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The Management and Education of Pregnant Women in the Context of Major Public Health Emergency

Tingting Hu [1], YiChao Zhang [2], Xiaoling Zhu [3, *], Zhongqiu Lu[4]

1, 3 School of Nursing, Wenzhou Medical University, Zhejiang, Wenzhou, 325035, China
2 Medical School, Hangzhou Normal University, Zhejiang, Hangzhou, 311121, China
4 The First Affiliated Hospital of Wenzhou Medical University, Zhejiang, Wenzhou, 325000, China
**Corresponding Author*

ABSTRACT. *To assess the cognitive of the public health emergency across Chinese pregnant women, and to analyse the relation of their responding behavior and anxiety level. This cohort study was performed on 252 pregnant women who sought health care during their gestation in a women's and children's hospital. The questionnaire was distributed online in the form of voluntary anonymity. Results: During the period of public health emergency, there were 56 cases (22. 2%) with mild anxiety and 3 cases (1. 2%) with moderate anxiety; educational level and the presence of suspected or confirmed cases nearby were risk factors of the women's anxiety; Compared with women without negative emotions, women with negative emotions such as anxiety tended to develop a high level of knowledge about disease and self-protection. In conclusion, those with lower educational levels and who had suspected or confirmed cases near their residence should be focused. In this study, we have attempted to summarize the suggestion on the prevention of. . . , and self-protection strategies for maternal health management during the public health emergency. The future looks promising.*

KEYWORDS: *Psychology of pregnant women, Major public health emergency, Anxiety, Cognition, Health education*

1. Introduction

The major public health emergency refer to serious infectious disease outbreaks, mass diseases of unknown causes, major mistakes and occupational poisoning, and other events that seriously affect public health that occur suddenly, cause or may cause serious damage to public health[1]. Since 2020, a series of public health emergencies have occurred in China, such as pandemics, floods, etc. In the face of

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possible emergent public health incidents, existing research focuses on the establishment of management mechanisms, often ignoring personal mental health. Previous research has revealed a profound and wide range of psychosocial impacts on people at the individual, community, and international levels during major public health emergency[2-3].

During the major public health emergency, pregnant women are worried about the health of themselves and their fetuses, and they will have feelings of loneliness, helplessness, nervousness, anxiety and depression [4]. This study aims to establish the level of pregnant women's cognition, behavior, anxiety and identify risk factors contributing to anxiety stress. This may increase attention to the mental health of pregnant women and provide a basis for formulating corresponding strategies[5].

2. Experimental

2. 1 Study Area

The study was carried out in the Department of Obstetrics of The First Affiliated Hospital, Wenzhou Medical University, Wenzhou, Zhejiang Province, China between May 2020 and July 2020. Women (255) were potentially enrolled in the study. Inclusion criteria: (1) older than 18 years; (2) Complete data; (3) Informed consent of pregnant women. Exclusion criteria: (1) past or present mental illness; (2) Unable to understand and complete the questionnaire independently.

2. 2 Method

Relevant data was measured according to routine antenatal care and self-reported in the web-based questionnaires (Figure 1): General Information Questionnaire1 and major public health emergency Cognitive Behavior Questionnaire2. Questionnaire1: two items in the questionnaire, including demographic data such as age, gestational week, number of births, and educational background. Questionnaire2:A total of 21 items, including awareness of the public health emergenc and health care behaviors during the major public health emergency. All data of the questionnaires collected were confidential and used for scientific exploration.

Moreover, data were extracted from the Anxiety Self-Rating Scale (SAS): It is a self-assessment tool to assess the anxiety level of patientsThere are 20 items in total and a 4-level scoring method. According to the results of Chinese norms, the cut-off value of SAS standard score is 50 points. Anxiety is not reported under 50 points, 50-59 points are mild, and 60-69 points are medium. 70 points and above are severe anxiety, the higher the score, the more serious the anxiety [6]. The SAS standard score are defined as:

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$$\text{Standard score(rounded up)} = \text{total rough score} \times 1.25 \quad (1)$$

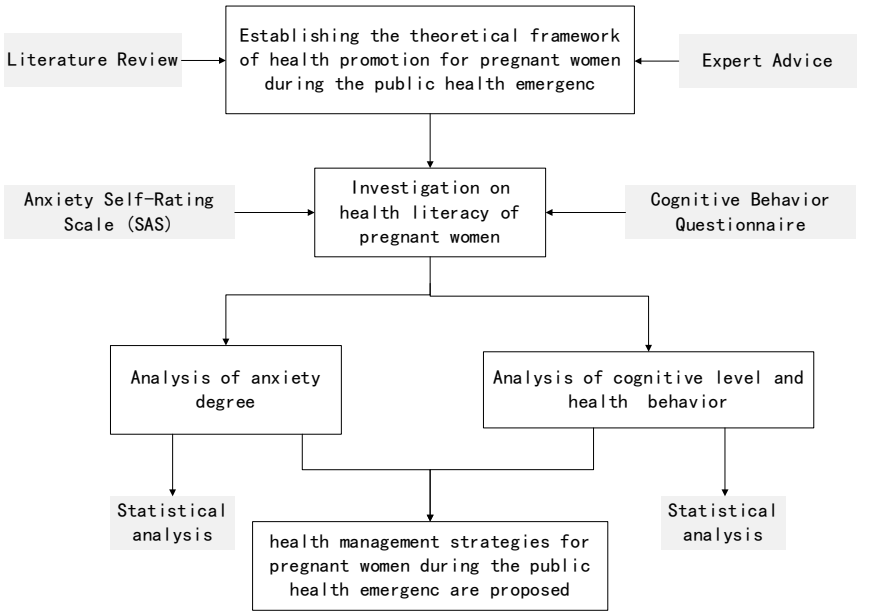

Fig. 1 The Technology Roadmap of This Study

2. 3 Statistical Analysis

The data on continuous variables with normal distribution were presented as mean±SD, and median with interquartile range for variables not normally distributed. Categorical data were shown as counts and percentages. Chi-squared test was used to compare the categorical variables between the groups. The degree of maternal anxiety is used as the dependent variable for single factor analysis. Significance was set at a two-sided p values <. 05. SPSS Statistics 22. 0 was used for all of the calculations.

3. Results and Discussion

A total of 252 pregnant women were measured by questionnaires and all were recovered. General information of maternal anxiety during the epidemic are shown in Table1. 153 were primiparous women (60. 7%), and 99 were postpartum women (29. 3%); the age of the pregnant among 20-42 years (29. 89±3. 79); There is no statistically significant difference in general information of pregnant women, and Significance was set at a two-sided p values <0. 5.

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3.1 Analysis of Factors Affecting the Degree of Anxiety of Pregnant Women during the Major Public Health Emergency

(1) The Incidence of Maternal Anxiety during the Major Public Health Emergency

Among the 252 parturients, 193 were not anxious (76. 6%), 56 were mildly anxious (22. 2%), 3 were moderately anxious (1. 2%), and had no severe anxiety. (Table 1)

(2) Analysis of Factors Affecting the Degree of Anxiety of Pregnant Women during the Major Public Health Emergency

Association was assessed by univariate analysis. The results of this study indicatethat education level, whether there are suspected or confirmed cases nearby and the degree of anxiety are statistically different (P<0. 05). (Table 1)

Table 1 the Incidence of Maternal Anxiety during the Major Public Health Emergency

	Normal N=193	Mild N=56	Medium N=3	f/χ2 P
Age	30. 13±3. 89	29. 20±3. 17	29. 33±5. 86	1. 388 0. 251
Number of pregnancy	1. 56±0. 89	1. 61±0. 97	2. 00±1. 73	0. 356 0. 701
Pregnancy stage				2. 678 0. 848
First trimester	5 (2. 6%)	2 (3. 6%)	0(0%)	
Second trimester	38(19. 7%)	13(23. 2%)	1(33. 3%)	
Third trimester	80(41. 5%)	24(42. 9%)	2(66. 7%)	
Postpartum	70(36. 3%)	17(30. 3%)	0(0%)	
Place of residence				1. 923 0. 382
City	71 (36. 8%)	15(26. 8%)	1(33. 3%)	
Countryside	122(63. 2%)	41(73. 2%)	2(66. 7%)	
Family monthly income				1. 203 0. 878
3000 yuan or less	6 (3. 1%)	2 (3. 6%)	0(0%)	
3000-8000yuan	78(40. 4%)	25(44. 7%)	2(66. 7%)	
Above 8000yuan	109(56. 5%)	29(51. 8%)	1(33. 3%)	
Health status				1. 803 0. 406
normal	170(88. 1%)	46(82. 1%)	3(100%)	
Abnormal	23(11. 9%)	10(17. 9%)	0(0%)	
Are there suspected or confirmed cases nearby				19. 744 0. 000
Yes	2(1%)	1 (1. 8%)	1(33. 3%)	
No	191(99%)	55(98. 2%)	2(66. 7%)	
Education level				31. 203 0. 000
High school and below	39 (20. 2%)	8 (14. 3%)	0(0%)	
College and undergraduate	149(77. 2%)	44(78. 6%)	1(33. 3%)	
Master degree and above	5 (2. 6%)	4 (7. 1%)	2(66. 7%)	

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3. 2 Analysis of Pregnant Women's Cognition Level and Health Care Behavior of the Major Public Health Emergency

There was no statistically significant difference in the cognition and health care behaviors of pregnant women with different levels of anxiety (P>0. 05). (Table 2)

	Normal N=193	Mild N=56	Medium N=3	f/χ2	P
Incubation period	136(70. 5%)	40(71. 4%)	2(66. 7%)	0. 327	0. 988
Clinical manifestations	127(65. 8%)	43(76. 8%)	2(66. 7%)	2. 420	0. 298
Source of infection	192(99. 5%)	56(100%)	3(100%)	0. 307	0. 858
Susceptible population	159(82. 4%)	41(73. 2%)	2(66. 7%)	1. 596	0. 810
The way for spreading	165(85. 5%)	50(89. 3%)	3(100%)	1. 009	0. 604
Exposure to medical isolation standards	181(93. 8%)	49(87. 5%)	3(100%)	2. 705	0. 259
Conditions for virus inactivation	188(97. 4%)	52(92. 9%)	3(100%)	2. 724	0. 256
Protective measures during inspection	182(94. 3%)	51(91. 1%)	3(100%)	0. 967	0. 617
Knowledge of potentially dangerous situations during pregnancy	187(96. 9%)	54(96. 4%)	3(100%)	0. 130	0. 130
Family self-monitoring	130(70. 5%)	37(66. 07%)	3(100%)	1. 709	0. 425
Postpartum review	147(76. 2%)	47(83. 9%)	2(66. 7%)	1. 730	0. 421
Epidemic prevention and control strategy	187(96. 9%)	55(98. 2%)	3(100%)	0. 368	0. 832

Pregnant women represent a uniquely vulnerable group in any public health emergency outbreak because of their altered physiology, susceptibility to infections, and compromised mechanical and immunological functions[7], and their mental health directly affects the outcome of childbirth, postpartum depression and family relationships. The general population has mental health problems in the face of major public health emergencies, and has a strong need for psychological intervention [8]. Our findings suggest that during the period of the major public health emergency, 23. 4% of respondents reported moderate to mild anxiety symptoms, which was higher than the ratio of anxiety problems in other studies. During the epidemic, the anxiety of pregnant women is obviously. As a special group of people, pregnant women should pay more attention to their mental health status for targeted early intervention.

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In view of the current status of pregnant women's cognition, health care behaviors and anxiety levels of the major public health emergency in this study, corresponding recommendations are provided for their health management[9-10]. First. Early detection: During the major public health emergency, psychological evaluation scales can be used to conduct psychological evaluations on the parturients, to understand their psychological status in time, and to make a preliminary judgment on whether they have or have potential mental health problems, so as to facilitate early identification and prevention of mental illness. Second. Social support: In the face of pregnant women, whether they are family members or medical staff, they must carefully listen to their inner feelings about the disease, recognize their fear, tension, anxiety and other emotions, and actively support and accompany them. Transmit positive energy information and help them take the methods of listening to music, painting, and doing handwork. Third. Self-adjustment: pregnant women also can increase understanding of disease knowledge, divert attention, obtain psychological support from family, society, etc. gain a sense of security, , and try to put yourself in a relatively relaxed state. Fourth. Lifestyle: Due to the large nutritional needs of pregnant women and fetuses they should ensure adequate sleep, balanced diet, and exercise as appropriate as possible.

4. Conclusions

In summary, this study elucidated the effects of the major public health emergency pandemic on the anxiety levels of pregnant women, our findings can be used to formulate psychological interventions to improve mental health and psychological resilience during the major public health emergency.

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