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LETTER TO THE EDITOR



## Psychological status during the first trimester of pregnancy under the COVID-19 epidemic in Japan

To the Editors,

The COVID-19 (Coronavirus Disease 2019), a novel coronavirus first reported in late 2019, has rapidly spread across the globe becoming an epidemic [1]. In an attempt to curtail the spread of the COVID-19 infection, various self-restraint requests have been imposed in Japan. Limitations are known to cause psychosocial problems, especially for those recognized as vulnerable.

For women of reproductive age, psychiatry regarding pregnancy, childbirth, and child-rearing will change rapidly [2]. Recently, perinatal mood and anxiety disorders have been the most common mental health problems among these women, and they have been associated with increased risks of maternal and infant mortality and morbidity and been recognized as significant patient safety issues [2]. In our earlier study [3], the incidence of depressive and/or anxiety symptoms have been observed to be about 20–35% in the primiparous women during the first trimester of pregnancy.

In the current study, we compared the prevalence of depressive and/or anxiety symptoms during the first trimester of pregnancy screened during the COVID-19 epidemic with those at the same period last year.

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

Since April 2016, we asked all Japanese women who gave birth at Japanese Red Cross Katsushika Maternity Hospital to answer the following 2 self-administered questionnaires at 8–12 weeks of gestation (first trimester of pregnancy).

The first questionnaire was the tale of Whooley two questions [4], a screening instrument for depression in the general adult population including pregnant and postpartum women.

- During the past month, have you often been bothered by feeling down, depressed or hopeless?
- During the past month, have you often been bothered by having little interest or pleasure in doing things?
  - If at least one of the two questions is ‘yes’, we diagnose the woman as having depressive symptom.

- The second questionnaire was the 2-item Generalized Anxiety Disorder scale (GAD-2) to screen for generalized anxiety disorder [4].
- Over the last 2 weeks, how often have you been bothered by feeling nervous, anxious or on edge?
- Over the last 2 weeks, how often have you been bothered by not being able to stop or control worrying?

If at least one of the two questions is ‘yes’, we diagnose the woman as having anxiety symptom.

In this study, we compared the positive rates of the two screening tools in the postpartum women conducted between 9 March and 11 April 2019 (the COVID-19 control,  $n = 134$ ) with those conducted between 11 March and 13 April 2020 (epidemic,  $n = 117$ ). In this study, we excluded the women who had a definite diagnosis of mental disorders before pregnancy. In addition, we examined the maternal age and parity.

Data are expressed as numbers and percentages. The  $\chi^2$  or Fisher's exact test were used for categorical variables. Odds ratios (ORs) and 95% confidence intervals (CIs) were also calculated. Differences with  $p < .05$  were considered significant.

In this study, all mothers gave us analyzable answers. Table 1 shows characteristics of the women and the results. As shown in Table 1, the positive screening rate of the Whooley two questions in the COVID-19 epidemic group increased significantly than that in control (OR = 1.96,  $p = .036$ ) although there were no significant differences in others between the two groups.

Depression has been reviewed to be the most common mental health problem in the perinatal period [5]. It had been observed to affect about 10–15 out of every 100 pregnant women [5]. The COVID-19 epidemic exposes underlying inequalities in socio-economic and health systems. Many people with serious mental problems will suffer due to an insufficient support of medical, social and financial resources. Based on the current results, the worse psychological status may present during the first trimester of pregnancy under the COVID-19 epidemic. We understand that the sample size of this study may have been too small to compare the two periods even if the outbreak of COVID-19 had just started. In addition, the reliability accuracy of the two

**Table 1.** Characteristics of the women and the results of the tale of Whooley two questions and the 2-item Generalized Anxiety Disorder scale.

	Control	COVID-19 epidemic	<i>p</i> -value	OR	95% CI
Total	134	117			
Maternal age					
<19 years	2 (1.5)	2 (1.7)	1.00	1.20	0.21–7.0
≥40 years	25 (18.7)	26 (22.2)	.53	1.25	0.68–2.3
Multiparity	69 (51.5)	61 (52.1)	1.00	1.03	0.63–1.7
The tale of Whooley two questions					
Positive	24 (17.9)	35 (29.9)	.036	1.96	1.1–3.5
The 2-item Generalized Anxiety Disorder scale					
Positive	29 (21.6)	30 (25.6)	.46	1.25	0.70–2.2

Data are presented as number (percentage). OR: odds ratio; 95% CI: 95% Confidence Interval.

questionnaires for Japanese women may be unclear; however, the current frequencies may indicate that the mental status of Japanese women is unstable with various physical and/or social changes under the COVID-19 epidemic in Japan.

### Consent

Patients' informed consent for publication of this report was obtained.

### Disclosure statement

No potential conflict of interest was reported by the author(s).

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