

# Risk factors of self-interruption of medications for mental disorders in pregnancy

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## Summary

The current study examined factors associated with the increased risk of self-interruption of medications for mental disorders in pregnancy. We reviewed the obstetric records of all singleton deliveries beyond 22 weeks of gestation at Japanese Red Cross Katsushika Maternity Hospital from January 2014 through July 2018. We examined the clinical and social characteristics and obstetric outcomes in women with self-interruption of medications for mental disorders in pregnancy in comparison with those in women who continued the medications throughout the pregnancy. There were 177 women who were diagnosed with mental disorders requiring medications before pregnancy by Japanese psychiatric specialists. Of these, 46 (26%) self-interrupted their medications during the first trimester of their pregnancies. The rates of partners with mental disorders (odds ratio: 4.39,  $p = 0.01$ ) and presence of social support (odds ratio: 2.50,  $p = 0.02$ ) in women showing self-interruption of their medications were significantly higher than those in women continuing the medications. In the presence of both factors of a partner's mental disorders and social support, the odds ratio for self-interruption of medications increased to 15.9 (95% confidence interval 2.4-100,  $p < 0.01$ ). We believe that it may be possible to identify women at high risk of self-interruption of medications during pregnancy. In women requiring perinatal mental health care, mental health support of their partners may also be needed.

**Key words:** Risk factors; Self-interruption of medications; Mental disorders; Pregnancy.

## Introduction

Self-interruption of medications for mental disorders in pregnancy is a serious problem associated with increased risks of deterioration/relapse of the disease [1-5]. Women with mental disorders sometimes self-interrupt their medications during pregnancy, and this self-interruption may aggravate their mental disorders [1-5]; however, there have been few studies on risk factors for the interruption of medications. Therefore, the current study examined factors associated with an increased risk of self-interruption of medications for mental disorders in pregnancy.

## Methods

The protocol for this study was approved by the Ethics Committee of Japanese Red Cross Katsushika Maternity Hospital. Informed consent concerning analysis from a retrospective database was obtained from all subjects.

We reviewed the obstetric records of all singleton deliveries beyond 22 weeks of gestation at Japanese Red Cross Katsushika Maternity Hospital from January 2014 through July 2018. Demographic information and the characteristics of labor were extracted from patient charts. In this study, the diagnosis of depression was performed by Japanese psychiatric specialists.

Our institute is one of the major perinatal centers in Tokyo, Japan (about 2,000 deliveries per year); however, medical care by psychiatrists is not carried out. Therefore, almost all pregnant women complicated by depression re-

ceive psychotherapy in nearby psychiatric clinics. During the pregnancies, we can contact psychologists to confirm the patients' information.

In this study, we examined the clinical and social characteristics and obstetric outcomes in women with self-interruption of medications for mental disorders in pregnancy in comparison with those in women continuing the medications throughout the pregnancy. The clinical and social characteristics examined as possible factors associated with self-interruption of medications were as follows: diagnosis of mental disorders, parity, maternal age, twin pregnancy, history of infertility treatment, mental disorders of the partner, and presence of social support. Social support in the current study means that public health nurses are dispatched from regional administrative offices to visit pregnant women and evaluate them as requiring intervention to maintain perinatal health.

Data are presented as the number (percentage: %). Statistical analyses were carried out using the statistical software SAS version 8.02 (SAS Institute, Cary, NC, USA), and differences with  $p < 0.05$  were considered significant. Crude odds ratios (ORs) and 95% confidence intervals (CIs) were also calculated.

## Results

During the study period, there were 177 women who were diagnosed with mental disorders requiring medications before pregnancy by Japanese psychiatric specialists.

Table 1. — *Clinical and social characteristics in the pregnant women with mental disorders with and without self-interruption of their medications.*

	No	Yes	<i>p</i> -value	Odds ratio	95% CI
Total	131	46			
Diagnosis					
Depression	54 (41)	18 (39)	0.86	0.917	0.46-1.8
Anxiety disorder	46 (35)	15 (33)	0.86	0.894	0.44-1.8
Schizophrenia	14 (11)	2 (4)	0.25	0.38	0.093-1.6
Bipolar disorders	10 (8)	5 (11)	0.54	1.48	0.50-4.4
Others	7 (5)	6 (13)	0.1	2.66	0.88-8.0
Nullioarity	94 (72)	28 (61)	0.2	0.629	0.31-1.3
Maternal age					
< 20	3 (2)	1 (2)	1	0.906	0.13-6.6
20-34	87 (67)	32 (70)	Reference	1	-
≤ 35	41 (31)	13 (28)	0.85	0.862	0.41-1.8
Twin pregnancy	4 (3)	2 (4)	0.65	1.44	0.30-7.0
History of infertility treatment	14 (11)	1 (2)	0.12	0.186	0.031-1.1
Mental disorders in the paetner	6 (6)	8 (17)	0.01	4.39	1.5-13
Presence of social support	23 (18)	16 (35)	0.02	2.5	1.2-5.3

CI, confidence interval.

Table 2. — *Psychiatric and obstetric outcomes in pregnant women with and without self-interruption of medications for mental disorders in pregnancy.*

	No	Yes	<i>p</i> -value	Odds ratio	95% CI
Total	131	46			
Deterioration / relapse	23 (18)	22 (48)	< 0.01	4.3	2.1-8.9
Preterm delivery	8 (6)	7 (15)	0.07	2.76	0.98-7.8
Delivery mode					
Normal delivery	80 (61)	18 (39)	Reference	1	-
Vacuumextraxtion	11 (8)	7 (15)	0.07	2.83	0.99-8.1
Cesarean section	40 (31)	21 (46)	0.04	2.33	1.1-4.8
Low birthweight infant	20 (15)	13 (28)	0.08	2.19	1.0-4.8
Neonalat asphyxia	1 (1)	3 (7)	0.05	9.07	1.3-65

CI, confidence interval.

Of these, 46 (26%) self-interrupted medications during the first trimester of their pregnancies.

Table 1 shows clinical and social characteristics of the pregnant women with mental disorders with and without self-interruption of their medications. The rate of partners with mental disorders and presence of social support in the women with self-interruption of their medications were significantly higher than those in the women continuing the medications. There were no significant differences in the other valuables between the 2 groups of women. If there were both factors of partner's mental disorders and social support, the OR for self-interruption of medications was increased to 15.9 (95% CI 2.4-100,  $p < 0.01$ ).

Table 2 shows the psychiatric and obstetric outcomes in pregnant women with and without self-interruption of medications for mental disorders in pregnancy. The incidence of deterioration/relapse of mental disorders and rate of cesarean delivery were higher in women with self-interruption

of medications than those in women continuing the medications.

## Discussion

Based on the current results, self-interruption of medications for mental disorders in pregnancy was confirmed to be associated with adverse outcomes such as an increased incidence of deterioration/relapse of mental disorders and delivery requiring cesarean section. It has been reported that most psychotropic medications are relatively safe to use during pregnancy and postpartum and that not using them when indicated for serious psychiatric illness poses a greater risk to both mothers and children [6]. Although such knowledge has been rapidly disseminated in Japanese perinatal fields in recent years [7], women who self-interrupt medications during pregnancy due to a fear that they may affect the fetus still remain.

In our earlier study in Japan [8], the negative influence of

the partners was observed to cause the relapse/deterioration of mental disorders during pregnancy due to the interruption of antipsychotic medications. The current study supports the previous findings, and the presence of social support maybe an additional risk factor leading to the self-discontinuation of medications during pregnancy despite being regularly visited by a public health nurse for health checkups. Irrespective of the presence of the partner's mental disorders in the partner, if there is a problem with the partner's attitude and/or behavior, the family will be evaluated as requiring social support. In addition, if mental disorders are present in the couple, they are also regarded as requiring social support; therefore, overlap of the 2 factors may be inevitable. Based on this study, we cannot determine whether pregnant women requiring social support are at a higher risk of self-interruption of medications, or whether the guidance of public health nurses falls to refer to the importance of continuing medications for mental health during pregnancy. However, we believe that it may be possible to identify women at high risk of self-interruption of medications during pregnancy.

In women requiring perinatal mental health care, mental health support of their partners may be also needed because the partners' attitudes and/or words may also be influential. Partners' enlightenment regarding the safety of psychotropic medications during pregnancy and postpartum is also needed in Japan.

#### Authors' Contributions

JO: collected the data, wrote, and reviewed the manuscript; SS: designed the report, analyzed the data, wrote and reviewed the manuscript, and approved the final draft.

#### Ethics Approval and Consent to Participate

This study was carried out in accordance with the Declaration of Helsinki. Informed consent for analysis was obtained from all subjects. The protocol was approved by the ethics committee of the Japanese Red Cross Katsushika Maternity Hospital (approval number: K1822).

#### Conflict of Interest

The authors declare no conflict of interest.

Submitted: July 12, 2019

Accepted: September 23, 2019

Published: August 15, 2020

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