

## عنوان مقاله:

Premarital Screening for Beta-Thalassemia in Birjand City

## محل انتشار:

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## نویسندگان:

Tayebeh Chahkandi - Associate professor of pediatric, Cardiovascular Diseases Research Center, Birjand University of Medical Sciences (BUMS), Birjand, Iran

Bitā Bijari - professor of community medicine, Cardiovascular Diseases Research Center, department of community medicine, school of medicine, (BUMS), Birjand, Iran

Sajjad Akbari - School of Medicine, Birjand University of Medical Sciences (BUMS), Birjand, Iran. Sajjadakbari75@gmail.com

## خلاصه مقاله:

Background: Thalassemia is a common inherited anemia; and population-level screening followed by molecular evaluation is the most effective way to prevent it. Given the significance of beta-thalassemia minor and its prevalence in communities, this study aimed to identify the prevalence of beta-thalassemia minor among participants in the premarital screening program in Birjand City, located in South Khorasan province, Iran. Methods: The study included individuals who underwent pre-marital testing between ۲۰۱۴-۲۰۱۹ and were categorized as high-risk for beta-thalassemia based on their blood indices and medical diagnosis. Data on their blood indices and follow-up results were collected from Birjand City's health center using a pre-designed form. The data were analyzed using statistical tests to assess significance. Results: Out of ۳۵,۸۰۱ couples who underwent premarital testing, ۱۹۵ (۳۹۰ individuals) were identified as the high-risk group for beta-thalassemia. Among these high-risk couples, ۶۷.۲% responded to iron therapy. Thalassemia prevalence was ۹.۷% among high-risk couples, ۳۱.۶% among individuals at actual risk, and ۷۶% among those who underwent Prenatal Diagnosis (PND). The mean values of MCV, MCH, and Mentzer indices were significantly higher in the group that responded to iron therapy compared to the group eligible for PND. Conclusion: It was demonstrated that the prevalence of beta-thalassemia carriers among marriage applicants attending the health center in Birjand City is currently low. However, the implementation and continuity of beta-thalassemia screening programs for couples in this region can effectively prevent the birth of infants with thalassemia major and prevent unexpected medical treatment expenses.

## کلمات کلیدی:

Keywords: Beta-thalassemia, screening, Birjand

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