

Wanikkul Tapsai 2009: Physiological Responses During Yoga at 37 and 25 Degrees Celsius. Master of Science (Sports Science), Major Field: Sports Science, Interdisciplinary Graduate Program. Thesis Advisor: Miss Apasara Arkarapanthu, Ph.D. 157 pages.

The objective of the present study was to examine the physiological responses during yoga at 37 and 25 degrees Celsius. Thirty female volunteers, aged between 20 – 40 years old, were purposive selected from Absolute Yoga Bangkok members to take part in this study. In addition, one female instructor, of 25 years of age, also took part. All subjects and instructor practiced yoga in a heated, 37 - degree Celsius room and in a 25 - degree Celsius room. Each practice was performed 1 week apart. In each practice body weight, water intake, flexibility, heart rate, blood pressure, core temperature, composition and concentration of sweat and rating of perceived exertion were examined. Furthermore, blood lactate, plasma volume and oxygen consumption were examined in the instructor. The data were analyzed for the mean and standard error. Significant differences were tested by using dependent t – test at significance level of 0.05.

The results revealed that core temperature, heart rate, rating of perceived exertion, total sweat and sweat nitrogen loss of subjects were significantly higher, but diastolic blood pressure in the last 10 minutes was significantly lower when practiced in 37 - degree Celsius room than in 25 - degree Celsius room. There was no significant difference in flexibility between the two conditions. The results from the instructor indicated a greater reduction in plasma volume when practiced in 37 - degree Celsius room than in 25 - degree Celsius room after practice. The data of oxygen consumption, respiratory exchange ratio and blood lactate concentration indicated that during practice in 37 - degree Celsius room, fat was utilized more than carbohydrate to supply the working muscles, whereas, lactic acid mobilization during practice was slower when practiced in 25 - degree Celsius room.

Student's signature

Thesis Advisor's signature

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