

# Psychological impact of quarantine among pregnant women in unspecified areas of China during the COVID-19 outbreak

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The outbreak of COVID-19 has become a health concern worldwide. Chinese government has taken rapid response including quarantining and gathering cancellation, and people under quarantine are expected to be negatively affected [1-3]. In order to assess the psychological impact on those pregnant women residing in an unspecified area, we did a cross-sectional e-survey of anxiety and depression, emotional response to COVID-19, and attitude to media emission among pregnant women in Shanghai during February 24th to March 11th, 2020.

The outbreak of COVID-19 was begun around January 22nd 2020, when the diagnosed case in China was 571 and nine cases in Shanghai. According to the Chinese national report, during this survey period from February 24th to March 11th, national diagnosed case number were 77658 to 80793, and that number in Shanghai were 335 to 344. Primary outcome was anxiety and depression self-evaluation by Generalized anxiety disorder screener (GAD-7) [4] and Edinburgh postnatal depression scale (EPDS) [5], respectively. The Institutional Review Board of Obstetrics and Gynecological Hospital of Fudan University approved the project, and signed informed consent was obtained.

Among 688 pregnant women completing the survey, 80% women were of younger than 35 years old, and of university degree or above ( $P < 0.05$ ). A total of 136 (19.8%) and 174 (25.3%) women were of anxious (Generalized anxiety disorder screener, GAD-7 scale [?]4) [4] and depressive (Edinburgh postnatal depression scale, EPDS scale [?]9) [5] mode, respectively. Anxiety and depression among pregnant women were associated with heavy work hours, having higher income, worries about infection and being influenced by media information and preferring more media information access ( $P < 0.05$ ) (Table 1). In logistic regression analysis, those women impacting less by media reports were at a lower risk of anxiety ( $P = 0.001$ , 95%CI: 0.222-0.659), and those preferring more media access were at higher risk of depression ( $P = 0.007$ , 95%CI: 1.181-2.800).

This psychological survey among pregnant women in unspecified COVID-19 epidemic areas in China indicated that, proper media information is beneficial for relieving anxious and depressive mode. In unspecified areas such as Shanghai, anxiety and depression among pregnant women did not undergo a rise. More importantly, those women most influenced by media reporting were more likely being anxious, and therefore, timely media support is called for relieving anxiety and depression caused by concerns about COVID-19 among pregnant women.

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Dr. Zhou and Dr. Li had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Concept and design: Zhou and Li.

Acquisition, analysis, or interpretation of data: All authors.

Drafting of the manuscript: Zhou and Li.

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All authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. The funders played no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; or decision to submit the manuscript for publication. No other disclosures were reported. The Institutional Review Board of Obstetrics and Gynecology Hospital of Fudan University approved the project and written informed consent was obtained from each participant before enrollment.

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### **Competing Interest statement:**

We declare no competing interest.

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