

# ***Estimation of Maximal Aerobic Capacity (VO<sub>2</sub>-max) and Study of its Associated Factors among Industrial Male Workers in Sanandaj city/Kurdistan Province 2013***

***Arghavani F<sup>1</sup>, teimori Gh<sup>2</sup>, Ebrahimi K<sup>3</sup>, Rahmani kh<sup>4</sup>, Javanmardi K<sup>5</sup>***

<sup>1</sup>- M.Sc ergonomic, Kurdistan university of medical sciences, Sanandaj, Iran.

<sup>2</sup>- M.Sc. Occupational Health, Torbat Heydariyeh University of Medical Science, Torbat Heydariyeh, Iran.

<sup>3</sup>- B.Sc Occupational Health, Kurdistan University of Medical Sciences, Sanandaj, Iran.

<sup>4</sup>- PhD Student of Epidemiology, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

<sup>5</sup>- B.Sc Occupational Health, Kurdistan University of Medical Sciences, Sanandaj, Iran.

\*- **Corresponding Author:** B.Sc Occupational Health, Kurdistan University of Medical Sciences, Sanandaj, Iran. Tel: 989187708412 **E-mail:** ebrahimi.k2010@yahoo.com

## **Abstract**

**Background and Aim:** Estimating the maximal aerobic capacity in humans can be used to establish the proportionality between the worker and work physiology. This study was conducted to determine VO<sub>2</sub>-max and its associated factors among male workers of industrial sector of Sanandaj city.

**Method:** To conduct this study, 200 healthy and non-smoking male workers were randomly selected. Maximal aerobic capacity (VO<sub>2</sub>-max) was measured by Tuxworth & Shahnavaaz method. T test and one way ANOVA test were used to examine the relationship between qualitative variables and VO<sub>2</sub>max mean and quantitative variables and VO<sub>2</sub>-max mean, respectively. The stepwise multiple linear regression analysis was used to build the best model.

**Results:** According to results, workers' maximal aerobic capacity mean was estimated to be 2.92±0/34 Lit/M. The results showed that there was association between VO<sub>2</sub>-max and weight and marital status while no association was found between VO<sub>2</sub>-max and height, BMI, age, education level, shift working, job satisfaction, exercise per week and fatigue.

**Conclusion:** Weight and marital status are the factors affecting the maximal aerobic capacity.

**Keywords:** Maximum aerobic capacity, physiologically fitting, Physical work capacity, Tuxworth & Shahnavaaz protocol.