

Children's Mercy Kansas City

## SHARE @ Children's Mercy

---

### Posters

---

10-2022

## Alterations in the Metabolic Comorbidities of Youth with Overweight and Obesity during the COVID-19 Pandemic

Safa Farrukh

Erica Wee  
*Children's Mercy Hospital*

Ashley Sherman  
*Children's Mercy Hospital*

Yun Yan  
*Children's Mercy Hospital*

Let us know how access to this publication benefits you

Follow this and additional works at: <https://scholarlyexchange.childrensmercy.org/posters>



Part of the [Endocrinology, Diabetes, and Metabolism Commons](#), and the [Pediatrics Commons](#)

---

### Recommended Citation

Farrukh, Safa; Wee, Erica; Sherman, Ashley; and Yan, Yun, "Alterations in the Metabolic Comorbidities of Youth with Overweight and Obesity during the COVID-19 Pandemic" (2022). *Posters*. 294.  
<https://scholarlyexchange.childrensmercy.org/posters/294>

This Poster is brought to you for free and open access by SHARE @ Children's Mercy. It has been accepted for inclusion in Posters by an authorized administrator of SHARE @ Children's Mercy. For more information, please contact [hlsteel@cmh.edu](mailto:hlsteel@cmh.edu).

# Alterations in the Metabolic Comorbidities of Youth with Overweight and Obesity during the COVID-19 Pandemic

Safa Farrukh<sup>1</sup>, Erica Wee, MD<sup>2</sup>, Ashley K. Sherman<sup>2</sup>, Yun Yan, MD<sup>1,2</sup>

<sup>1</sup>University of Missouri-Kansas City School of Medicine

<sup>2</sup>Children's Mercy Kansas City

## Background

- During the COVID-19 pandemic, the time spent in sedentary activities increased.
- The sedentary lifestyle may exacerbate the metabolic comorbidities in youth with overweight and obesity.
- The progression of metabolic comorbidities in youth with overweight and obesity during the COVID-19 pandemic has not been well investigated.
- Objective:** To evaluate the metabolic comorbidities of youth with overweight and obesity during the COVID-19 pandemic.

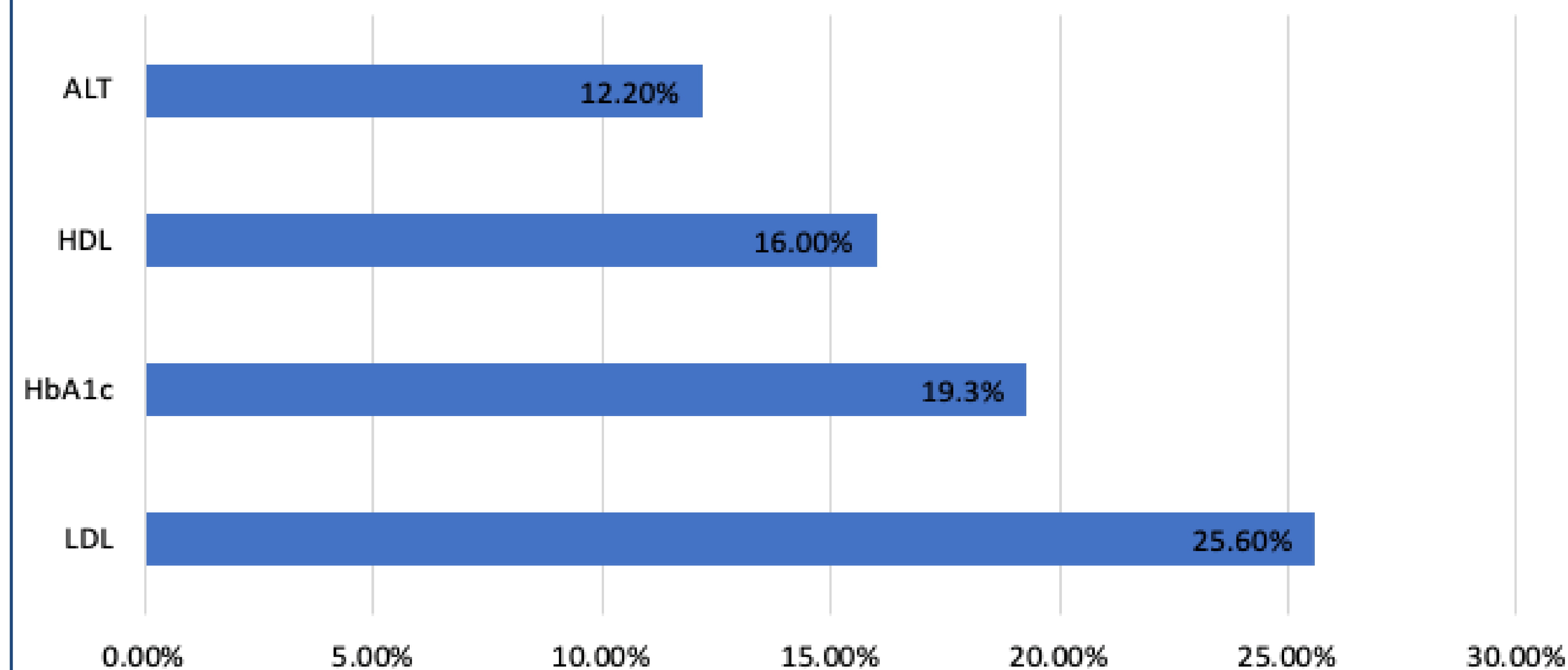
## Methodology

- A retrospective chart review was conducted of youths seen in a pediatric endocrinology clinic for type 2 diabetes prevention.
- Age, sex at birth, race, type of insurance, BMI, and laboratory results (HbA1c, LDL, HDL, ALT) were collected pre-pandemic and post-pandemic onset.
- Fisher's exact or Chi-squared test and t-test were used to evaluate metabolic comorbidities and demographics traits.

## Results

- A total of 74 patients were assessed with mean pre-pandemic age of 12.5 years and was 56.8% female, 39.2% white and 59.2% publicly insured.
- The overall mean BMI increased from 2.5 (37.1 kg/m<sup>2</sup>) pre-pandemic to 2.6 (39.8 kg/m<sup>2</sup>) post-pandemic, although the increase was not statistically different (p=0.45).

Figure 1. Frequency of Progression of Metabolic Comorbidities



- HbA1c progression was significantly seen in older youths with mean age of 14.1 years as compared to those without HbA1c progression with mean age of 12.3 years (p=0.04).
- LDL progression was more common in Hispanic race (83.3%) as compared to other races (p=0.01)
- Those with HbA1c progression were more likely to have LDL progression (p=0.03).

## Summary

- Progression of metabolic comorbidities among youth with overweight and obesity were common during the COVID-19 pandemic despite no significant increase in BMI.
- HbA1c progression was more common in older youths with overweight and obesity during the COVID-19 pandemic.
- LDL progression was more common among Hispanic youths with overweight and obesity during the COVID-19 pandemic.
- There was a strong correlation between HbA1c progression and LDL progression.

## Acknowledgements

We want to acknowledge Brent Lockee and Mitchell S. Barnes who assisted with data collection.

## Author's Disclosure

Authors have no financial relationships to disclose.