

# **Comparison of the effect of two methods of high intensity water training and core trunk strengthening exercises on aerobic and anaerobic power and performance of swimming girls 10-14 years old**

zohreh zerfat angiz\*,

**Abstract :** Research shows that high-intensity swimming exercises and core stability training can increase physical fitness capacity and improve swimmer performance. The purpose of the present study was to compare of the effect of high intensity and core stability exercise trainings on aerobic and anaerobic power and performance of female swimmers 10\_14 old years. For this purpose, 30 swimmers Rasht swimming team volunteered to participate in this study, which They were randomly divided into three groups (n=10) 1. high intensity swimming exercises,2. core stability training group and 3. control group. Swimmers' age groups were ( $11.40 \pm 0.97$ ,  $11.70 \pm 1.70$ ,  $12.10 \pm 0.74$ ) & BMI ( $19.16 \pm 2.45$ ,  $19.95 \pm 2.59$ ,  $20.82 \pm 2.15$  ) respectively. Waist circumference, hip length, leg length, arm length was also mesured. Before and after the training period, the ed indices of physical fitness and swimming performance were controled. In all groups, exercises were given for 3 sessions for 6 weeks. The first group had 60 minutes of high intensity water training each session. The second group performed 120-minute combined exercise of core stability traing on land and swimming training, and the third group performed 120 minutes of moderate intensity swimming training at each session during Specialized Exercise Preparation Season.The results of the research findings were analyzed using descriptive and analytical statistics by SPSS software version 22 at p 0.05). High-intensity swimming training significantly improved the 50 m crawl strock rate (p = 0.01) and the critical swimming speed (p = 0.02).Finally, it is likely the exercises to core stability during prepration seasons have positive effects on fitness indicators and swimmer

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performance, also High-intensity training during and before the competition season can be helpful in maintaining fitness.. Keyword : high intensity training, Core Stability training, Aerobic Power, Anearobic Power, Swimmers 'Performance.

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[دانشگاه آزاد اسلامی، واحد رشت - سامانه بانک اطلاعات پایان نامه ها](#)