

## Percentile Norms of Heart Rate Variability (HRV) of Indian Sportspersons Withdrawn from Competitive Games and Sports

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**Abstract :** Heart rate variability (HRV) is the physiological phenomenon of variation in the time interval between heartbeats and is alterable with fitness, age and different medical conditions including withdrawal/retirement from games/sports. Objectives of the study were to develop (a) percentile norms of heart rate variability (HRV) variables derived from time domain analysis of the Indian sportspersons withdrawn from competitive games/sports pertaining to sympathetic and parasympathetic activity (b) percentile norms of heart rate variability (HRV) variables derived from frequency domain analysis of the Indian sportspersons withdrawn from competitive games/sports pertaining to sympathetic and parasympathetic activity. The study was conducted on 430 males. Ages of the sample ranged from 30 to 35 years of same socio-economic status. Data was collected using ECG polygraphs. Data were processed and extracted using frequency domain analysis and time domain analysis. Collected data were computed with percentile from one to hundred. The finding showed that the percentile norms of heart rate variability (HRV) variables derived from time domain analysis of the Indian sportspersons withdrawn from competitive games/sports pertaining to sympathetic and parasympathetic activity namely, NN50 count (ranged from 1 to 189 score as percentile range). pNN50 count (ranged from .24 to 60.80 score as percentile range). SDNN (ranged from 17.34 to 167.29 score as percentile range). SDDSD (ranged from 11.14 to 120.46 score as percentile range). RMMSD (ranged from 11.19 to 120.24 score as percentile range) and SDANN (ranged from 4.02 to 88.75 score as percentile range). The percentile norms of heart rate variability (HRV) variables derived from frequency domain analysis of the Indian sportspersons withdrawn from competitive games/sports pertaining to sympathetic and parasympathetic activity namely Low Frequency (Normalized Power) ranged from 20.68 to 90.49 score as percentile range. High Frequency (Normalized Power) ranged from 14.37 to 81.60 score as percentile range. LF/ HF ratio(ranged from 0.26 to 9.52 score as percentile range). LF (Absolute Power) ranged from 146.79 to 5669.33 score as percentile range. HF (Absolute Power) ranged from 102.85 to 10735.71 score as percentile range and Total Power (Absolute Power) ranged from 471.45 to 25879.23 score as percentile range. Conclusion: The analysis documented percentile norms for time domain analysis and frequency domain analysis for versatile use and evaluation.

**Keywords :** RMSSD, Percentile, SDANN, HF, LF

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