

Objective:

To identify factors that contribute to the increased susceptibility and severity of COVID-19 in obese children and adolescents, and its health consequences.

Sources:

Studies published between 2000 and 2020 in the PubMed, MEDLINE, Scopus, SciELO, and Cochrane databases.



ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



Obesity And Its Impact On Covid 19 In Children

COVID-19 and obesity in childhood and adolescence: A clinical review Nogueira-de-Almeida et al, Jornal de Pediatria, 2020 August 4

Obesity is a highly prevalent comorbidity in severe cases of COVID-19 in children and adolescents; social isolation may lead to increase fat accumulation.

MECHANISMS BY WHICH OBESITY WORSENS COVID 19:

1. ↑ ↑ ACE2 Receptors in the lungs in obese individuals.
2. Leptin, ↑ in obese people, damages endothelium → less nitric oxide production, chronic subclinical inflammation and procoagulant state
3. Impaired immune response.
4. Underlying comorbidities like dyslipidemia, impaired glucose intolerance, hypertension, asthma and obstructive sleep apnea
5. Deficiencies of micronutrients

Conclusions:

While evaluating children with suspected or confirmed COVID 19, we should:

- Assess anthropometric parameters to diagnose overweight and obesity
- If obese, screen for comorbidities
- Advice on healthy diet and physical activity to prevent weight gain during COVID 19 period
- If required, refer them to specialized centers involved in childhood obesity management

Key messages:

- Obesity in children, predisposes to greater susceptibility and complications from COVID-19 infection
- Pediatricians should be aware of the emerging obesity epidemic among this pandemic and guide the families appropriately.

EXPERT COMMENT



“Obesity increases susceptibility and worsens Covid 19 infection in children”

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Reference

Nogueira-de-Almeida CA, Ciampo LA, Ferraz IS, Ciampo IR, Contini AA, Ued FV. COVID-19 and obesity in childhood and adolescence: a clinical review. J Pediatr (Rio J). 2020;96:546–58.
<https://doi.org/10.1016/j.jpmed.2020.07.001>