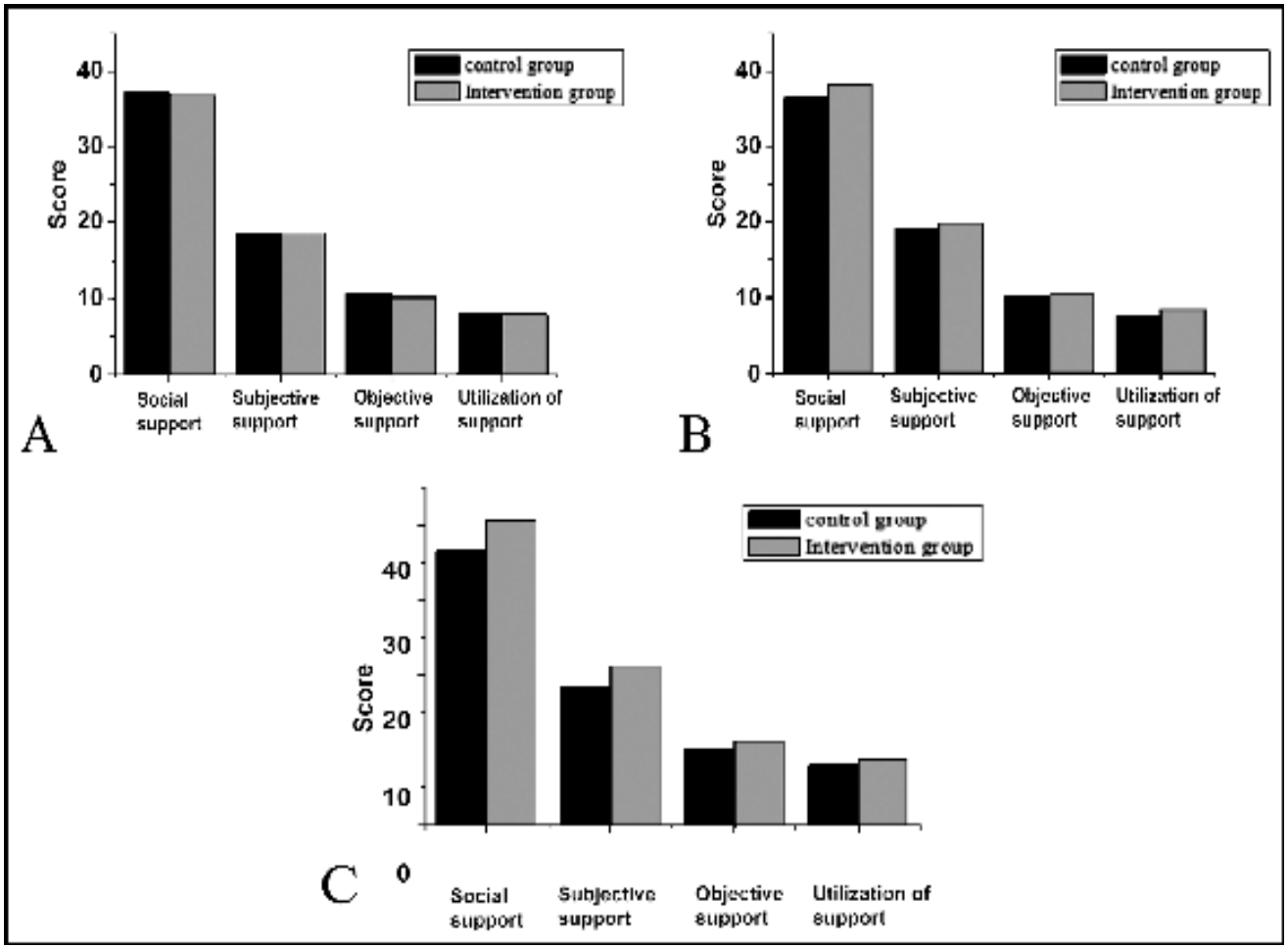

Figure-2: Comparisons of scores in various dimensions of social support (A. The scores of social support dimensions on admission day are compared; B. The scores of social support dimensions on discharge day are compared; C. The scores of social support dimensions on 42 days after delivery are compared).

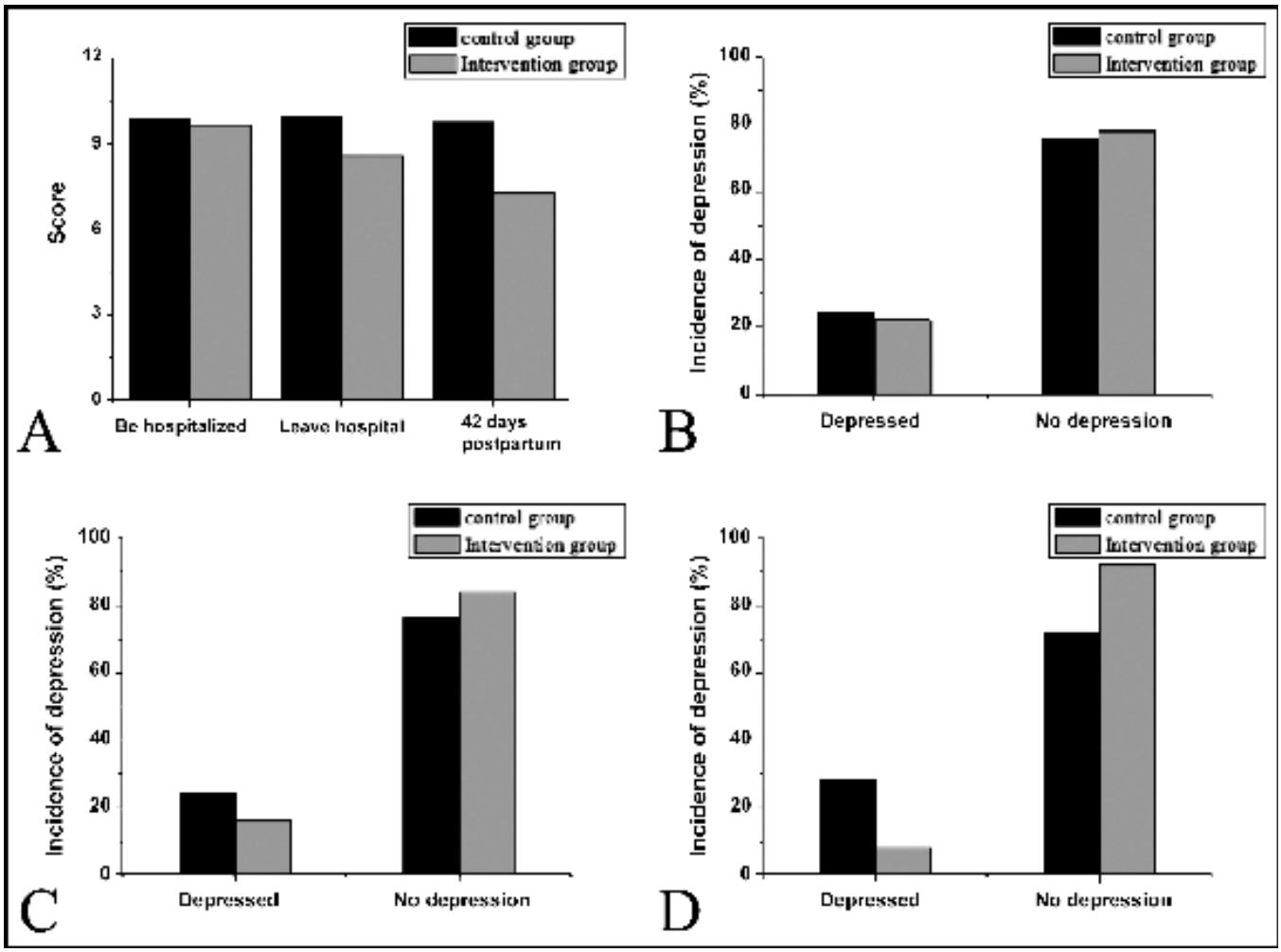

Figure-3: Comparison of depression rate on the day of admission, discharge and 42 days of postpartum between the two groups (A. Comparisons of EPDS scores between the two groups on admission day, discharge day and 42 days postpartum. B. Comparisons of incidence of depression on admission day between the two groups. C. Comparisons of the incidence of depression on the day of discharge between the two groups. D. Comparisons of incidence of depression on the 42 days after delivery between the two groups).

the total score of social support, subjective support score and support utilization between the two groups (P <0.05). However, there was no significant difference in objective support score (P >0.05), as shown in Figure-2.

Effect of postpartum nursing on the postpartum depression of primipara: On the day of admission, the prenatal EPDS score was 9.82±4.02, ranging from 1 to 18, and the frequency of depression was 24.1%. There was no significant difference in the EPDS score between the two groups on the day of admission (P >0.05), and no significant difference in the development of prenatal depression. (P >0.05). On the day of discharge, there was no significant difference in EPDS score and incidence of depression between the two groups (P >0.05). However, there was a significant difference in EPDS score and incidence of depression between the two groups at 42 days postpartum (P <0.05), as illustrated in Figure-3.

Effect of postpartum nursing on primipara's self-efficacy: On the day of admission, there was no significant difference in self-efficacy score between the control group and the intervention group (P >0.05), indicating the two groups to be comparable. On the day of discharge, there was no significant difference in self-efficacy scores between the intervention group and the control group (P >0.05). At 42 days postpartum, there was a significant difference in self-efficacy scores between intervention group and control group (P <0.05), as presented in Figure-4.

Discussion

A large number of studies[20-22] have explored the

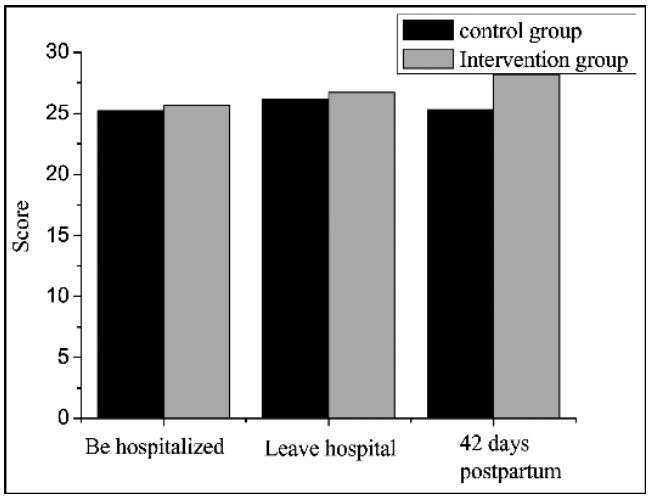

Figure-4: Comparison of self-efficacy scores between two groups at different time.

prevalence of postpartum depression and depression, and evaluated the factors related to it. Studies have found that postpartum depression is more susceptible to chronic diseases, and postpartum depression makes women more vulnerable to advanced depression and other physical and mental health problems. It is estimated that the prevalence of postpartum depression worldwide is about 10-15%.[23] Many risk factors are considered to be an important cause of postpartum depression in new mothers, and it can have a significant impact on babies, mothers, families and society.

Postpartum depression was the first depressive disorder occurring in women's puerperal period and was more common in female mental disorders. Postpartum depression often manifests itself as depression, poor sleep and loss of appetite, which can lead to suicide. Postpartum depression is often treated with antidepressant medication, psychotherapy and physical therapy. Psychological intervention therapy including cognitive behavioural therapy, interpersonal psychotherapy, behavioural activation, and mindfulness cognitive therapy is a new treatment method in the field of modern medicine. Studies have shown that comprehensive psychological intervention could improve the therapeutic effect of postpartum depression.[24] The study found that there were significant differences in total social support score, subjective support score and support utilization at 42 days postpartum ($P < 0.05$), and significant differences in EPDS score and depression incidence ($P < 0.05$). Social support is a protective factor for postpartum depression in puerperia. Social support from spouse and family members could greatly reduce the probability of postpartum depression.[25] According to the research, a psychological intervention could improve social support. Understanding the prevalence of postpartum depression and its relationship with social support is an important research direction. Research reports have found that there is an inverse significant correlation between social support and postpartum depression. The larger the mother's social network, the lower the incidence of postpartum depression. It is also proposed to educate families, raise awareness of the important role of social support, and improve all aspects of health care to prevent postpartum depression.[26]

The EPDS scale was first compiled in English in 1987 but was translated into Chinese by the Chinese University of Hong Kong and was revised in 1998. This scale has been widely used in the evaluation of specific postpartum depression. Due to its high sensitivity, this scale is often used in the evaluation of psychological conditions in China. The scale was found to be useful in evaluating depression and nursing intervention thereby reducing the incidence of postpartum depression. Self-efficacy refers to people's expectations of their ability to perform certain behaviours, as well as their ability to recognize and evaluate their behaviour. The higher the self-efficacy score, the lower the incidence of postpartum depression.[23] Nursing intervention could significantly improve the maternal self-efficacy score ($P<0.05$), indicating that nursing intervention could reduce the incidence of postpartum depression by improving maternal self-efficacy, self-acceptance and self-evaluation.

The role of postnatal care in the occurrence and development of depression cannot be ignored, and has received attention in recent years. Studies have found that nurses should tailor care to couples' preferences to help them identify and utilize preferred resources. Patients may be more receptive if mental health care is provided in obstetric care. Moreover, the role of nursing is mainly reflective listening, helping women adapt to the process of rebirth. An internal process of painful growth represented by motherhood, striving to protect the true self in order to maintain emotional health while negotiating development and transformation.

Conclusion

There was no significant difference in social support score, incidence of postpartum depression, and self-efficacy between the two groups. 42 days after discharge, compared with the control group, the intervention group had higher social support score, lower incidence of postpartum depression, and increased self-efficacy. Therefore, postpartum rehabilitation nursing has a good effect on postpartum depression.

Disclaimer: I hereby declare that this research paper is my own and autonomous work. All sources and aids used have been indicated as such. All texts either quoted directly or paraphrased have been indicated by in-text citations. Full bibliographic details are given in the reference list which also contains internet sources. This work has not been submitted to any other journal for consideration.

Conflict of Interest: We declare that all contributing authors of this paper have no conflict of interest and all have contributed equally to this research work.

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