

Review

COVID 19-How is the Exposure of the Pediatric Population? A Systematic Review Protocol

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Abstract: Solid information on exposure and how to treat COVID-19 in pediatric patients is not yet conclusive in the literature, because of this it is necessary to make a critical analysis of the available data in order to provide common points on the theme in question. This systematic review protocol is registered in PROSPERO (ID: CRD42020181835) and aims through searches in the Databases PubMed, Google Scholar, LILACS and CINAHL, to group the studies published with the theme COVID-19 and pediatric between 2019 and 2020. The MeSH descriptors: COVID-19, child and children will be used in English and Chinese. Observational research, clinical trials and literature reviews will be included, where the study sample was composed of pediatric patients of both sexes aged between 6 and 17 years. The Rayyan QCRI tool® will be used to manage revision data. The analysis of the feasibilities of observational studies will be done by the Loney scale, clinical trials by the Cocharne scale and review studies by the Overview Quality Assessment Questionnaire (OQAQ). The authors intend that the study is completed in the second semester of 2021. The choice of the theme is justified because the results of the future research are useful for the elaboration of public health measures that offer the promotion of effective treatment during the recovery of pediatric patients infected with COVID-19.

Keywords: COVID-19, Child, Children, Systematic Review

Introduction

Background

Description of Condition and Setting

At the end of the last four months of 2019, the government of China warned the World Health Organization (WHO) about cases of unknown pneumonia that was infecting hundreds of citizens in the city of Wuhan, Hubei province, Central China (WHO, 2019). Over time, scientists pointed out that the pathogen was an acute high-severity respiratory syndrome, which occurred due to contamination by the SARS-VOC-2 virus (Gorbalenya *et al.*, 2020). SARS-COV-2 became popularly known as COVID-19, the virus belongs to the

taxonomic subfamily Orthocoronavirinae of the family Coronaviridae, of the order Nidovirales and is characterized by genetic structures that have a simple positive sense RNA-based genome (Payne, 2017; Duarte, 2020; Li *et al.*, 2020).

There is still no cure or treatment for COVID-19, however it is known that its contamination rate is high and that precautionary measures must be taken, such as social distance, the use of masks and constant body hygiene (WHO, 2019; Gorbalenya *et al.*, 2020; Payne, 2017; Duarte, 2020; Li *et al.*, 2020; Sohrabi *et al.*, 2020). It is known that COVID-19 causes clots (i.e., thrombi) in the respiratory system, which make it difficult to transport oxygen. 5-6 In this sense, individuals of any age group who have weaknesses in the vascular and/or

respiratory systems need care special cases, as is the case of subjects suffering from metabolic diseases, heart disease, obese and elderly (Sohrabi *et al.*, 2020).

However, it appears that COVID-19 affects the pediatric population on a less intensive scale (Zimmermann and Curtis, 2020). Preliminary evidence indicates that young pediatric patients may be infected and not point out symptoms of the disease, which is of concern to health authorities around the world (WHO, 2019; Gorbalenya *et al.*, 2020; Payne, 2017; Duarte, 2020; Li *et al.*, 2020; Sohrabi *et al.*, 2020; Negri *et al.*, 2020; Zimmermann and Curtis, 2020).

Concerning pediatric cases, lower rates of symptomatic progression and lower ratios of hospitalization for the disease were observed compared to the adult population (WHO, 2019; Gorbalenya *et al.*, 2020; Payne, 2017; Duarte, 2020; Li *et al.*, 2020; Sohrabi *et al.*, 2020; Negri *et al.*, 2020; Zimmermann and Curtis, 2020; da Silva Filho *et al.*, 2012; Xiong *et al.*, 2020). In general, there was a lower prevalence in adults, which contributes to the relative scarcity of information regarding pediatric cases of COVID-19 (Zimmermann and Curtis, 2020; da Silva Filho *et al.*, 2012; Xiong *et al.*, 2020). In this way, information about the particularities of COVID-19 in pediatric patients is necessary to aid medical interventions in this population.

Description of Intervention

The future review will bring together scientific studies that used experimental protocols using a control group and almost experimental ones that did not make use of a control group. It should be emphasized that any study that used interventions with medications, conventional or alternative therapies in relation to the treatment of COVID-19 in children and adolescents will be considered, as shown in Table 2. In all databases, the same descriptors in English and Chinese will be used.

How the Intervention Might Work

The action of COVID-19 apparently manifests itself more succinctly in the pediatric population (WHO, 2019; Gorbalenya *et al.*, 2020; Payne, 2017; Duarte, 2020; Li *et al.*, 2020; Sohrabi *et al.*, 2020; Negri *et al.*, 2020; Zimmermann and Curtis, 2020;). In this context, it is believed that children naturally have, in their cells, a much smaller amount of coronavirus receptors, which reduces the aggressiveness of the virus (WHO, 2019; Gorbalenya *et al.*, 2020; Payne, 2017; Duarte, 2020; Li *et al.*, 2020; Sohrabi *et al.*, 2020; Negri *et al.*, 2020; Zimmermann and Curtis, 2020; da Silva Filho *et al.*, 2012). Regarding symptoms, when infected children present pathophysiological changes, fever and gastrointestinal alterations present mainly and weeks after contamination, inflammations appear in the vascular system. 9 It has also been identified that they

may remain asymptomatic, hindering the identification of the disease and increasing the risks of these individuals being transmitting (WHO, 2019; Gorbalenya *et al.*, 2020; Payne, 2017; Duarte, 2020; Li *et al.*, 2020; Sohrabi *et al.*, 2020; Negri *et al.*, 2020; Zimmermann and Curtis, 2020;).

Why it is Important to do this Review

The importance of this review is to provide adequate and high-quality information to health professionals who are at the forefront of combating COVID-19, so the information to be included in the future review can be useful to guide attitudes health professionals regarding the prevention of COVID-19 in children and adolescents.

Research Question

There is a possibility that there will be literary consensus on the forms of treatment and manifestation of COVID-19 in young pediatric patients. Thus, this study protocol aims to provide adequate and reliable support for the production of a systematic review with an overview of the scientific data regarding the pediatric population and COVID-19.

Methods

Study Design

The present study is a systematic review protocol based on the recommendations of the PRISMA-P checklist (Moher *et al.*, 2015). In addition, this study is in agreement with the International Medical Journal Editors committee (ICMJE) (ICMJE 2019).

Protocol Registration

This research is previously registered with the International Prospective Register of Systematic Reviews (PROSPERO) under ID: CRD42020181835.

Criteria for Considering for this Review

To systematically define the steps of the future systematic review, the scheme described by the Joanna Briggs Institute was adopted, where the structure helps in defining the steps to be followed for the construction of a systematic review (Moola *et al.*, 2015). The method called Population, Intervention and Design (“PID”) recommends the prior definition of the study population, the intervention used by the study and the design of the studies that may be part of the review (Tufanaru *et al.*, 2017). In this sense, Table 1 shows the PID of the present study.

Research Strategy

The literature search will be done purely on the electronic research platforms, having as a filter the date of the works, which will be accepted only if they are

published from November 2019 to 2020, in addition to the languages selected for the searches, which will be English and Chinese. The databases defined for the search were: PubMed, Google Scholar, LILACS and CINAHL.

Search Methods

Regarding the methods used in the search for academic articles, we will use the descriptors: Child, Children and COVID-19, both registered on the MeSH platforms. The descriptors will be linked by the Boolean operators OR and AND. It should be noted that the same word grid will be translated into Chinese. In this sense, the terms to be used in the searches will be: COVID-19 AND Child OR Children.

Study Inclusion Criteria

The inclusion criteria to be considered for the studies are: (i) Scientific text that addresses the theme of covid-19 in relation to young pediatric patients aged 6 to 17 years. (ii) The study designs considered will be: Clinical, observational trials, literature review, systematic review, short communications, brief communications and letter to the editor. In all databases, the same descriptors in English and Chinese will be used, as shown in Table 2.

Data Management

The electronic database used for the development of the research will be the Rayyan® Qatar Computing Research Institute (QCRI) -Web application (open source) -which will filter and store the articles in the literature, whose good functionality occurs in the easy handling and availability on various technological devices (Ouzzani *et al.*, 2016). In this database, the options of the author and collaborators are offered to have access to the systematic review data separately, thus ensuring the organization and mitigation of possible errors during the searches (Ouzzani *et al.*, 2016). To guarantee the “blinding” of the researchers involved, 1 member of the research team will be responsible for managing the database created in Rayyan®, having access to all files included by the research team. While the other members will only have access to their individual searches.

Data Sorting and Extraction

A team composed of 3 researchers will perform the search for scientific texts in electronic databases in a “blind” way. The searches will be divided into three stages:

- (1) Studies will be considered for inclusion based on titles. After selection by title, the studies will be implemented in the database created by the research team in the Rayyan® application
- (2) Abstracts of the texts selected in step 1 will be read on the Rayyan® platform. After reading, the researchers involved will decide which texts will be directed to step 3. During this process, any conflict

regarding the decision of the research team responsible for the screening will be resolved by an external researcher

- (3) The texts selected in step 2 will be read in full and the researchers will individually decide which texts will be included. Subsequently, the conflicts of this stage should be resolved through discussion among the researchers involved in the screening, if necessary, another member of the research (not involved with the study selection phase) will be consulted for the resolution of conflicts

Bias Analysis

The Overview Quality Assessment Questionnaire (OQAQ) will be used to assess the methodological quality of the studies: (i) Systematic review, (ii) Literature review, (iii) Short communication and (iv) Short communication (Oxman and Guyatt, 1991). In the OQAQ, the score for each study evaluated varies from 1 to 9. Thus, the articles will be classified as follows: Poor: Scores <4; Strong: Scores >5 (Oxman and Guyatt, 1991). Through the quality scale of observational studies developed by Loney, the methodological quality of the observational studies to be included in this research will be analyzed (Loney *et al.*, 1998).

The Loney scale discriminates the degree of risk of bias (low, high or uncertain), for the following observations: Methodological bias; result bias and reproducibility bias (Loney *et al.*, 1998). The quality analyzes of the evidence were carried out separately “blindly” by three researchers. Clinical trials will have their quality analyzed by the Cochrane collaboration scale (De Carvalho *et al.*, 2013). It should be noted that the analysis of biases will be carried out in a “blind” manner by a team of 3 researchers, the analyzes will be carried out individually. After the process, another researcher (Not involved with the bias analysis process) will be responsible for checking the agreement between the bias analysis team and for extracting the final result of the process.

Table 1: Population, Intervention and Design (PID) of the studies to be considered for the future systematic review

Population	Young pediatric
Intervention	No filters
Design (study design)	No filters

Table 2: Descriptors and synonyms to be used when searching different databases

Descriptor	Synonyms
In English	
COVID-19	Coronavirus disease
Child	Children
In Chinese	
COVID-19	冠狀病毒病
孩子	孩子們

Summary of Quantitative Data

The agreement between the researchers in relation to the bias analysis, will be verified by the Interclass Correlation Coefficient (ICC) (For the data of the OQAQ scale) and by the kappa coefficient (for the data of the Loney and Cochrane scales) (Loney *et al.*, 1998; De Carvalho *et al.*, 2013; Miot, 2016). The magnitude considered for the ICC and Kappa results will be: Absence: ICC or Kappa = ≤ 0 ; poor: ICC or Kappa = 0-0.19; weak: ICC or Kappa = 0.20-0.39; moderate: ICC or Kappa = 0.30-0.59; substantial: ICC or Kappa = 0.60-0.79; and almost complete: ICC or Kappa = ≥ 0.80 (Miot, 2016).

If it is possible to group the results of the studies to be brought together in this review through meta-analysis, the effects of the component interventions will be measured through the difference in standardized and grouped means and/or by the relative risk, using a random effect model (Lipset and Wilson, 2001). Review restrictions may include excluding insufficient results of interest from meta-analyses. Thus, if there are at least two studies of adequate power reporting the same result with units of similar measures, they will be included in the meta-analyses (Turner *et al.*, 2013). In addition, when necessary, the study authors will be contacted to request lost data. The potential impact of missing attrition/result data bias on the result of interest will be assessed based on the Loney, Cochrane and OQAQ bias scales (Oxman and Guyatt, 1991; Loney *et al.*, 1998; De Carvalho *et al.*, 2013).

The heterogeneity of the studies will be analyzed by Cochran's Q and I² statistics. Studies will be considered heterogeneous when: I²>50% and significance level <0.05 (Dinnes *et al.*, 2005). It is assumed that there will be clinical heterogeneity between the included studies. The inverse variance meta-analytical method will be used (Lipset and Wilson, 2001). Sensitivity analyzes will be conducted by investigating the change in the point estimate if the Meta-analyses are limited to "low bias" studies and investigating the impact of outlier studies (Lipset and Wilson, 2001).

It should be noted that dichotomous outcomes (i.e., involve multiple variables) will be presented as Risk Ratios (RR) in preference to Odds Ratios (OR). The results of the time until the event will be presented as Risk Rates (HR). Continuous data will be calculated as Weighted Mean Differences (WMD) or Standardized Mean Differences (SMD). Relevant 95% Confidence Intervals (CIs) will be calculated. The Number Needed to Treat the additional Benefit or damage (NNTB, NNTH) will be calculated as appropriate. All analyzes will be performed using open Source R software (Version 4.0.1, Foundation for Statistical Computing®, Vienna, Austria) and the level of significance considered will be $p < 0.05$.

Synthesis of Qualitative Data

Qualitative data will be broken down using tables that will contain the main details of each scientific text

included in this review. When appropriate, graphics will be used to expose the studies' eligibility procedures and to expose the quality of the analyzed evidence (Egger *et al.*, 1997). A pair of researchers will be assigned to discriminate qualitative data.

Reporting and Dissemination of Results

The material related to the treatment of COVID-19 in the pediatric population aged 6 to 17 years old, extracted from the literature and compiled in the review, will be of great importance for the scientific community in view of the current moment, in view of the way in which virus manifests in the body of this population. What differs and makes the symptomatology of this population peculiar when compared to other age groups, demonstrating the need for research and reliable scientific survey about the behavior of the disease and ways of treating them.

The perspective of this Protocol is that the future systematic review is finalized and ready for publication by the second semester of 2021, it should be noted that due to the urgency of disseminating information based on scientific evidence on the subject, the findings of the review will be reported to the scientific community and made available for publication, as soon as they are available. In this sense, for the dissemination process, the results may be published in a "pre-press" database before formal peer review.

Discussion

When considering that there are particularities of the physiological reactions of pediatric patients in relation to COVID-19, it is highlighted that, despite the occurrence of several cases of contamination in children and adolescents, there is no consensus on how to proceed with treatment in this population (WHO, 2019; Payne, 2017; Zimmermann and Curtis, 2020; da Silva Filho *et al.*, 2012). Thus, we aim to provide scientific content, with the expectation of highlighting a crucial point for the prevention of COVID-19 in pediatric patients.

The systematic review research method becomes the most appropriate to bring this answer, because it makes it possible to group scientific data available in the accessible literature. Thus, it will allow the screening of the most relevant findings in relation to the analyzed theme, which makes it possible to minimize errors when making any professional decision based on scientific texts and providing an accurate answer to the scientific community (Allen and Olkin, 1999; Petitti *et al.*, 2009).

In this case, reviews are usually focused on seeking a single study design (i.e., only clinical trials or only observational studies, etc.) in order to reduce methodological biases (Allen and Olkin, 1999). Despite

the effectiveness of reducing biases by grouping studies that have a similar design, precious data can be lost because they are available in research that has other designs (Higgins *et al.*, 2019). Thus, in order to gather as much information as possible, the systematic review technique called "Overview" is encouraged among researchers (Tufanaru *et al.*, 2017).

The reviews of the type "overview", allow the use of several tools for the analysis of the biases, since the tools are adequate to the designs of the grouped studies (Aromataris and Pearson, 2014). In addition, studies such as literature review can also be included in an overview, which increases the quality of the data synthesis to be made available to readers in relation to a specific theme (Tufanaru *et al.*, 2017; Aromataris and Pearson, 2014; Harris *et al.*, 2014).

Thus, based on the understanding of a systematic review with an overview of this study protocol, it implemented steps to optimize consistency and verify the accuracy of the scientific data to be gathered. Because there are risks when only one reviewer does the screening, extracts and evaluates the studies (Tufanaru *et al.*, 2017; Wright *et al.*, 2007). In addition to this, the analysis tools were anticipated in this protocol, which makes it possible for researchers to become familiar with the tools and procedures beforehand, thus increasing the methodological quality of the future systematic review to be produced based on this study protocol (Tufanaru *et al.*, 2017; Gartlehner *et al.*, 2020).

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Author's Contributions

All authors equally contributed in this work.

References

- Allen, I. E., & Olkin, I. (1999). Estimating time to conduct a meta-analysis from number of citations retrieved. *Jama*, 282(7), 634-635. <https://jamanetwork.com/journals/jama/article-abstract/2682927>
- Aromataris, E., & Pearson, A. (2014). The systematic review: an overview. *AJN The American Journal of Nursing*, 114(3), 53-58. https://journals.lww.com/ajnonline/FullText/2014/03000/The_Systematic_Review__An_Overview.28.aspx
- da Silva Filho, L. V. R. F., Zerbinati, R. M., Tateno, A. F., Boas, L. V., De Almeida, M. B., Levi, J. E., ... & Pannuti, C. S. (2012). The differential clinical impact of human coronavirus species in children with cystic fibrosis. *The Journal of Infectious Diseases*, 206(3), 384-388. <https://academic.oup.com/jid/article/206/3/384/2192311?login=true>
- De Carvalho, A., Silva, V., & Grande, AJ (2013). Bias risk assessment of randomized clinical trials using the Cochrane collaboration tool. *Diagn Treatment*, 18 (1), 38-44. <http://files.bvs.br/upload/S/1413-9979/2013/v18n1/a3444.pdf>
- Dinnes, J., Deeks, J., Kirby, J., & Roderick, P. (2005). A methodological review of how heterogeneity has been examined in systematic reviews of diagnostic test accuracy. *Health Technology Assessment (Winchester, England)*, 9(12), 1-113. <https://europepmc.org/article/nbk/nbk62298>
- Duarte, P. M. (2020). COVID-19: Origin of the new coronavirus. *Brazilian Journal of Health Review*, 3 (2), 3585-3590. <https://www.brazilianjournals.com/index.php/BJHR/article/view/9131>
- Egger, M., Smith, G. D., & Phillips, A. N. (1997). Meta-analysis: principles and procedures. *BMJ*, 315(7121), 1533-1537. <https://www.bmj.com/content/315/7121/1533.full>
- Gartlehner, G., Affengruber, L., Titscher, V., Noel-Storr, A., Dooley, G., Ballarini, N., & König, F. (2020). Single-reviewer abstract screening missed 13 percent of relevant studies: a crowd-based, randomized controlled trial. *Journal of Clinical Epidemiology*, 121, 20-28. <https://www.sciencedirect.com/science/article/pii/S0895435619309825>
- Gorbalenya, A. E., Baker, S. C., Baric, R., Groot, R. J. D., Drosten, C., Gulyaeva, A. A., ... & Ziebuhr, J. (2020). Severe acute respiratory syndrome-related coronavirus: The species and its viruses—a statement of the Coronavirus Study Group. <https://digital.csic.es/handle/10261/212994>
- Harris, J. D., Quatman, C. E., Manning, M. M., Siston, R. A., & Flanigan, D. C. (2014). How to write a systematic review. *The American Journal of Sports Medicine*, 42(11), 2761-2768. <https://journals.sagepub.com/doi/abs/10.1177/0363546513497567>

- Higgins, J. P., Thomas, J., Chandler, J., Cumpston, M., Li, T., Page, M. J., & Welch, V. A. (Eds.). (2019). *Cochrane handbook for systematic reviews of Interventions*. John Wiley & Sons.
- ICMJE. (2019) Website. International Committee of Medical Journal Editors <http://www.icmje.org>
- Li, Q., Guan, X., Wu, P., Wang, X., Zhou, L., Tong, Y., ... & Feng, Z. (2020). Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *New England Journal of Medicine*. <https://www.nejm.org/doi/full/10.1056/NEJMOa2001316>
- Lipset, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*, Applied social Research Methods Series.
- Loney, P. L., Chambers, L. W., Bennett, K. J., Roberts, J. G., & Stratford, P. W. (1998). Critical appraisal of the health research literature: prevalence or incidence of a Health Problem. *Chronic Dis Can*, 19(4), 170-6.
- Miot, H. A. (2016). Agreement analysis in clinical and experimental trials. *J Vasc Bras*, 15(2), 89-92. https://www.redalyc.org/pdf/2450/245046412001_2.pdf
- Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P., & Stewart, L. A. (2015). *Itens de Relatório Preferidos para Declaração Sistemática e Declaração de Protocolos de Meta-Análise (PRISMA)*. *Revise System*, 2015; 4 (1); 1. [In Portuguese, English abstract].
- Moola, S., Munn, Z., Sears, K., Sfetcu, R., Currie, M., Lisy, K., ... & Mu, P. (2015). Conducting systematic reviews of association (etiology): the Joanna Briggs Institute's approach. *JBIE Evidence Implementation*, 13(3), 163-169. https://journals.lww.com/ijebh/fulltext/2015/09000/conducting_systematic_reviews_of_association.8.aspx
- Negri, E. M., Piloto, B. M., Morinaga, L. K., Jardim, C. V. P., Lamy, S. A. E. D., Ferreira, M. A., ... & Deheinzeln, D. (2020). Heparin therapy improving hypoxia in COVID-19 patients—a case series. *Frontiers in Physiology*, 11. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7604350/>
- Ouzzani, M., Hammady, H., Fedorowicz, Z., & Elmagarmid, A. (2016). Rayyan—a web and mobile app for systematic reviews. *Systematic Reviews*, 5(1), 1-10. <https://link.springer.com/article/10.1186/s13643-016-0384-4>
- Oxman, A. D., & Guyatt, G. H. (1991). Validation of an index of the quality of review articles. *Journal of Clinical Epidemiology*, 44(11), 1271-1278. <https://www.sciencedirect.com/science/article/abs/pii/089543569190160B>
- Payne, S. (2017). *Family Coronaviridae*. *Viruses*, 149. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7149805/>
- Petitti, D. B., Teutsch, S. M., Barton, M. B., Sawaya, G. F., Ockene, J. K., & DeWitt, T. (2009). Update on the methods of the US Preventive Services Task Force: insufficient evidence. *Annals of Internal Medicine*, 150(3), 199-205. <https://www.acpjournals.org/doi/full/10.7326/0003-4819-150-3-200902030-00010>
- Sohrabi, C., Alsafi, Z., O'Neill, N., Khan, M., Kerwan, A., Al-Jabir, A., ... & Agha, R. (2020). World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). *International Journal of Surgery*, 76, 71-76. <https://www.sciencedirect.com/science/article/pii/S1743919120301977>
- Tufanaru, C., Munn, Z., Aromataris, E., Campbell, J., & Hopp, L. (2017). *Systematic reviews of effectiveness*. *Joanna Briggs Institute Reviewer's Manual*, 3.
- Turner, R. M., Bird, S. M., & Higgins, J. P. (2013). The impact of study size on meta-analyses: examination of underpowered studies in Cochrane reviews. *PLoS One*, 8(3), e59202. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0059202>
- WHO. (2019). World Health Organization. *Coronavirus disease 2019 (COVID-19) Situation Report – 51*. Website. https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200311-sitrep-51-Covid-19.pdf?sfvrsn=1ba62e57_10. Published 2019. Accessed June 20, 2020.
- Wright, R. W., Brand, R. A., Dunn, W., & Spindler, K. P. (2007). How to write a systematic review. *Clinical Orthopaedics and Related Research*, 455, 23-29. https://journals.lww.com/clinorthop/fulltext/2007/02000/how_to_write_a_systematic_review.7.aspx
- Xiong, X., Chua, G. T., Chi, S., Kwan, M. Y. W., Wong, W. H. S., Zhou, A., ... & Ip, P. (2020). A comparison between Chinese children infected with coronavirus disease-2019 and with severe acute respiratory syndrome 2003. *The Journal of Pediatrics*, 224, 30-36. <https://www.sciencedirect.com/science/article/abs/pii/S0022347620307435>
- Zimmermann, P., & Curtis, N. (2020). Coronavirus infections in children including COVID-19: an overview of the epidemiology, clinical features, diagnosis, treatment and prevention options in children. *The Pediatric Infectious Disease Journal*, 39(5), 355. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7158880/>