

# Protective Factors against Prenatal Depression in Pregnant Women

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**Abstract.** This study explored protective factors against prenatal depression in pregnant women. One-hundred thirty-four pregnant women were recruited from an obstetric clinic and public health center in Korea. Dyadic adjustment, sense of mastery, and prenatal depression were assessed using structured questionnaires. Prenatal depression was assessed with the Edinburgh Postnatal Depression Scale (EDPS). Binomial logistic analysis was used to identify predictors of prenatal depression. Of the participants, 40.3% screened as positive on the EPDS with a cut-off point of 9/10. Protective factors against prenatal depression were a history of childbirth, dyadic adjustment, and sense of mastery. We must consider these findings when developing interventions for pregnant women focusing on prevention and management of prenatal depression.

**Keywords:** Dyadic adjustment, Sense of mastery, Prenatal depression, Pregnant women

## 1 Introduction

### 1.1 Background

Pregnancy and childbirth are major events that cause stress across the life cycle among women. In particular, a sudden change in hormone balance can cause physical discomfort such as morning sickness and weight increase. Moreover, the reduced quality of sleep among other risk factors might increase the probability of depression among pregnant women [1].

According to studies of Western populations, about 5–15% of expectant mothers experience depression [2]. In contrast, in Korea, about 12–36% of expectant mothers experience prenatal depression [3]. Pregnant women suffering from prenatal depression are 5-6 times more likely than are normal pregnant women to develop postnatal

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depression [4]. Further, prenatal depression is known to be a strong preceding factor of postnatal depression [4]. Pregnant women suffering from prenatal depression tend to have less-healthy babies. Premature birth, low birth-weight infants, and growth delay in the prenatal period, as well as excessive activity increase, have been observed for pregnant women who experienced depression [5].

However, not all pregnant women suffer from prenatal depression. Mercer et al. [6] suggested that the relationship between the pregnant woman and her partner and sense of mastery are protective factors against prenatal depression [6]. They suggested a theoretical model in which pregnant women's prenatal depression is reduced when her relationship with her partner is better her sense of mastery is greater [6].

Until recently, most previous studies have investigated prenatal depression in pregnant women with regard to prenatal depression from psychosocial factors as well as clinical studies about depression symptoms during pregnancy[3]. Accordingly, it is difficult to find research demonstrating dyadic adjustment and sense of mastery as protective factors against prenatal depression.

This study will identify the prevalence of prenatal depression among pregnant women, find factors to prevent prenatal depression and find the needs to prevent and manage pregnant women's prenatal depression. In addition, this study suggests base line data for developing nursing interventions for preventing, managing pregnant women's prenatal depression.

## **1.2 Purpose**

The Purpose of this study was to explore predictors of prenatal depression in pregnant women.

## **2 Methods**

### **2.1 Study Design**

This was a descriptive cross-sectional study that used self-report questionnaires.

### **2.2 Participants and Data collection**

Participants were 134 pregnant women who visited the obstetrics and gynecology outpatient centers at a university hospital in the city of D and a public health center located in the city of Y. Participants were included if they were pregnant women in their 20th through 38th week of pregnancy and they agreed to participate in the study. Data collection for this study was conducted between August 23 and November 25, 2014, with an agreement from chairs of two hospitals and cooperation from obstetrics

and gynecology outpatient center. The researcher and two trained assistants conducted the survey, and approximately 15 minutes were spent to finish a questionnaire.

### 2.3 Instruments

#### Revised Dyadic Adjustment Scale (RDAS)

To measure dyadic adjustment, the Revised Dyadic Adjustment Scale (RDAS), originally developed by Spanier [7], supplemented and revised by Busby et al. [8], and adapted by Choi [9], was used. This instrument consisted of 14-items rated on a 6-point Likert scale with higher scores indicating a higher perceived dyadic adjustment by participants. Reliability (Cronbach's  $\alpha$ ) of the tool at the time of development was .81–.90, and our study showed a value of .90.

#### Sense of Mastery Scale (SOMS)

Sense of mastery was measured using Pearlin et al.'s Sense of Mastery Scale (SOMS) [10]. This scale was validated by the Korea Gerontological Forum [11]. This instrument consisted of 7-items rated on a 4-point Likert scale with higher scores indicating a higher perceived sense of mastery by participants. The internal consistency/reliability at Pearlin et al.'s study was .61–.67, and in this study, it was .80.

#### Edinburgh Postnatal Depression Scale (EPDS)

Prenatal depression was determined with a widely used instrument, the Edinburgh Postnatal Depression Scale (EPDS) [12]. The scale was validated by Han et al. in Korea [13]. The EPDS consists of 10 items relevant to depressed mood experienced in the past week. In Korea, there have been several validation studies of the EPDS in prenatal pregnant samples [3,4]. Reliability (Cronbach's  $\alpha$ ) of the tool at the time of development was .87, and our study showed a value of .82.

### 2.4 Data Analysis

Data were analyzed with SPSS (version 20; IBM Corporation: Armonk, NY, USA). Descriptive statistics (frequencies, means, and standard deviations) were used for the general and obstetric characteristics and major variables in this study. Participants were divided into two groups based on their EPDS scores (depressed: greater than 10; non-depressed: 9 or less). The chi-squared test was applied to capture differences in the proportion of prenatal depression across socio-demographic and obstetrics variables. Binomial group comparisons were performed using t-tests for major variables. Binomial logistic regression was then performed, including variables that had a significant binomial relationship with the EPDS scores and across socio-demographic and obstetrics variables to verify protective factors against prenatal depression in pregnant women.

### 3 Result

A higher risk for prenatal depression was associated with a history of nulliparity (Exp(B) = 5.51,  $p = .016$ ), lower RDAS (Exp(B) = .95,  $p = .017$ ), and lower SOMS (Exp(B) = .75,  $p = .001$ ). No other variables were statistically significant in the regression model. Therefore, a history of childbirth, dyadic adjustment, and sense of mastery protected against prenatal depression in pregnant women (Table 1).

**Table 1.** Predictors of Prenatal Depression According to Binominal Logistic Regression in Pregnant Women

(N=134)				
Variables	Adjusted Odds Ratio	95% Confidence Interval	<i>p</i>	
Age (years; Reference: $\geq 31$ )				
$\leq 30$	1.23	.52 2.93	.636	
Education (Reference: $\geq$ College)				
$\leq$ High school	.92	.34 2.51	.875	
Occupation (Reference: No)				
Yes	1.15	.47 2.85	.756	
Family income ( $\geq 401$ )				
$< 200$	1.89	.47 7.56	.368	
200–400	1.81	.71 4.67	.217	
Gestational age(Reference: $\geq 28$ )				
$\leq 27$	1.20	.48 2.95	.699	
History of childbirth(Reference: $\geq 2$ )				
0	5.51	1.37 22.22	.016	
1	4.07	1.05 15.74	.042	
Wanted pregnancy (Reference: No)				
Yes	.95	.27 3.31	.929	
RDAS	.95	.92 .99	.017	
SOMS	.75	.62 .89	.001	

RDAS: Revised Dyadic Adjustment Scale; SOMS: Sense of Mastery Scale.

## 4 Conclusions

A substantial proportion (40.3%) of pregnant women who came for a prenatal check-up to our study setting is at risk of prenatal depression, which was associated with a history of childbirth, dyadic adjustment, and sense of mastery. Therefore, nursing interventions must focus on both dyadic adjustment and sense of mastery, as these might be effective for decreasing prenatal depression in pregnant women.

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