



## Assessment of maternal outcome among Covid -19 positive and negative mothers: A case control-retrospective study

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### Abstract

WHO on February 11, 2020 announced name for the new corona virus disease: COVID 19 and International Committee on Taxonomy of viruses has proposed SARS-CoV-2 as the name of the virus that causes COVID-19. The most common manifestations of COVID-19 consist of fever, cough, and fatigue, or myalgia, sputum production headache and breathlessness. This started the emergence of a new pandemic affecting human life globally. Many obstetric associations have responded with series of guiding documents to navigate through this unknown territory. Objectives of the studies are, to assess the maternal outcome in COVID-19 positive mothers. To correlate the maternal in COVID-19 positive mothers with COVID-19 negative mothers. A Quantitative Research approach, Case Control retrospective research design used to assess the maternal among COVID-19 positive and negative mothers in selected hospitals of city. Among 100 samples 50 in each group by using simple random sampling technique by random table method by implementing self-structured questionnaire. Majority of samples 43(86%) were high risk related to COVID-19 infection in COVID-19 positive mothers. majority of samples 37(74%) had poor neonatal outcome in COVID-19 positive mothers. In this study researcher observe that higher rate of caesarean section in COVID19 positive women. Researcher also found that majority 74% of neonate required NICU admission. COVID-19 positive mothers have good maternal outcome but neonate have poor outcome were as in COVID-19 negative mothers there is good maternal and neonatal outcome.

**Keywords:** COVID-19, maternal outcome, neonatal, outcome, retrospective study

### Introduction

The state of the COVID-19 epidemic around the world was intense and disturbing. Corona virus are a family of viruses that can cause a wide range of illnesses, from the common cold to acute respiratory symptoms and can cause death due to pneumonia and respiratory problems with the spread of the corona virus the incidence of pregnancy in mothers is also increasing. Prevention and control of disease in pregnant women and the potential risk of vertical transmission have become a significant concern, limited studies have been performed on their effect on pregnancy since the monitoring systems for the COVID-19 have been created, it is essential that information about the severity of the disease and maternal and fetal outcomes collected and reported some preliminary evidences that can be used to guide the treatment of pregnant women with COVID-19.

### Methodology

The research design used in this study is case control retrospective research design study was conducted among 100 samples 50 in each group at selected hospital of the city by using simple random sampling technique by random table method by implementing the self-structured questionnaire. Setting was selected hospital of the city. The samples were pregnant mothers who are covid-19 positive and negative.

### Results and discussion

The research study finding have been discussed with relevance to the study objectives.

In this research study the maximum number of samples (88%) have good maternal outcome in COVID-19 positive mothers and minimum number of samples (12%) had poor maternal outcome, we are as in COVID- 19 negative mothers maximum number of samples (100%) have good maternal outcome.

In this study the outcome related to neonate showed that maximum number of samples (74%) have poor neonatal outcome in COVID-19 positive mothers and minimum number of samples (26%) have good neonatal outcome in COVID-19 positive mothers, were as in COVID-19 negative mothers' maximum number of samples (74%) have good neonatal outcome in COVID-19 negative mothers and minimum number of samples (26%) have poor neonatal outcome. The most prevalent symptoms related to COVID-19 were breathlessness (60%) fewer common symptoms include fever, sore throat, myalgia, loss of taste. The researcher observed that women with COVID-19 had higher rate of caesarean section than COVID-19 negative women's also higher rate 62% of preterm labor in COVID-19 cases and 2% had maternal death due to COVID-19 infection. Researcher also found that majority 74% of neonate required NICU admission and majority 74% had respiratory distress, 66% required supplemental oxygen therapy, 72% had symptoms, 16% neonate had death. In COVID-19 positive mothers there is good maternal outcome but poor neonatal outcome has found.

**Section I****Demographic variables of mothers with positive and negative covid-19 infection.****Table 1:** Distribution of Demographic variables of mother's with positive and negative covid-19 infection

N=100

Sr. no	Demographic variable	Category	Frequency (Covid-19 Positive )	Percentage	Frequency (Covid-19 Negative)	Percentage
1	Age	<20 years	4	8	12	24
		21-30 years	23	46	20	40
		31-40 years	13	26	11	22
		>40 years	10	20	7	14
2	Religion	Hindu	20	40	25	50
		Muslim	22	44	16	32
		Christian	8	16	9	18
		Any other	0	0	0	0
3	Occupation	Housewife	27	54	26	52
		Farmer	11	22	12	24
		Govt. sector	9	18	7	14
		Private sector	3	6	5	10
4	Mode of delivery	Normal vaginal delivery	13	26	29	58
		Cesarean section(LSCS)	33	66	16	32
		Vacuum delivery	3	6	2	4
		Forceps delivery	1	2	3	6
5	Covid-19 status	RTPCR positive	50	100	0	0
		RTPCR negative	0	0	50	100
6	Parity	Primigravida	22	44	23	46
		Multigravida	28	56	27	54
7	Gestational age	<20 weeks	0	0	0	0
		21-30 weeks	15	30	11	22
		30-40 weeks	35	70	32	64
		>40 weeks	0	0	7	14
8	Previous bad history	Abortion	8	16	13	26
		IUD's	5	10	3	6
		Still birth	3	6	3	6
		Death of new-born	7	14	4	8
		Ectopic pregnancy	3	6	0	0
		None	24	48	27	54
9	How many days back she had covid-19 infection	<3 months	0	0	0	0
		3-4 months	14	28	0	0
		6-12 months	15	30	0	0
		>1 year	21	42	0	0
		None	0	0	50	100
10	Source of health care	Govt. hospital	11	22	21	42
		Covid-19 care Centre (CCC)	0	0	0	0
		Private hospital	19	38	29	58
		Dedicated care hospital (DCH)	20	40	0	0

**Section II****a. Assessment of covid-19 risk among covid-19 positive and negative mothers.****Table 2:** Distribution of level of risk related to covid-19 infection among covid-19 positive and negative mother

N=100

Sr. No	Particular	Score	Level	Frequency	Percentage
1.	Covid-19 positive mother	0-4	High risk	43	86
		5-8	Low risk	7	14
2.	Covid-19 negative mother	0-4	High risk	0	0
		5-8	Low risk	50	100

The table no 2 and fig no 1 shows that, in covid-19 positive mothers, majority of the sample 43(86%) were high risk related to covid-19 infection and 7(14%) were low risk, were

as in covid-19 negative mother, it was observed that there were all the samples were at low risk related to covid-19 infection.

#### b. Assessment of maternal outcome in COVID-19 positive and negative mothers.

**Table 3:** Frequency and percentage distribution of maternal outcome among covid-19 positive and negative mother

N=100							
Sr. No	Particular	Score	Level of outcome	Frequency	Percentage	Mean	SD
1.	Maternal outcome among Covid-1 positive mother	0-14	Poor outcome	6	12	17.8	3.36
		15-28	Good outcome	44	88		
2.	Maternal outcome among Covid-19 negative mother	0-14	Poor outcome	0	0	22.06	2.71
		15-28	Good outcome	100	100		

Table no 3 and figure no 2 depicts that in covid-19 positive mothers, majority of the sample 44(88%) had good maternal outcome and 6(12%) had poor maternal outcome with mean score 17.8 and SD 3.36 were as in covid-19 negative mother

all samples had good maternal outcome and none of them had poor maternal outcome with mean score 22.06 and SD was 2.71.

#### c. Assessment of neonatal outcome in COVID-19 positive and negative mothers

**Table 4:** Frequency and percentage distribution of neonatal outcome among covid-19 positive and negative mother.

N=100							
Sr. No	Particular	Score	Level of outcome	Frequency	Percentage	Mean	SD
1.	Neonatal outcome among Covid-19 positive mother	0-7	Poor outcome	37	74	5.52	3.77
		8-14	Good outcome	13	26		
2.	Neonatal outcome among Covid-19 negative mother	0-7	Poor outcome	13	26	11.04	3.76
		8-14	Good outcome	37	74		

Table no 4 and figure 3 depicts that in covid-19 positive mothers, majority of the sample 37(74%) had poor neonatal outcome and 13(26%) had good neonatal outcome with mean score 5.52 and SD 3.77 were as in covid-19 negative mother majority of the sample 37(74%) had good neonatal outcome and 13(26%) had poor neonatal outcome with mean score was 11.04 and SD was 3.76.

#### References

- Wong SF, Chow KM, Leung TN, Ng WF, Ng TK, Shek CC, *et al.* Pregnancy and perinatal outcomes of women with severe acute respiratory syndrome. *Am J Obstet Gynecol*[Internet],2004;191(1):292.
- Alfaraj SH, Al Twfiq JA, Memish ZA, Middle east Respiratory syndrome corona virus (MERS-CoV) infection during pregnancy: Report of two cases and review of the literature. *J Microbial Immunol Infet*,2019;52(3):501-3.
- Chen H, Guo J, Wang C, Luo F, Yu X, Zhang W, *et al.* Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: A retrospective review of medical records *Lancet*,2020;395:809-15.doi:10.1016/S0140.6736(20) 30360-3.
- Yu N, Li W, Kang Q, Xiong Z, Wang S, Lin X, *et al.* Clinical features and obstetric and neonatal outcomes of pregnant patients with COVID-19 in Wuhan, China: a retrospective, single-centre, descriptive study. *Lancet Infect Dis* [Internet],2020;20(5):559-64. Available from: [http://dx.doi.org/10.1016/s1473-3099\(20\)30176-6](http://dx.doi.org/10.1016/s1473-3099(20)30176-6)
- Diriba K, Awulachew E, Getu E. The effect of coronavirus infection (SARS-CoV-2, MERS-CoV, and SARS-CoV) during pregnancy and the possibility of vertical maternal-fetal transmission: a systematic review and meta-analysis. *Eur J Med Res* [Internet],2020;25(1):39. Available from: <http://dx.doi.org/10.1186/s40001-020-00439-w>
- Busch-Hallen J, Walters D, Rowe S, Chowdhury A, Arabi M. Impact of COVID-19 on maternal and child health. *Lancet Glob Health* [Internet],2020;8(10):e1257. Available from: [http://dx.doi.org/10.1016/S2214-109X\(20\)30327-2](http://dx.doi.org/10.1016/S2214-109X(20)30327-2)
- Taghavi SA, Heidari S, Jahanfar S, Amirjani S, Aji-Ramkani A, Azizi-Kutenaee M, *et al.* Obstetric, maternal, and neonatal outcomes in COVID-19 compared to healthy pregnant women in Iran: a retrospective, case-control study. *Middle East Fertil Soc J* [Internet],2021;26(1):17. Available from: <http://dx.doi.org/10.1186/s43043-021-00059-2>