



## **Awareness and Attitude Non-Medical Students of Higher Education about Premarital Counseling and Factors Related to Thalassemia**

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### **Abstract**

**Aim :** Students of Higher Education institutes need to know about preventing methods of thalassemia. This study targeted to investigate the awareness and attitude of non-medical students at higher education institutes about premarital counseling and factors related to thalassemia.

**Methodology :** This is a descriptive- cross-sectional research. The samples were 519 non-medical students of Iranshahr high education institutes. The gathering data tool was Hajian's standard questionnaire. The data were analyzed using one-sample t-test, Pearson's correlation test and two-way analysis of variance tests through SPSS22.

**Results:** The awareness and attitude of non-medical students of Iranshahr higher education centers about premarital counseling and factors related to thalassemia disease was at the optimal level

**Conclusion:** Considering the low level of awareness of the students of Higher education institutes students with low parental education, and rural students with insufficient general knowledge, it is recommended to plan educational program should be designed and be implemented as a compulsory course of public health for students.

**Keywords:** Awareness, Non-Medical Students, Premarital Counseling, Thalassemia.

### **Introduction**

Thalassemia is the most prevalent congenital single-gene disorder globally, characterized by a deficiency of or decreased synthesis of either the alpha- or beta-globin chains in the hemoglobin protein of red blood cells and is passed down from parents to children. Thalassemia is a genetic hematologic disorder in which most patients are unable to produce functional red blood cells and must depend on blood transfusions for the rest of their lives (Hossain MJ et al 2022) this disease has been reported in 60 countries of the world (Zeynaliyan et al., 2009). Thalassemia syndrome is more common in Mediterranean countries such as Italy, Greece and Iran (Cappellini et al., 2014). It is estimated that there are about 270 million carriers for major hemoglobin defects in the world, and about 300 to 400 thousand babies with various types of anemia are born around the world every year (Mahmoud et al., 2009; Norsalehy et al., 2005). The thalassemia population in Iran consists of more than 20 thousand people (Naderi et al., 2013). Sistan and Baluchistan province with two million and seven hundred thousand people and two thousand patients with thalassemia major has the highest incidence rate among the provinces of Iran (Samavat et al., 2004). An increase in cases with moderate or severe symptoms of thalassemia can lead to a decrease in the economic and human power of societies and impose a considerable cost on the country's economy (Rafeezadeh et al., 2010). Thalassemia, in addition to the social and psychological effects on the family, imposes a large financial burden on the country, so that the cost of blood product bags for 20 thousand patients in the country sums to 40 million dollars (Habibzadeh et al., 1998). The high cost of treatment and the emergence of psycho-social problems caused by the lack of a definitive treatment method for thalassemia have led to this disease being at the top of the list of health system problems in areas with high prevalence of thalassemia (Toosi et al., 2006). In addition, thalassemia patients suffer from many problems of impairment and weakening of the quality of life (Pakbaz et al., 2005). In addition, the presence of a sick child in the family leads to changes in the behavior of family members and increased needs (Miri-Moghaddam et al., 2011). The World Health Organization has tried several times to prevent genetic diseases, including health education and improving the society's knowledge and attitude towards the control of hereditary genetic diseases (Alam et al., 2006). In countries with a high prevalence of hemoglobinopathy, a premarital screening program is very useful to identify and prevent at-risk marriages. Detection of the carrier couple with premarital screening program is an effective method to control thalassemia major (Hashemzadeh et al., 2013). Many countries around the world have also implemented various types of preventive programs. Iran was also among the countries that implemented this program (Alsaed et al., 2018). Implementation of newborn screening and premarital screening and genetic counseling programs can provide adequate preventive measures (AK Al-Ali, 1996). One of the most important tasks of health centers is to hold counseling classes before marriage (Motamedi et al., 2004). Counseling and training before marriage is the basis of couples' relationships (Khaleghinejad et al., 2009). Organizing counseling sessions before marriage by efficient people is one of the most important tasks of health centers with the aim of preventing deaths and disabilities in mothers and babies, which are essential to be performed (Full translation of Shadpour, 1981). Therefore, the implementation of the national thalassemia control program, counseling and increasing the level of awareness to encourage couples suffering from thalassemia minor to withdraw from marriage is considered as a main prevention strategy in the country (Jafari et al., 2007). Thalassemia screening in people who want to get married is a good opportunity to prevent and control this disease (Ghatee et al., 2016). Effective educational methods can play an important role in increasing the level of awareness of young people before marriage and thus preventing thalassemia disease (SarpoushiRobat et al., 2015). In this context, community education can play an effective role in

raising awareness and changing attitudes and behavior (Experts from the Department of Family Health, 1997). Conducting screening in order to identify thalassemia carriers and prevent them from marrying each other by giving them education and awareness can prevent the birth of people with thalassemia major, which leads to many economic and social damages for the society and family. Education of the young generation and the students who sooner or later as the fathers and mothers of the future generation will take responsibility for the health of their children should be at the top of the thalassemia prevention programs (Siam et al., 2010). Control and family planning services in married carrier couples should be performed with more perseverance and counseling to prevent the marriage of carrier people with the cooperation of skilled people shall be implemented in order to see less incidence of thalassemia major disease (Sharifi, et al 2016, Chitsaz H. 1998). Therefore, the purpose of this study was to determine the knowledge and attitude of students about premarital counseling and factors related to thalassemia disease, so that by determining the level of knowledge and attitude of students, educational needs are known and through increasing the level of knowledge and changing their attitude, an effective step can be taken to prevent thalassemia.

## **Materials and Methods**

This is a descriptive study was conducted on 519 Non – medical students studying in Iranshahr Higher education institutes including : University of Velayat, Islamic Azad University and Payam Noor University in 2019. Sampling was done by proportional classification method among different fields of these 3 universities in Iranshahr.

After providing the necessary explanations about the purpose of the study and observing the principle of confidentiality and after providing a written consent to participate in this study. A three-parts questionnaire was used. The data collection in this study included three demographic information questionnaires, a knowledge survey questionnaire, and a researcher-made questionnaire for studying students' attitudes using Hajian's research (Hajian et al., 2000).

A- Demographic Profile Questionnaire: The demographic profile questionnaire contained 14 items that included age, gender, field of study, and literacy of Parents .

B- Student Awareness Questionnaire: Hajian's thalassemia awareness questionnaire (Hajian et al., 2000) containing 10 questions with three options was used. Their rating was as follows:

If the person's score in this questionnaire was between 6-10, the person's attitude was considered good, if the total score was between 3-6, the person's attitude was considered average, and if the total score was between 0-3, the person's attitude was considered weak, which “I agree” score was given 2 and “I disagree” score was given 1, and “I have no opinion” was given a score of zero.

C- Questionnaire for Students' Attitudes: The items of this questionnaire were made by a researcher, which was prepared according to the goals of studying and reviewing the latest scientific sources and articles related to thalassemia, but the items of this questionnaire were taken from Hajian's research (Hajian et al., 2000) which contained 17 items. It is related to the attitude of Iranshahr university students towards premarital counseling, each of which having 3 options and their rating was as follows:

If the total score of the person was between 10-17, the person's awareness was good, and if it was between 5-10, the person's awareness was average, and if it was between 0-5, the person's awareness of premarital counseling and tests related to thalassemia was weak, with “yes” given score 2, “No” given score 1 and “I have no opinion” given score zero. The validity of the questionnaires was ensured using the opinions of 10 professors and faculty members. The reliability of the questionnaires was also measured and verified by the test-retest method. The collected data was analyzed by SPSS 22.0.

## Findings

The awareness and attitudes of non-medical students in Iranshahr higher education centers about premarital counseling and factors related to thalassemia disease was optimal (Table No. 1).

Table 1 : Awareness and attitude of non-medical students in Iranshahr Higher Education centers

	t- test for equality of means					
	T	Degrees of freedom	The significance level	Average difference	95 % confidence interval of the difference	
					lower	upper
Awareness and Attitudes of non - medical students	-16.979	499	0.000	-3.448	-3.847	-3.049

The findings demonstrated that there was a significant relationship between awareness and attitude of non-medical students in Iranshahr Higher education institutes about premarital counseling and factors related to thalassemia. Pearson's correlation test showed that there is a correlation between knowledge and attitude in non-medical students. Because the value of "correlation coefficient" was between 0.2 and 0.4, there was a relatively weak relationship. On the other hand, the value of "correlation coefficient" was positive, so there was a direct relationship (Table No. 2).

Table 2: Relationship between awareness and attitude in non-medical students

		Awareness	Attitude
Awareness	Correlation coefficient	1	0.371
	The significance level		0.000
Attitude	Correlation coefficient	0.371	1
	The significance level	0.000	

## Discussion

The aim of this research was to investigate the awareness and attitude non-medical students of Iranshahr higher education institutes about thalassemia.

The results revealed that the awareness level of female students about thalassemia was higher than male students. The students who live in the city have higher awareness than rural students. The attention of the health policy makers of the country should be drawn to pay more attention to the target and high-risk groups, including the villagers, so that more educational activities can be carried out in the rural areas to improve people's awareness and attitudes (Hajian et al., 2000; Jafari et al., 2006; Mirrashedey al., 1997; Zahad et al., 1977). In addition, rural students who came from the village to the city have changed their attitude towards the disease and there was no significant difference in the attitude of rural and urban students and our p. value changed. In this study, the higher education of the students' parents, was related to the student's higher awareness and attitude towards diseases and how to maintain their health in the society. Sedkiani and Hajian also achieved similar results in this case in their research, i.e. they observed a significant relationship between awareness and level of education (Hajian et al., 2000; Sadaghiani et al., 2001). After diagnosis of cancer, many patients show more inclination towards religion and religious activities (Rahnama et al., 2015). Based on the findings by Bahaqi 2023, non-medical and health students in Indonesia possessed a relatively lower level of knowledge regarding premarital and genetic screening compared to other countries. Out of the 400 participants in this study, a mere 2% demonstrated a commendable level of knowledge. Conversely, a study conducted in Jordan that involved the general public as respondents found that an impressive 65.4% of participants displayed a good understanding of genetics (Baihaqi B et al 2023). According to the obtained results, students of medical sciences had better knowledge and attitude than students of other non-medical sciences universities and there was a significant difference between them. It was shown that due to the low level of students' knowledge about the disease in question, education for higher knowledge and awareness about thalassemia disease and prevention of this disease was recommended to reduce the incidence (Siam et al., 2010), which is consistent with the present study results. According to these results, it can be said that the results of the studies based on the awareness of thalassemia disease were consistent with some of these items. Therefore, we can conclude from this discussion that the villagers and the less educated people of the society are at greater risk, since their access to health education in the field of how to prevent, complications and deaths caused by thalassemia disease is lower. According to results of Mahmoodiet al.(2016), nurses had a low level of knowledge towards neonatal sleep. Therefore, with more activity, health messages will be provided to the villagers faster through mass media. In addition, gaining awareness through mass media and means of mass communication plays a significant role in increasing the awareness and attitude of communities and the public. Also holding educational courses and workshops are effective for awareness and attitude of learners, and thus it is suggested that such workshops are useful for all staff to increase awareness and attitudes(Rakei et al. ,2019)Healthcare centers should also increase their activities in the field of information and education of diseases, especially hereditary diseases such as thalassemia.

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### **Conflict of Interests**

The authors declare that they have no conflicts of interest.

### **Authors' Contributions**

Samieizadehtoosi T.wrote the original draft, conceptualized the study, proposed the methodology, and performed the formal analysis. Arbabshastan ME reviewed and edited the manuscript, proposed the methodology, and performed the formal analysis. Borhanzehe S. reviewed the manuscript and collected data and reviewed and edited the manuscript. Moradi A. reviewed and distributed questionnaires and entered in SPSS.

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