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# Effect of yoga on cardiac autonomic dysfunction and insulin resistance in non-diabetic offspring of type-2-diabetes parents: A randomized controlled study

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## Highlights

- Yoga can optimize cardiac autonomic dysfunction and reduce insulin resistance in healthy offspring of type-2 diabetes parents.
- Yoga can reduce the risk of development of diabetes in offspring of diabetes parents.
- Yoga can be used for diabetes prevention in high risk individuals.

## Abstract

### Objective

The present study was aimed to determine the effect of yoga program on cardiac **autonomic dysfunction** and insulin resistance in non-diabetic offspring of **diabetes** parents.

### Methods

A randomized passive-controlled study was conducted on 64 non-diabetic offspring of [type-2-diabetes](#) parents (mean-age:25.17years). Yoga group participants received yoga training for 8 weeks. [Heart-rate variability](#) (HRV) indices: low frequency (LF), high frequency (HF) and LF/HF ratio; fasting [blood glucose](#) (FBG), [oral glucose tolerance test](#) (OGTT) and insulin resistance (IR) were estimated at baseline and after 8-weeks of intervention.

## Results

We found a significant decrease in LF ( $p=0.005$ ), LF/HF ratio ( $p=0.004$ ), IR ( $p<0.001$ ), OGTT ( $p=0.003$ ) and increase in HF ( $p=0.022$ ) in yoga group participants. Control group participants did not show any significant change in any variables.

## Conclusions

Improvement in cardiac [autonomic function](#) and insulin resistance by yoga training implies that yoga can reduce the risk of development of diabetes in offspring of diabetes parents.

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## Keywords

Cardiac autonomic function; Insulin resistance; Glucose tolerance; Yoga; Offspring; Type 2 diabetes parents

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