



# Association Between Regular Sports Activity and Resting Blood Pressure in Adolescents: a Cross-Sectional Study.

A collaborative project between

The ABC Study on Heart Disease Foundation  
and Liceo Guglielmo Marconi, Conegliano, Italy.

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REGIONE DEL VENETO



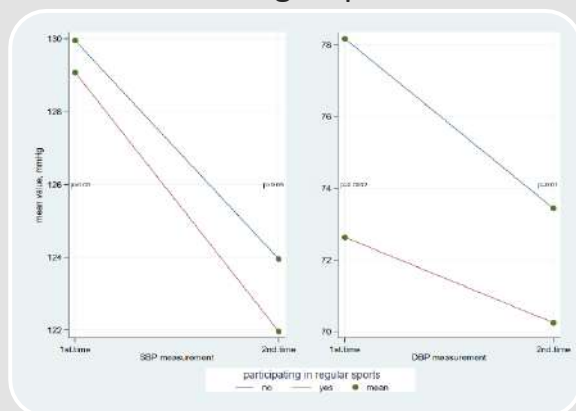
ULSS2  
MARCA TREVIGIANA



ANMCO 56° CONGRESSO NAZIONALE

## Results

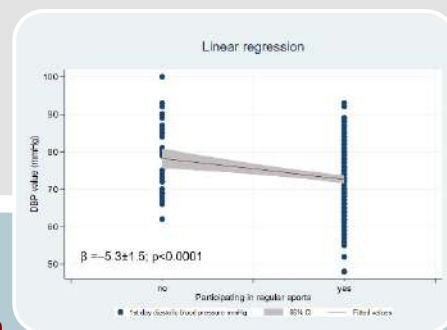
- 167 students (67%) were actively participating in regular sports activities
- 57% isotonic and 43% isometric exercises.
- They shared most demographic and clinical characteristics with those with sedentary lifestyle.
- BP values in both groups:



- In the post hoc analysis, the reduction in DBP was substantial and consistently observed across different exercise modalities compared to sedentary life style:

|           | Mean diff. In DBP | p       |
|-----------|-------------------|---------|
| Isotonic  | - 5.5             | <0.0001 |
| Isometric | - 4.9             | 0.005   |

- In a fully-adjusted linear regression model, practicing sport was an independent predictor of lower DBP values:

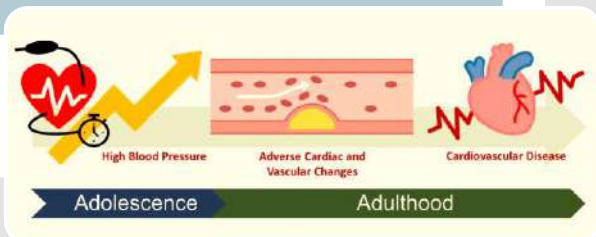


## Conclusion

This analysis highlights the **importance of sports, reducing DBP in adolescents** which may reflect an enhanced **endothelial function** and **cardiovascular conditioning** and may contribute to long-term **CV health benefits** and **reduced risks of hypertension** in adulthood.

## Introduction

- The prevalence of **hypertension in adolescents** is a growing concern worldwide due to its potential progression into adulthood.
- Identifying modifiable factors, such as physical activity, may help mitigate this risk.



## Aim

- To investigate the **association** between regular **sports activity** and **resting blood pressure** (BP) values in **adolescents** through a cross-sectional approach.



## Methodology

- **250 students** of Liceo Guglielmo Marconi, Conegliano were enrolled
- **Stratified into two groups:** those participating in regular sports ( $\geq 3$  times/week for  $\geq 60$  minutes/session) and those with sedentary or minimal physical activity.
- **Resting SBP and DBP**, were evaluated in two different settings and compared between both groups.
- **The data were analyzed** using adjusted linear regression models.

## Results

- Mean age of  $17 \pm 1$  years
- 53% females.
- One diabetic student.
- Two had a preexisting arterial Hypertension.
- mean BP:  $129 \pm 13 / 73 \pm 8$  mmHg.