



## CHR D 2022: Abstract & Poster Submission Form

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**Presenter Status**

- Undergraduate Students
- Masters Student
- PhD Student
- Post-Doctoral Fellows
- Residents
- Non-Trainee

**Research Category**

- Basic Science
- Clinical
- Community Health / Policy

**Role in the project**

- Design
- Perform Experiments
- Analyze Data
- Write Abstract

**Title**

Physical activity and cardiorespiratory fitness among adolescents with type 2 diabetes: A Systemic Review and Meta-analysis

## Background

Type 2 diabetes in youth is rising. Many youths living with type 2 diabetes have more than one cardiovascular disease risk factor. Cardiorespiratory fitness and physical activity are both important indicators of these risks later in life.

## Objective

We evaluated the difference in physical activity and cardiorespiratory fitness levels between children and adolescents living with type 2 diabetes (T2D) and controls without diabetes.

## Methods

We searched MEDLINE, Embase, the Cochrane Library, and CINAHL from 2000 to April 2022. Observational studies that reported physical activity and/or fitness and included adolescents with type 2 diabetes and controls without diabetes were included in the analysis. The main outcomes of interest were objective or subjective measures of PA and direct or indirect measures of cardiorespiratory fitness. Co-variables extracted from each manuscript included body mass index, sex, measures of socio-economic status, age and ethnicity. A modified risk of bias tool was used to assess the methodological quality of each study. The protocol was registered in Prospero in April 2022 (CRD42022329303).

## Results

Of 7857 citations retrieved, we included 15 observational studies (1280 with T2D and 1455 controls). The median sample size of each study was 111, (range = 19-699). 3 and 8 studies included objective and subjective measures of PA respectively. 10 and 1 studies included direct and indirect measures of cardiorespiratory fitness respectively. The majority of studies were considered a high risk of bias. Most studies included measures of body mass index, age, sex and ethnicity. Very few studies (n=5) reported outcomes stratified by sex. Point estimates and confidence intervals will be meta-analyzed and presented at the meeting.

## Conclusion

Few adequately powered studies have used objective or direct measures to test for differences between adolescents with T2D and controls without diabetes. Reporting of methods used to quantify PA and fitness is generally poor, leading to uncertainty about study quality.

## Do you have a table/figure to upload?

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## Authors

- For each author, please click "[+] Add Item" and provide the author's information

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