

EXPOSURE TO LIFE THREAT AMONG WOMEN: THE EFFECTS OF COVID-19 AND HURRICANE MARIA ON POSTTRAUMATIC STRESS DISORDER SYMPTOMS



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ABSTRACT

PURPOSE: Experiencing life threat has increased due to unprecedented disasters in Puerto Rico, such as Hurricane Maria and COVID-19 pandemic. Life threat encompasses actual or threatened harm to the survival of the individual. Although COVID-19 is not considered a criterion A cause for posttraumatic stress disorder (PTSD), this double-hit has placed perinatal women vulnerable to developing symptoms. The double-hit consequences on maternal PTSD symptoms are unknown. This study aimed to determine changes in maternal PTSD symptoms as a result of Maria and perceived COVID-19 threat.

METHODS: We recruited 55 mothers who were pregnant during Maria. In 2019, we interviewed mothers to understand prenatal threat exposure due to Maria using the Exposure to Disaster Scale (EDS). In 2021-2023, we followed up mothers to report perceived COVID-19 threat with an adapted EDS. Exposures were dichotomous variables. At both times, we administered the PTSD Checklist for DSM-5. We used generalized estimating equations to determine the effect of Maria's and COVID-19 threat on maternal PTSD symptoms.

RESULTS: After adjusting for maternal mental health history, the overall effect of COVID-19 threat was significant, $W(1)=13.394, p<.001$. Compared to mothers with COVID-19 threat, non-exposed mothers had fewer PTSD symptoms ($B=-1.259, p=.005$). Maria threat interacted with COVID-19 threat, $W(3)=20.338, p<.001$. Specifically, compared to mothers with only Maria threat, mothers with both threats reported more PTSD symptoms ($B=.423, p=.048$).

CONCLUSION: Findings indicate that mothers with both threat to life reported more PTSD symptoms. Mothers who reported Maria's and non-COVID-19 threat had fewer PTSD symptoms.

AIM

To determine changes in maternal PTSD symptoms as a result of Maria and perceived COVID-19 threat.

METHODS

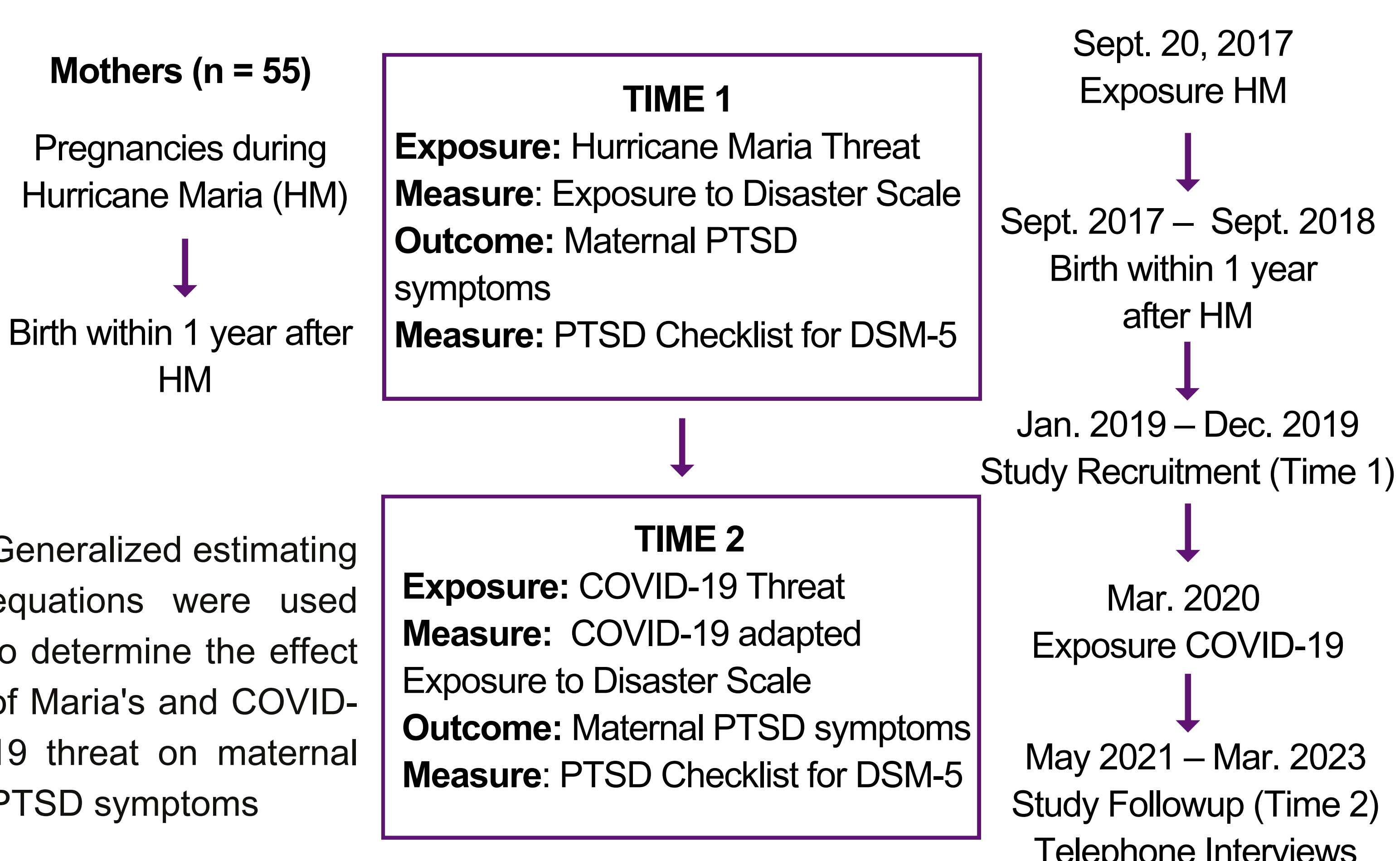


Figure 1. Cohort study framework and outline

Mothers with more threat to life experiences reported more post-traumatic stress disorder (PTSD) symptoms.

Table 1. Beta coefficients from generalizing estimating equations (GEE) models predicting PTSD symptoms

Variable	Model 1 B (SE)	Model 2 Adjusted B (SE)
Maria threat		
(Non-Maria threat (2017	-1.19 (.26)	-1.17 (.26)
(Maria threat (2017	ref	ref
COVID-19 threat		
Non-COVID-19 threat (2020)	-1.42 (.44)**	-1.26 (.45)**
COVID-19 threat (2020)	ref	ref
Maria threat x COVID threat		
Non-Maria threat non-COVID-19 threat	.87 (.57)	.51 (.55)
Covariate: Mental health history		
Non-Maria threat x non-COVID-19 threat		.42 (.11)***
Non-Maria threat x COVID threat		.24 (.20)
Maria threat x COVID threat		.42 (.21)*
Maria threat x non-COVID-19 threat		ref
Intercept	2.99 (.14)***	2.83 (.16)***
Scale	.91	.86
Model fit (QIC)	100.40	95.80

*p<.05, ** p <.01, ***p < .001

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RESULTS/ FINDINGS

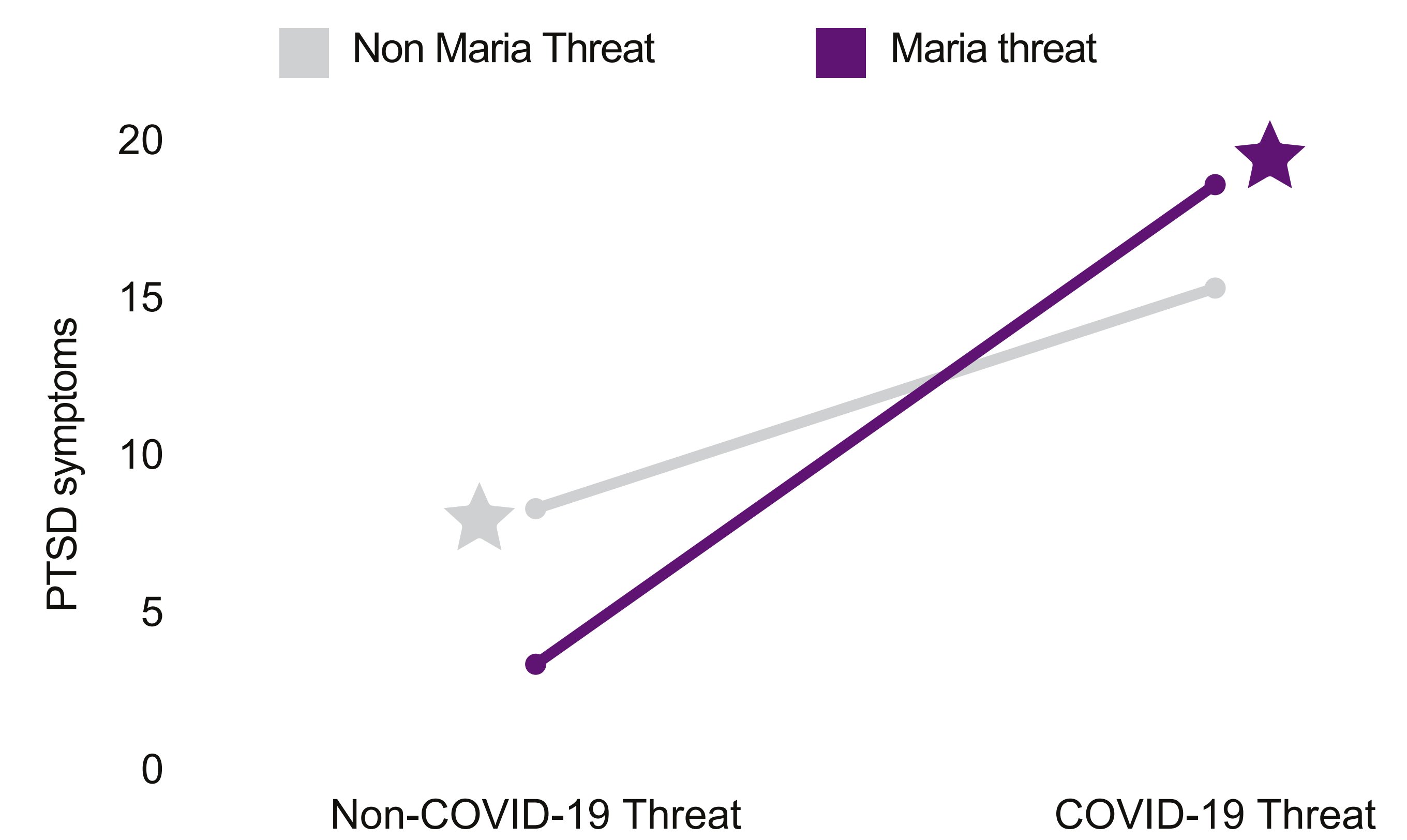


Figure 2. Maria and COVID-19 threat to life (after adjusting for mental health history) effects in maternal PTSD symptoms

After adjusting for maternal mental health history, the overall effect of COVID-19 threat was significant. Furthermore:

- ★ Compared to mothers with only Maria threat, mothers with both threats reported more PTSD symptoms ($B=.42, p=.048$).
- ★ Compared to mothers with only Maria threat, mothers with both non-Maria and non-COVID-19 threat reported more PTSD symptoms ($B=.42, p<.001$).

CONCLUSION

In conclusion, COVID-19 threat to life could significantly increase maternal PTSD symptoms. After adjusting for maternal mental health history (i.e., depression and anxiety), mothers with threat to life due to Maria and COVID-19 had more PTSD symptoms, as well as mothers with non-Maria and non-COVID-19 threat.

Health care professionals should screen women at elevated risk of threat to life due to disasters. Interventions to reduce stress, such as relaxation techniques (i.e., progressive muscle relaxation and deep breathing), and other evidence based psychological interventions, could mitigate or reduce maternal PTSD symptoms.

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