



## Purpose

Heart rate variability (HRV), the variance between the R-R intervals on the electrocardiogram can be used to assess the balance between the sympathetic and parasympathetic branches of the autonomic nervous system (ANS). An integrated literature review was conducted to identify the effect of yoga intervention on HRV in adults.

## Methods

Computerized data base and ancestry searches yielded 230 studies (Ovid MEDLINE-25, PubMed-31, APA PsycNET- 16, Alt Health Watch- 153, CINAHL- 5). Search key terms : *yoga and heart rate variability*.

Studies were included based on the following criteria:

- subjects age >18 years
- measured HRV or ANS function using any form of Yoga as an intervention
- reported during the years 2000 through 2013
- published in peer-reviewed scientific journals
- reported in English language

**Twenty studies that met the inclusion criteria were included in the final analysis**



## Conclusions

Given the impact on modulating autonomic nervous system and reducing psychological stress, yoga could be a cost-effective intervention in cardiovascular diseases. More randomized control trials are needed to evaluate the impact of yoga in adults with cardiovascular diseases.

## Results

Yoga intervention showed:

- significant shift in autonomic balance towards vagal dominance (Markil et al., 2012).
- significant reduction in heart rate, systolic, diastolic and mean blood pressure (Melville et al., 2012).
- reduction in the indices of ventricular repolarization dispersion (QTd, JTd) in patients with arrhythmia (Dabhade et al., 2012).
- significant reduction in stress, anger, depression, anxiety and neurotic symptoms (Dolgoff-Kasper et al., 2012).
- improved symptoms, arrhythmia burden, heart rate, blood pressure, anxiety and depression scores, and several domains of quality-of-life in individuals with atrial fibrillation (Lakkireddy et al., 2013).

## Discussion

- The regulation of the heart beat in large part is achieved by the balance between the sympathetic and parasympathetic branches of the autonomic system.
- Yoga resulted in significant changes in the time and frequency domains of heart rate variability indices towards parasympathetic modulation.
- Increased parasympathetic activity is marked by greater heart rate variability and is thought to create a stable myocardium and prevent random myocyte firing.