

Risk Factors, Clinical Characteristics and Transmission of COVID-19 in Non-Pregnant and Pregnant Women in the Philippines: A Multicenter Study



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Introduction

Risk factors for SARS-CoV2 infection in pregnant and non-pregnant women have not been widely studied. This research can assist in the management of women with COVID-19.

Objectives

- Determine risk factors associated with COVID-19 non-pregnant and pregnant women.
- Identify the virus in unconventional samples for possible transmission.

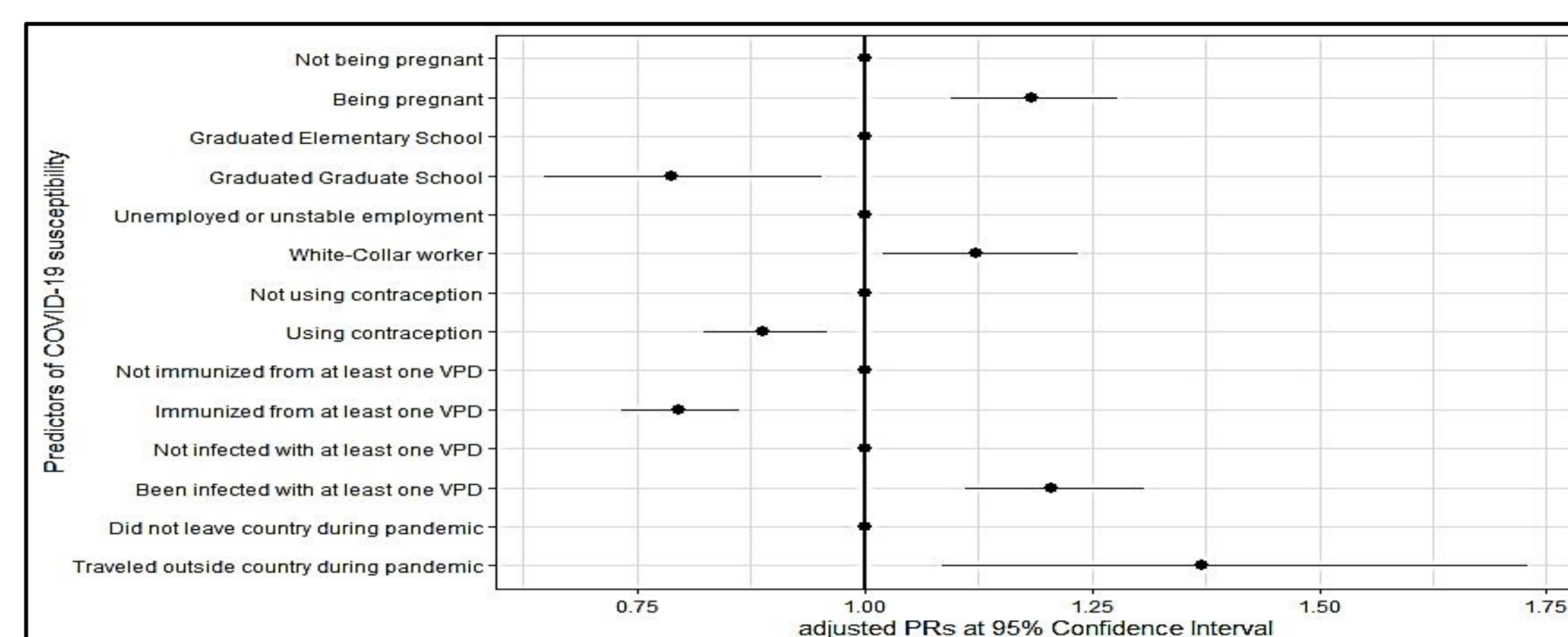
Methodology

- Multicenter prospective cohort study.
- Unvaccinated pregnant and non-pregnant women
- Nov 29, 2020-Feb 28, 2022, in 5 hospitals in Manila, Philippines (2nd and 3rd wave).
- Socio-demographic, medical, clinical, and exposure data were collected.
- Nasopharyngeal/oropharyngeal RT-PCR was done to determine women's COVID-19 status.
- Maternal cervix, rectum, amniotic fluid, placenta, cord blood, breastmilk and neonate's nasopharynx and rectum were RT-PCR-tested and compared to detect presence of virus and possible vertical transmission.
- Univariate and multivariate analyses examined the associations between COVID-19 and risk factors.



Results

- Five hundred one (501) unvaccinated women
 - 120 (44.9%) pregnant COVID-19 positive and 147 (55.1%) COVID-19 negative
 - 113 (48.3%) non-pregnant COVID-19 positive and 121 (51.7%) COVID-19 negative participated.
- Parity (</=2), Manila residence and alcohol use were associated with COVID-19 pregnant women.
- Non-pregnant women with higher socio-economic status, travel and smoking history were associated with COVID-19.
- Positive samples were detected in 7 cervical, 13 rectal, 4 amniotic fluid, 4 placenta, 2 cord blood, and 3 breastmilk swabs.



Further analyses

•Risk factors for getting COVID-19 in women

- Pregnancy (PR 1.184[1.096, 1.279]*)
- White collar job (PR 1.123 [1.02, 1.235]*)
- History of at least one VPD (PR 1.208 [1.113, 1.310]*)
- Travel outside the country (PR 1.369 [1.083, 1.173])

•Protective factors for COVID-19

- Post-graduate education (PR 0.787 [0.649, 0.954]*)
- Use of contraception (PR 0.889 [0.824, 0.960]*)
- Immunization against at least one VPD (PR 0.795 [0.733, 0.862])
- There is significant association between conventional NPS/OPS RT-PCR and rectal swab RT-PCR results (**p=0.018**)

Discussion & Conclusion

- Unvaccinated women have exposure risk factors to COVID-19.
- **Pregnant women, having a white-collar job, history of at least one VPD and travel history** remained as *significant risk factors* of women for getting COVID-19 compared to their non pregnant counterparts.
- Hypothesis of increased vulnerability due to weaker immune system.
- Women with **post-graduate-education, practicing contraception, and having been immunized from at least one VPD** are *COVID19 protective factors*.
- Higher degree education linked to better socioeconomic status indicators and better health services access.
- Women with better social and financial prospects are expectedly more informed about their health including their reproductive health choices.
- Getting routinely vaccinated is an indicator of decisions in following the public health safety protocols, avoidance of health-related risky activities.
- Evidence of a **COVID-19-positive RT-PCR test** in the cervix, rectum, placenta, amniotic fluid, cord blood, and breastmilk.
- Additional analysis of positive RT-PCR in unconventional samples for possible vertical transmission is currently being investigated.

References

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