

Assessing the Prevalence of Thalassemia Trait in People Applying for Marriage in Zabol City in 2014

Reza Didehdar^{1,*}; Mohammadreza Taghavi²; Elhame Saffarizadeh³; Farkhonde Sarhaddi³

¹Department of Biochemistry, Educational Assistance Complex, Zabol University of Medical Sciences, Zabol, IR Iran

²Infectious Diseases and Tropical Medicine Research Center, Educational Assistance Complex, Zabol University of Medical Sciences, Zabol, IR Iran

³Educational Assistance Complex, Zabol University of Medical Sciences, Zabol, IR Iran

*Corresponding author: Reza Didehdar, Department of Biochemistry, Educational Assistance Complex, Zabol University of Medical Sciences, Zabol, IR Iran. E-mail: rezadid23@gmail.com

Received: February 24, 2014; Accepted: March 29, 2014

Dear Editor,

Thalassemia is the most common genetic disorders that impair the production of globin chain types (α , β , δ , etc.) [1]. It has three mild (minor or carrier), medium (intermedia) and severe (major) forms. Its gene frequency varies between 2.5 - 15% in the Mediterranean coast of the Arabian Peninsula, Turkey, Iran, India, and Southeast Asia [2]. In Iran, its prevalence is 10% and 4 - 8% in the Caspian Sea and the Persian Gulf and other areas, respectively [1], and about 20 thousand patients with thalassemia major and 2 - 3 million carriers of thalassemia exist within this country [2, 3]. Marrying couples of this work were 8,970. In all the cases, mean of Mean Corpuscular Volume (MCV) were 83.01 ± 12.44 fL, there was no significant difference between men and women and mean of Mean Corpuscular Hemoglobin (MCH) in all the cases were 28.17 ± 3.93 fL, there were significant differences between men and women ($P = 0.01$). Out of these, 1,776 patients were suspected thalassemia candidates. Mean of MCV and MCH in the suspected cases were 75.7 ± 8.1 fL and 24.8 ± 3.6 fL, this means that their MCV and MCH levels are lower than those of normal individuals that for approval of this issue HbA2 was measured. Mean of HbA2 was $3.4 \pm 1.2\%$, which is higher than normal levels; it can be as thalassemia trait among the people there. There were 922 suspected women (51.9%) and 854 men (48.1%). Mean of MCV and MCH of suspected women were 75.9 ± 7.9 fL and 24.8 ± 3.8 fL and mean of HbA2 were $3.4 \pm 1.1\%$. Mean of MCV and MCH of suspected men were 75.6 ± 8.2 fL and 24.8 ± 3.4 fL and mean HbA2 was $3.4 \pm 1.3\%$. Proportion of suspected cases to the individuals studied was 20%. Ratio of suspected men to the whole people study was 5.9% and proportion of suspected women to the whole people study was 10.3%. Proportion of participants who had thalassemia minor

5.7% of the 1,776 cases, in 508 suspected cases MCV was < 75 fL, they have thalassemia minor. HbA2 levels of these individuals were less than 3.5%. There were 288 women with thalassemia trait that relation to the whole cases study was 3.2%. There were 220 men with thalassemia trait that relation to the whole cases study was 2.5%. Minor proportion of the total minor men was 43.3% and minor ratio of the total minor women was 56.7%. Studies that have been conducted on the couples of different regions have presented various statistics for the prevalence of thalassemia. A study conducted in Kerman province reported the prevalence of thalassemia minor as 5.7% [2]. In another study on the prevalence of thalassemia minor in Caspian 9.7% gains. In this study, the prevalence of thalassemia trait in the Fars province was 4.9% [1]. In the present study, prevalence minor beta thalassemia was 5.7%, which was in line with other studies. This research suggests that awareness of the disease and the risks and consequences of such marriages is at a very low level. It is recommended for the district officials, elderly of tribes to get completely informed about the dangers of this disease and strategies for greater awareness of the region's social and economic avoid irreparable damage adopt this disease.

References

1. Haghshenas M, Zamani J. [Thalassemia]. Shiraz: Shiraz University of Medical Sciences and Health Services Press; 1997.
2. Hayatbaghsh-Abbasi M, Bahrapour A. [The prevalence of thalassemia trait in couple candidates in Kerman]. *Yazd J Res Med Sci*. 2002;10(2):43-7.
3. Jaafari F, Nodeh-Sharifi A, Zaeri F. [Effectiveness of thalassemia prevention program on couples knowledge and carriers and marriage couples opting in Gorgan city]. *Gorgan J Res Med Sci*. 2006;8(4):68-72.