Overviews of Reviews of the comorbidities, symptoms and perinatal clinical characteristics of patients with coronavirus 2019 (COVID-19)

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Review question

What is the incidence in pregnant women of: preterm labor, C-section operation, pneumonia, cough, fever, radiological alterations in the chest, alterations in the blood count, liver function, C-reactive protein, procalcitonin, high D-dimer, thrombocytopenia, globular sedimentation rate.

What is the incidence in the neonate of: low birth weight, fetal well-being commitment, low Apgar score, radiological alterations in chest, alterations in the blood count, liver function, C-reactive protein, procalcitonin, high D-dimer, thrombocytopenia, and what is the globular sedimentation rate, the vertical transmission of COVID-19 symptoms, and what are the clinical characteristics?

Searches

Searches will be conducted in the online databases PubMed/MEDLINE, Scopus, Google Academic, and Web of Science for material published from December 2019 to December, 2020.

The following keywords will be used: "new coronavirus disease 2019", OR, "new coronavirus infection 2019", OR, "2019-nCoV disease", OR, "2019-nCoV infection", OR, "coronavirus disease 2019", OR, "coronavirus-19 disease" AND "pregnant ", OR, "pregnant woman", OR, "newborn"

In addition, a manual search for further literature for inclusion will also be carried out.

Relevant studies published in 2020, in any language, will be included.

Search strategy

"new coronavirus disease 2019", OR, "new coronavirus infection 2019", OR, "2019-nCoV disease", OR, "2019-nCoV infection", OR, "coronavirus disease 2019", OR, "coronavirus-19 disease" AND "pregnant ", OR, "pregnant woman", OR, "newborn"

Types of study to be included

Systematic Review providing information on the state of comorbidities, symptoms and clinical characteristics of mothers with a current or prior diagnosis of COVID-19, and their neonates.

Condition or domain being studied

Perinatal COVID-19 infections.

This review is being carried out since we do not have initial data on the behavior of the disease in neonates.

Also, in Latin America, and especially in Ecuador, the disease is wreaking much more havoc than in other countries, and it is important to detect the prevalence of the signs and symptoms, and to develop and apply laboratory tests for adults, as the incidence and prevalence of adolescent women pregnant in Latin America is large.

Participants/population

Pregnant women with a diagnosis COVID-19, and their newborns.

Exclusion: none.

Intervention(s), exposure(s)

None (this review is examining the comorbidities, symptoms and clinical characteristics of mothers with a current or prior diagnosis of COVID-19, and their neonates).

Comparator(s)/control

Mothers with a current or prior diagnosis of COVID-19.

Neonates positive for COVID-19.

Neonates negative for COVID-19.

Main outcome(s)

To determine the proportion, incidences, and averages of pre-existing comorbidities, symptoms and clinical characteristics of pregnant women with COVID-19, and the associated neonatal outcomes.

* Measures of effect

The single-arm meta-analysis model will be applied for proportions and averages, using the program R meta package, and two-arm meta-analysis. If the distribution of the data allows it, Odds Ratio will be calculated.

Grouped percentages for categorical variables and medias for continuous variables, with their corresponding 95% CIs will be presented for pre-existing comorbidities, signs, symptoms, laboratory examinations and radiology.

Additional outcome(s)

None.

* Measures of effect

If the distribution of the data allows it, Odds Ratio will be calculated

Data extraction (selection and coding)

Studies retrieved during searches will be evaluated for relevance, and studies identified as potentially eligible will be fully evaluated based on inclusion/exclusion criteria, and selected or rejected, as appropriate.

General information on the articles selected for inclusion, such as the type of publication, the journal, the authors and the origin of the country, will then be collected.

Sex, gestational age and the COVID-19 diagnostic confirmation period in mothers and their newborns will also be recorded from the included articles.

Data on comorbidities, prematurity, low birth weight, intrauterine growth restriction, respiratory distress,

variations in laboratory tests and radiology will also be collected.

Symptoms to be evaluated will be: fever, cough, pharyngeal erythema, pharyngitis, respiratory distress, diarrhea, rhinorrhea, and preterm labor.

Type of birth will also be noted.

Clinical characteristics of interest will include white blood cells, neutrophils, lymphocytes, platelet counts, lactate dehydrogenase, total bilirubin, hemoglobin, creatinine kinase, alkaline phosphatase, aspartate aminotransferase, alanine aminotransferase, albumin, creatinine, C-reactive protein, dimer D, erythrocyte sedimentation rate, procalcitonin, prothrombin-tromboplastin time, troponin, urea, and chest radiology results.

Risk of bias (quality) assessment

Calculates an AMSTAR (A Measurement Tool to Assess Systematic Reviews) reliability score, Joanna Briggs critical appraisal tools.

Strategy for data synthesis

Prevalences and averages will be calculated for each group using random effects models.

The confidence intervals of 95% of the categorical variables will be generated by an exact method to be presented..

Individual and grouped results will be presented in forest plots.

The heterogeneity between studies will be evaluated using I^2 and the Metafor package.

For the meta-analysis of two proportions, packaged Bayesian methods will be used: coda and rjags

All analyses will be performed using R version 3.6.0

Analysis of subgroups or subsets

Analysis of age subgroups of the mother, and analysis of subgroups of geographic areas of the mother

Contact details for further information

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Organisational affiliation of the review

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Type and method of review

Epidemiologic, Meta-analysis, Narrative synthesis, Review of reviews, Synthesis of qualitative studies, Systematic review, Other

Anticipated or actual start date

01 March 2020

Anticipated completion date

28 February 2021

Funding sources/sponsors

None

Conflicts of interest

Language

English, Spanish

Country

Ecuador

Stage of review

Review Completed not published

Subject index terms status

Subject indexing assigned by CRD

Subject index terms

Comorbidity; Coronavirus; Coronavirus Infections; COVID-19; Female; Humans; Infant Health; Infant, Newborn; Infectious Disease Transmission, Vertical; Maternal Health; Parturition; Perinatal Care; Pregnancy; Pregnancy Complications, Infectious; Pregnancy Outcome; Pregnant Women; Risk Factors; Signs and Symptoms; Signs and Symptoms, Respiratory

Date of registration in PROSPERO

23 June 2020

Date of first submission

04 April 2020

Details of any existing review of the same topic by the same authors

Stage of review at time of this submission

Stage	Started	Completed
Preliminary searches	Yes	Yes
Piloting of the study selection process	Yes	Yes
Formal screening of search results against eligibility criteria	Yes	Yes
Data extraction	Yes	Yes
Risk of bias (quality) assessment	Yes	Yes
Data analysis	Yes	Yes

Revision note

There is a large number of systematic reviews about the impact of COVID 19 in the perinatal period and in order to avoid duplicating efforts, it was decided to make a summary of the published systematic reviews, maintaining the basic methodology.

The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be construed as scientific misconduct.

The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.

Versions

23 June 2020
24 July 2020
21 September 2020
02 December 2020
07 January 2021
01 March 2021
01 March 2021

PROSPERO

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