Review Article

Impact of COVID-19 on Maternal and Child Health Services

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Abstract

Coronavirus disease (COVID-19) outbreaks caused a significant mortality and morbidity at a global level. Maternal and child health (MCH) services are one of the most affected services during the pandemic. Maternal health is an essential component of high-quality maternal care, according to the WHO framework for the quality care for pregnant women and newborns. The aim of this study was to provide a review of COVID-19 impact on MCH services. The Web of Science, Scopus, Google Scholar, and PubMed databases were systematically searched. Articles reporting MCH services, COVID-19, and coronavirus were included for assessment. The initial search resulted in 106 records. After the primary screening of titles, abstracts, and full texts and removing duplicates, 11 articles were selected and included in this review study. The findings revealed that the range of projected maternal mortality and child mortality was 1.3%–38.6% and 9.8%–44.7%, respectively. Additionally, the review highlighted that there is a huge impact of COVID-19 on the utilization of reproductive, maternal, and newborn health services. Moreover, the study also reported huge increases in maternal mental health issues, such as clinically relevant anxiety and depression. There is a need to identify the factors and the prompt management of maternal health services during COVID-19. Hence, clinicians should maintain reproductive and maternal care and MCH during any pandemic.

Keywords: Coronavirus disease (COVID-19), maternal and child health, morbidity, mortality, pandemic

Introduction

Coronavirus infection is a potentially severe acute respiratory infection caused by severe acute respiratory syndrome coronavirus-2. It is highly contagious diseases and can be transmitted via animal-to-human and human-to-human interaction.[1-3] Women and children are among the most vulnerable in times of disaster. Routine but essential services for women and children, such as antenatal care, contraception, abortion services, and immunization, are some of the most affected during coronavirus disease (COVID-19), as a result of healthcare providers being occupied with other services. Globally, the mistreatment of women during facility-based childbirth is an urgent public health issue that violates women's rights. It is also an essential component of high-quality maternal care, according to the WHO framework for the quality care for pregnant women and newborns.[4] An increasing number of reports regarding the impacts of the COVID-19 pandemic on the provision of maternal and newborn care document increased stress, absenteeism, resignation, and redeployment among health workers, affecting the quality of maternity care in health facilities. The pandemic offers both a disruptive moment and a long-overdue opportunity to fix systemic problems within maternity care in ways that can benefit providers, mothers, newborns, and families.[5] The aim of this study was to provide a review of COVID-19 impact on maternal and child health (MCH) services.

Materials and Methods

The review not only gives an insight into the impacts of COVID-19 on MCH services but also highlights its associated negative effects in terms of morbidity and mortality. There were some variations in the study setting, subjects, sample selection, sample size, and study duration. Our review had several limitations that should be recognized. First, we restricted our search only to Google Scholar, ResearchGate, Web of Science, Scopus,

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and PubMed databases. The MeSH applied to search for the studies was: MCH, COVID-19, coronavirus, and maternal and child outcomes during pandemic [Figure 1]. We selected articles published in a time period of years 2019–2022. The initial search resulted in 106 records. After the primary screening of titles, abstracts, and full texts and removing duplicates, 11 articles were selected and included in this review study.

Inclusion criteria

The study was included if:

1. it focuses on the MCH and maternal care;
2. the population was composed of antenatal and postnatal mothers and children.

Exclusion criteria

The study was excluded if:

1. it is not having antenatal or postnatal mother;
2. the age is less than 18 years and above 35 years;
3. it is having other pandemic.

Results

In the present study, various types of studies (observational, retrospective, systemic review, case series, and meta-analysis) were included. Out of 106 research studies, only 11 research studies were included [Figure 1]. There are various impacts of COVID-19 on MCH services in terms of morbidity, mortality, mental health, and prospective outcomes. The impacts are as follows.

Impact on reproductive and maternal care

A multi-country studies were conducted on the quality of maternal and newborn care during the COVID-19 pandemic as per WHO standards in 12 countries (21,027 mothers) of the WHO European Region. The majority of mothers experienced problems during the labor followed by antenatal care and breastfeeding support. In addition, 23.9% women felt they were not treated with dignity, 12.5% suffered abuse, and 2.4% made informal payments.[6]

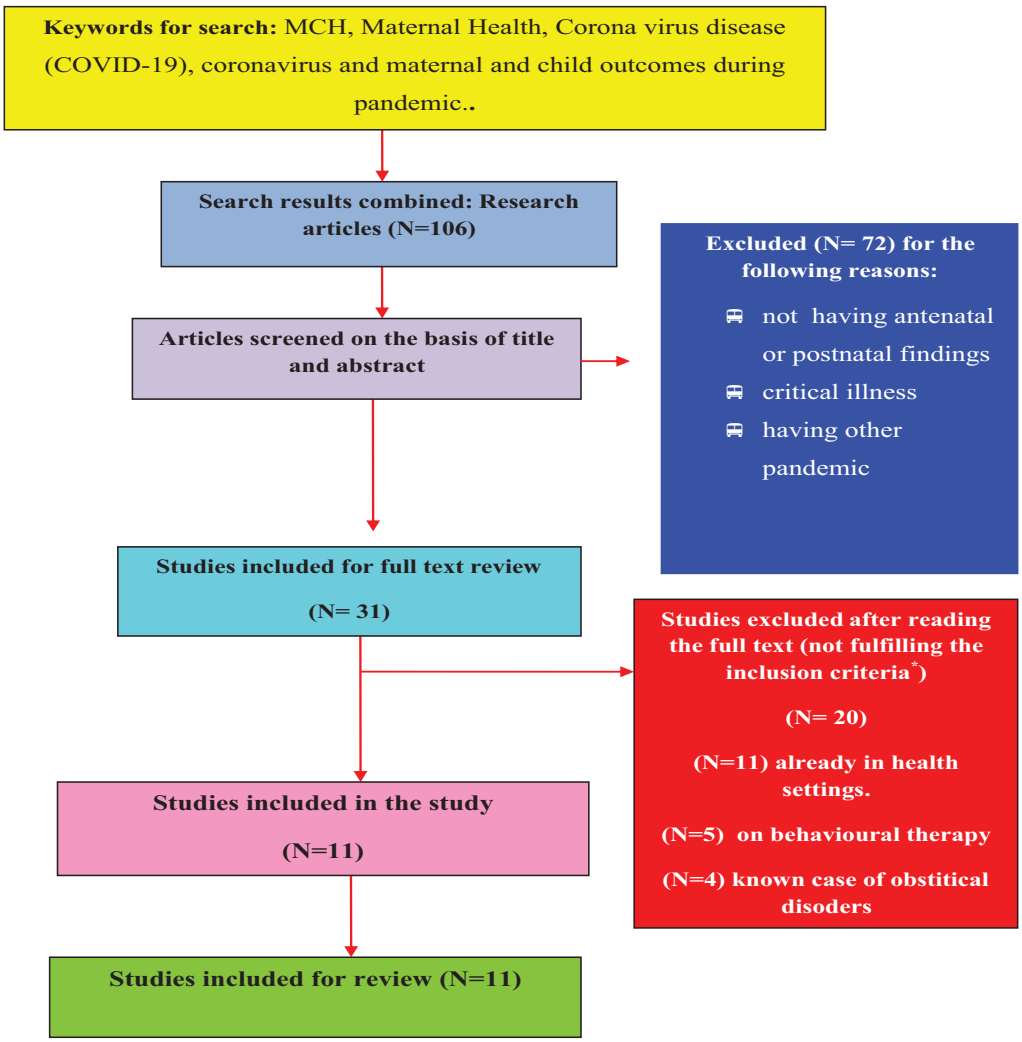

Figure 1: Flow diagram describing the process of articles being reviewed and selected for the study

Impact on the utilization of reproductive, maternal, and newborn health services

A cross-sectional study showed that there was a significant reduction in the mean utilization of antenatal care (943.25 visits versus 694.75 visits), health facility birth (808.75 births versus 619 births), family planning (4744.5 visits versus 3991.25 visits), and newborn immunization (739.5 given versus 528.5 given). However, there were significant increases in the proportion of teenage pregnancy (7.5% versus 13.1%), teenage abortion care user (21.3% versus 28.5%), institutional stillbirth (14% versus 21.8%), and neonatal death (33.1% versus 46.2%) during the same period.[7]

Impact on the maternal and neonatal mortality

A systematic review of the available published literature on pregnancies was affected by COVID-19. Out of 117 studies, a total of 11,758 pregnant women were included in the research. Maternal mortality was 1.3%. The majority of COVID-19-infected women who died had cesarean section (58.3%), 25% had a vaginal delivery, and 16.7% of patients were not full term.[8]

Another systematic review suggested that global maternal and fetal outcomes have worsened during the COVID-19 pandemic, with an increase in maternal deaths, stillbirth, ruptured ectopic pregnancies, and maternal depression. The review indicates that the impact seems to be higher in low-income and middle-income communities[9,10] [Figure 2].

Impact on the mental health

Kotlar *et al.* (2021) conducted a review regarding the impact of the COVID-19 pandemic on the maternal and perinatal health. The search included 95 publications. The study highlighted that huge increases in maternal mental health issues, such as clinically relevant anxiety and depression, were reported. Prenatal care visits decreased, and healthcare infrastructure was strained.[11]

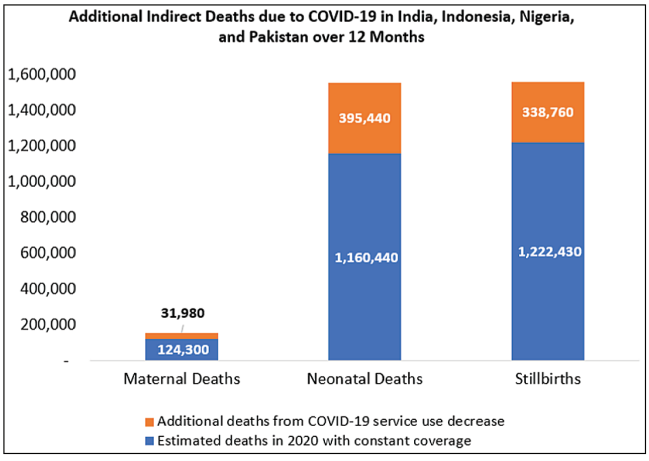

Figure 2: Impact of COVID-19 on the maternal and neonatal mortality[10]

Prospective impact on the MCH services

In low-income and middle-income countries, a study predicted that COVID-19's disruptions in the use of reproductive, maternal, newborn, and child health services could increase under-5 mortality by 9.8%–44.7% and maternal mortality by 8.3%–38.6% per month based on the data from previous outbreaks, such as the Ebola virus epidemic, SARS epidemic, and the influenza pandemics.[12] In another study, Temesgen *et al.* stated that the maternal deaths were predicted to rise by 17% in the best scenario and by 43% in the case of the worst scenario due to the COVID-19 pandemics.[13] Moreover, a systematic review suggests that global maternal and fetal outcomes have worsened during the COVID-19 pandemic, with an increase in maternal deaths, stillbirth, ruptured ectopic pregnancies, and maternal depression. The review indicates that the impact seems to be higher in low-income and middle-income communities, though the numbers of studies from LMICs were limited.[14]

Conclusion

Global maternal and fetal outcomes have worsened during the COVID-19 pandemic, with an increase in maternal deaths, stillbirth, ruptured ectopic pregnancies, and maternal depression. Some outcomes show considerable disparity between high-resource and low-resource settings. There is an urgent need to prioritize safe, accessible, and equitable maternity care within the strategic response to the pandemic and in future health crises. COVID-19 infection in pregnant women was associated with higher rates of cesarean section and mortality. Adequate maternal health services have the potential to reduce global inequities in maternal and neonatal health if promoted from the perspectives of health system strengthening.

Implication for research

The objective of this study was to provide a review of COVID-19 impact on MCH services. The present research highlighted the effect of the pandemic on essential service such as MCH. It also enlightened that maternal deaths, stillbirth, ruptured ectopic pregnancies, and maternal depression, etc., were increased because of the pandemic.

Implication of the research for future

This study will be helpful for the researchers to find out the effect of pandemic on the MCH services. It will also provide a base for the development of existing MCH services. The current research may be helpful in the estimation of the affected services and outcomes of MCH services. The stakeholders can utilize the present research for future prospects of MCH services during any pandemic.

Strength of the research

The present research is a novel effort to find out the impact of the pandemic on the MCH services. It also highlighted

that the current pandemic has affected the distribution and utilization of MCH services.

Limitations of the study

The current research was focused on MCH services during COVID-19 disease. The present review was done on limited research studies.

Ethical consideration

Not applicable.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Authors' contribution

Shatrughan Pareek and Dr. Hardeep Kaur wrote the first draft and responsible for searching the articles. Shatrughan Pareek was responsible for database selection, search strategy, and charting. Shatrughan Pareek and Dr. Hardeep Kaur critically reviewed, discussed, and modified the manuscript. Both authors read and approved the final manuscript for publication.

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