Abstract No: 597 (Poster) ***Health and Hygiene***

COMPARISON OF BODY FAT COMPOSITION AND GENERAL STRENGTH AMONG SWIMMERS, WEIGHT TRAINERS AND NON-ATHLETES

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Being physically active or participation in sports activity provides increased general strength and stamina while helps to prevent major non-communicable diseases. Swimming is a method by which humans used to move through water. Weight training targets a specific muscle group concentrically or eccentrically. Both sports tend to have a special effect on individual's body composition and strength. The main objective of this study was to compare the difference in body fat composition and general strength among weight trainers, swimmers and non-athletes. This was a descriptive cross-sectional study using convenient sampling. Ninety males (18-35 years) were selected with 30 swimmers, 30 weight trainers and 30 non-athletes. After obtaining informed consent from each, subjects had to answer the Physical activity Readiness questionnaire (PAR-Q) to appraise the readiness of performing physical activity. Height and weight were measured using standard methods. Body fat percentage was measured by skin-fold thickness method; hand grip strength was measured using hand held dynamometer. Curl-up test and squat test were used to measure abdominal and lower limb strength, respectively. Descriptive data were analyzed as means and standard deviations. Results were compared between study groups by using independent sample T-test. Statistical significance was set at $p < 0.05$. None of them significantly differed in height and hand grip strength. Swimmers had significantly lower body weight than non-athletes (59.9 kg vs. 63.9 kg, p=0.021). Weight of weight trainers (61.4 kg) and non-athletes was not significantly different (p=0.405). Body fat percentages of weight trainers were significantly lower than swimmers and non-athletes (9.6% vs. 11.4% and 13.1%). Swimmer's curl-ups values were significantly higher than other groups while non-athletes were lowest in curl-ups (47.5 vs. 40.8 vs. 31.5). Squat test values were significantly higher in swimmers and weight trainers than non-athletes (74.3 vs. 70.6 vs. 55.9) but no difference between two sports groups. According to the results, weight training would be more beneficial for reducing body fat. Swimming is effective on gaining abdominal strength. Both sports did not influence in gaining upper and lower limb strength. Both sports had effect on reducing body fat and enhancing general strength compared to non-athletes.