

BEHAVIOR OF HEART RATE, BLOOD PRESSURE, AND HYDROSTATIC WEIGHT OF PREGNANT WOMEN IN DIFFERENT IMMERSION DEPTHS

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Abstract:

PURPOSE: The aim of the present study was to identify the responses of heart rate (HR), blood pressure (BP), and hydrostatic weight (HW) in pregnant women immersed in the following anatomic points: ankle, knee, hip, navel, and xiphoid process. **METHODS:** Eleven pregnant women underwent the following experimental situations: 10 minutes in recumbent position for evaluation of HR and BP at rest; 2 minutes standing position for evaluation of initial measures of HR, BP, and mass; and 1 minute for each immersion depth with measurement of HR, BP, and HW at ankle, knee, hip, navel, and xiphoid process. Descriptive statistics, the test of normality (Shapiro-Wilks) and the homogeneity of variance test (Levene), the ANOVA one-way and Bonferroni tests (SPSS version 8.0) were used, with $p < 0,05$. **RESULTS:** Statistically significant differences ($p < 0,05$) were found for HR, diastolic BP and mean BP from the xiphoid process ($79,09 \pm 5,13$ bpm; $53,27 \pm 6,71$ mmHg e $63,93 \pm 6,15$ mmHg, respectively) and for systolic BP from the navel ($92,73 \pm 11,11$ mmHg). Statistically significant differences ($p < 0,05$) were seen in all measures of %HW reduction; data were similar to those found in previous studies carried out with non-pregnant women. **CONCLUSION:** The results obtained show that water is an environment that is likely to offer less joint stress for this population and lower behaviors of HR and BP than on land.

KEY WORDS: pregnancy, immersion, hemodynamics, hydrostatic weight

HEART RATE AND BLOOD PRESSURE BEHAVIOR, THROUGH PREGNANCY IN WOMEN TRAINING IN AQUATIC ENVIRONMENT.

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ABSTRACT:

PURPOSE: The aim of the present study was to evaluate the behavior of Heart Rate (HR) throughout gestation, before, during, and after the exercise in water, as well as the behavior of Blood Pressure (BP) before and after the same exercise. **METHODS:** The sample was composed of seven pregnant women. The HR was measured in three moments: 1) in radial artery, in 15 seconds, with the women sitting; 2) after 20 to 30 minutes the beginning of exercise, which was performed varying from 13 to 14 based on the subject's perceived exertion (Borg's 6-20 Scale), with women standing in a pool, with water at the level of their xiphoid process; 3) approximately 20 minutes after the end of the session, with women sitting. The measurement of BP was performed before and after exercise in the same conditions described above. Measurements were taken once a week throughout the gestational period. Descriptive statistics, ANOVA for repeated measures and the Bonferroni test were used, with $p < 0,05$ (SPSS version 11.0). **RESULTS:** No statistically significant differences were found between the end of gestational trimesters and measurement conditions of variables evaluated. **CONCLUSION:** We conclude that pregnant that practice water exercises presented a constant behavior of HR and BP during the gestational period. That can probably evidence a water training effect in this population. **KEYWORDS:** physiological adaptation, pregnancy, water exercises.