

MORBIDITY AND MORTALITY IN COVID-19 INFECTION IN PREGNANCY: AN AUDIT

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BACKGROUND

- According to NIRRH-ICMR (India), the case fatality rate was noted to be 5.7% during the second wave (April- June 2021) among pregnant women.
- Pregnant and symptomatic COVID-19 infected women are at an increased risk of having adverse pregnancy outcomes, including admission to the ICU, preterm birth, pre-eclampsia-like symptoms, cesarean section and death.¹
- In a review article, Y Sarwal et al² stated that India has not included pregnant women as a high-risk category that must be preferentially vaccinated, despite having an increased burden of maternal mortality and suggested that an efficient method would be to include COVID 19 vaccinations in routine antenatal care.
- A survey in the UK showed that COVID-19 vaccine acceptance was much lower during pregnancy (62.1%, $p < 0.005$) than among non pregnant women.³
- In a study conducted in Ontario, Canada, it was concluded that vaccination during pregnancy did not lead to adverse outcomes during or after pregnancy.⁴ Many women refrain from or put off getting vaccinated due to fears of adverse effects on pregnancy or the fetus.

AIM & OBJECTIVES

❖ PRIMARY:

Assess maternal morbidity and mortality in COVID 19 infection in pregnancy, factors affecting it, with comparison between vaccinated and non vaccinated groups.

Includes:

- Infection severity
- Supplemental oxygen/ oxygen delivery systems required
- Intensive care unit admission

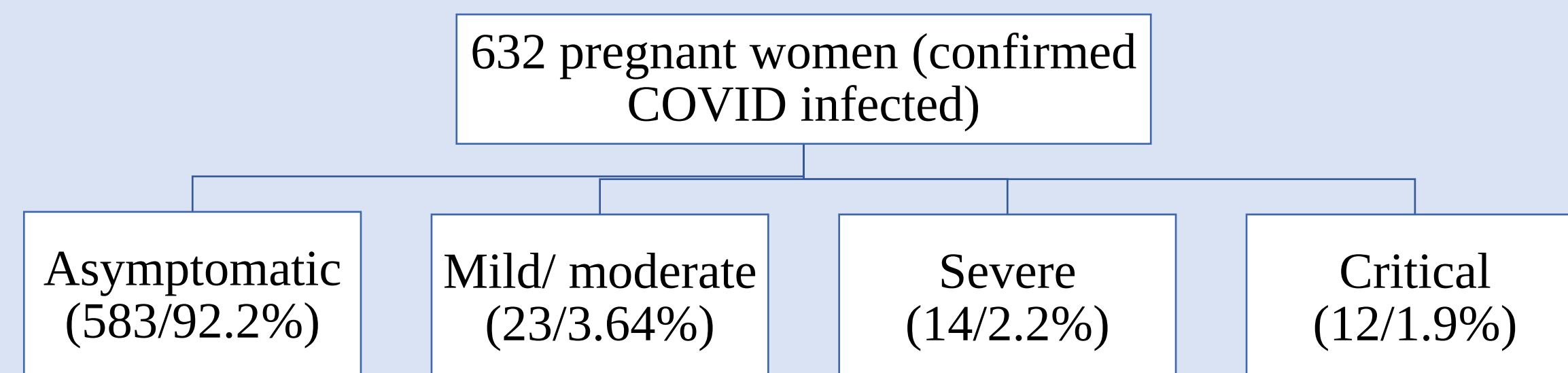
❖ SECONDARY: Perinatal outcomes with vaccination status

- AIM: Assess difference in outcome in pregnant women between those vaccinated and those not vaccinated.

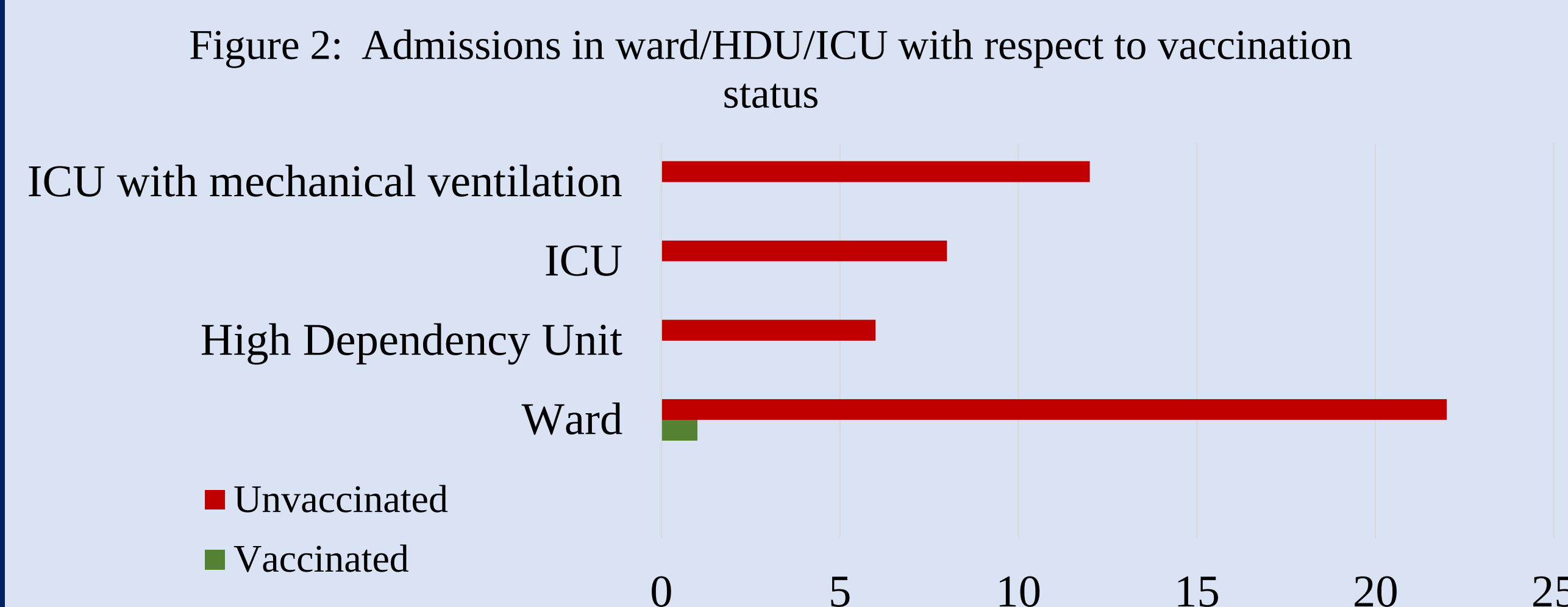
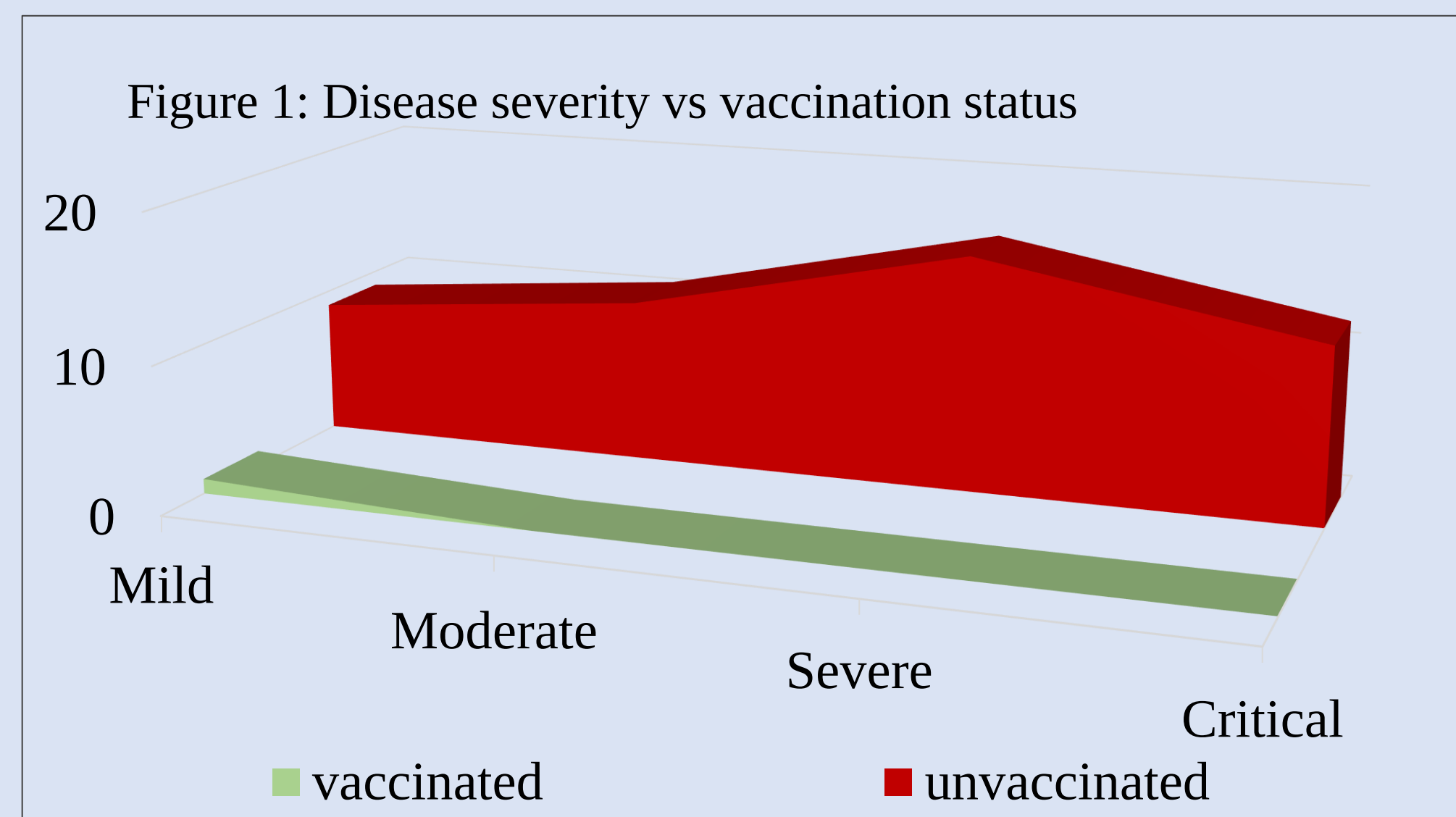
METHOD

- Data collection was done from January 1st 2021 to December 31st 2021 from patient admission files including vaccination status, maternal outcome, management, biochemical reports and neonatal outcome and further retrospective data analysis in excel sheet was done.
- Division into mild/moderate/severe/critical was done based on Guidelines on operationalization of maternal health services during Covid-19 pandemic (Maternal Health Division, Ministry of Health & Family Welfare, India)⁵
- Further divided based on vaccination status (vaccinated individuals whose first dose was less than 2 weeks prior to infection were included in the non vaccinated group)
- Inclusion criteria: All pregnant women who were admitted (for obstetric reasons or due to COVID-19 symptoms, confirmed positive for COVID-19 infection (either by RT/PCR or rapid antigen test).

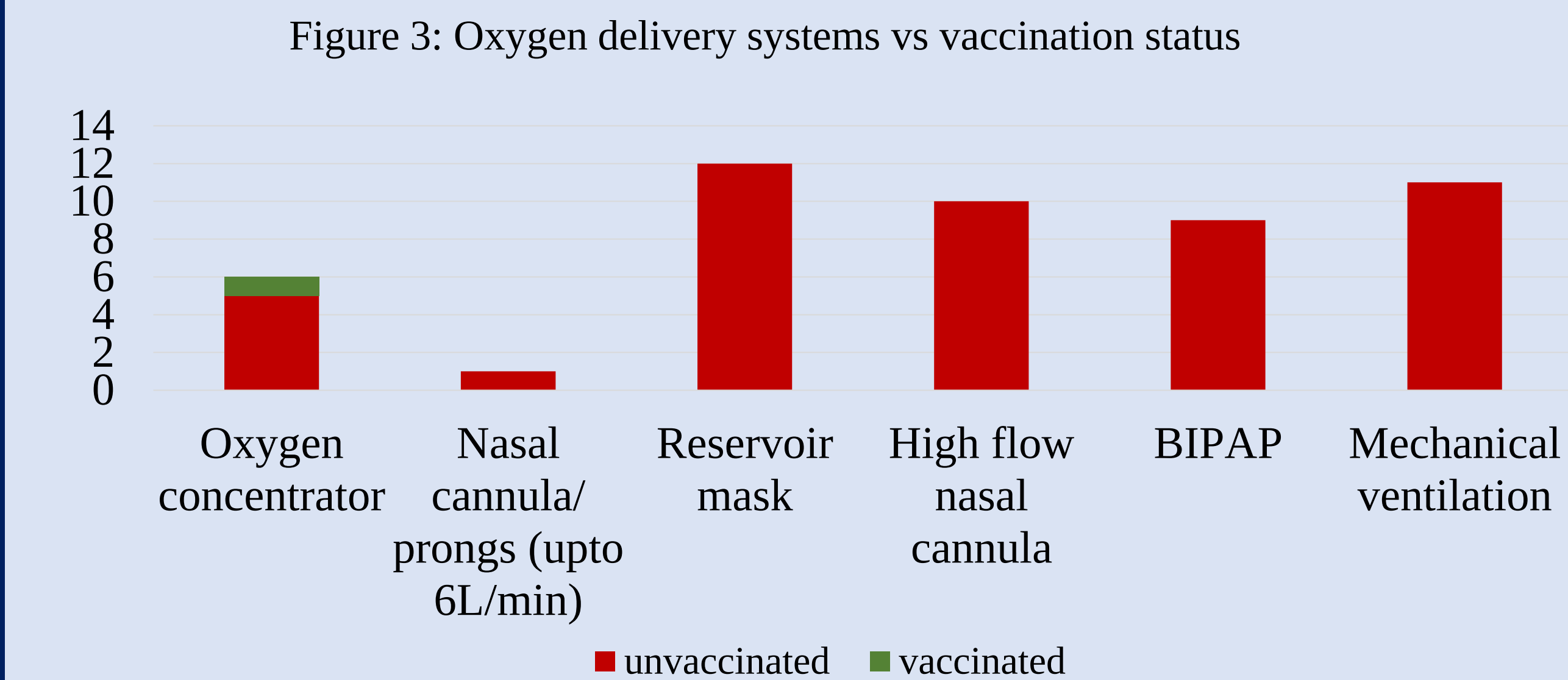
RESULTS



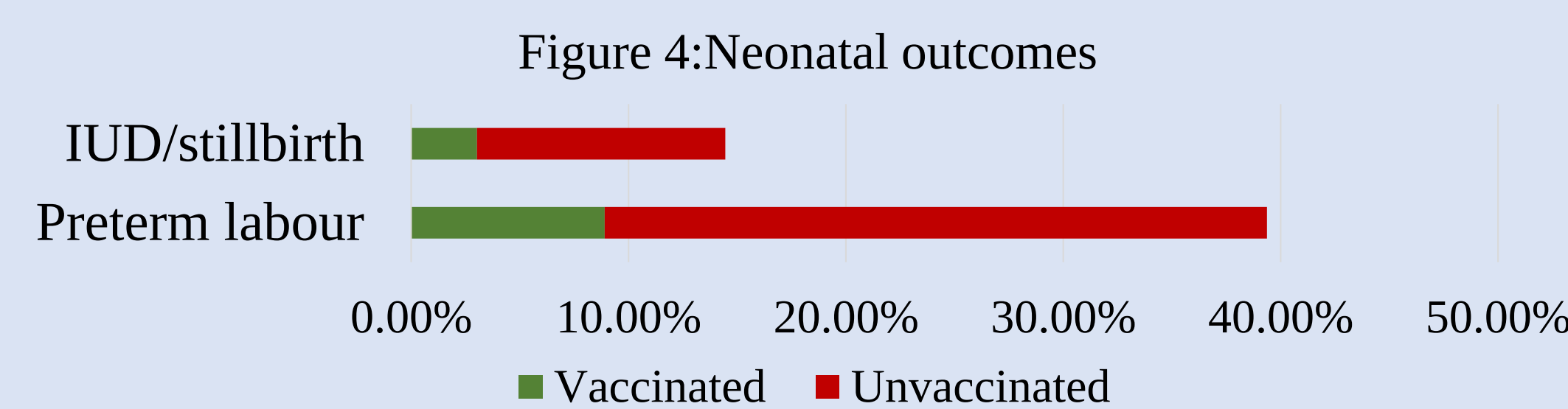
- 11 cases of maternal deaths- 1.74 case fatality rate (all of them, unvaccinated with severe disease)
- All symptomatic individuals were unvaccinated (48), except one (vaccinated with one dose, but mild symptoms only)
- Among those with 1 dose of vaccination, 0.27% (1 patient) was symptomatic
- Among those with 2 doses vaccination, all were asymptomatic



- Of the 583 asymptomatic patients, 231 were sent for home isolation, while 352 were in hospital for delivery/ other obstetric reasons (after treatment/delivery discharged for home isolation).



- C reactive protein was raised in 32/49 (65.3%) patients and was noted to be more than 50µg/mL in 10 patients (all unvaccinated), also correlating with disease severity and mortality.
- Thrombocytopenia was noted in 8.86% (56) of patients overall and among them 73.2%(41) were unvaccinated.



- The incidence of FGR was similar between vaccinated and non vaccinated groups and also comparable to the general population indicating no greater risk.

CONCLUSIONS

The differences are clearly evident in terms of a markedly decreased risk, among vaccinated pregnant women, of:

- Symptoms & its severity
- Hospital admission & ICU stay
- Need for higher and more invasive oxygen delivery systems
- Deranged biochemical markers
- Neonatal outcomes

Thus, it becomes imperative to encourage and actively persuade them towards a better vaccination coverage.

Limitations include:

- Did not take into account strain of covid virus as genetic sequencing could not be done.
- Did not include postpartum/ breastfeeding woman

RECOMMENDATION

- ❖ Better vaccination coverage by dispelling myths associated with vaccination by:
 - Patient education at infertility/ antenatal/ regular gynaecology out patient clinics.
 - Short documentaries/information sheets on social media to deal with vaccine hesitancy among pregnant women.
- ❖ Pregnant women can be preferentially categorised as high risk and vaccination could be given on an ‘opt out’ basis rather than ‘opt in’ during routine antenatal visits.
- ❖ Re-audit to look for outcome post improved vaccination coverage

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