Shot Communication

Awareness about thalassemia in post graduate students

Abstract

Thalassemia is an inherited disease and is classified into two kinds: alpha and beta thalassemia. The disease is prevalent in India, Africa, South East Africa, Middle East, Mediterranean, Southern China and south East Asia. Its symptoms are shortness of breath, dark urine, bone deformities, delayed puberty, slowed growth and jaundice etc. It can be managed by bone marrow transplantation, transfusion therapy and prenatal diagnosis. This study was conducted in the form of questionnaire among 38 students of M.Phil. Different questions were asked about thalassemia such as root cause of disease, mode of transmission, and ways of treatment etc. Students weren't fully aware about thalassemia. The objective of this study was to determine the awareness of postgraduate students about thalassemia.

Keywords: thlassemia, symptoms, survey, awareness

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Introduction

Inherited hemoglobinopathies are basically thalassemia syndromes that occur due to decreased or absent formation of normal hemoglobin. Abnormal globin gene in thalassemia describes its type. Patients who have defective alpha globin genes suffer from alpha thalassemia and patients who have defective beta globin genes suffer from beta thalassemia. There are clinical presentations which varied widely in thalassemia patients, the severity range from asymptomatic to severe anemia in which blood transfusions are needed for lifetime and in multiple organ system many complications occur.[1] Alpha thalassemia has been prevailed in India, Africa and South East Africa. Beta thalassaemia has been spread in many areas of Middle East, Mediterranean, in Southern China, in South, Central and South East Asia. The carriers of alpha thalassemia are 5% and of beta thalassemia is 1.5% all over the world. Genotypes of alpha and beta thalassaemia are highly prevalent in those regions which are infected with Plasmodium falciparum. This leads to a theory that evolutionary protection mechanism is represented by thalassemia gene mutation. The populations which are at risk to thalassemia are migrating towards non-endemic areas and increasing the rate of thalassemia gene mutations all over the world.[2]

Symptoms of this disease are iron overload, shortness of breath, tissue hypoxia at severe level, hemolytic anemia, dark urine, bone deformities, jaundice, delayed puberty, slowed growth and an enlarged heart, liver and spleen. Thalassemia can be managed by bone marrow transplantation (BMT), transfusion therapy, and prenatal diagnosis. For thalassemia patients BMT is potentially more curative if the patients accept the transfused bone marrow among all other therapies. Thalassemia is considered as anemia which can be inherited from parents to offspring its severity vary from mild to acute and it is a common disorder in Pakistan. There is estimation that about 9 thousand children suffering from beta thlassemia born every year in Pakistan but there is no availability of any authentic documentation. As estimation of carrier rate is 5-7%, so in total population there are almost 9.8 million carriers. According to Pakistan's religious and cultural values, cousin marriages are very much common and the other major problem is that there is no conception of premarital counseling or screening of individuals having thalassemia in their family history and there is no availability of antenatal diagnosis. Thus, by educating general public disease can be prevented and mortality rate can be reduced.[3] The basic purpose of this study was to determine the awareness of postgraduate students about Thalassemia.

Methodology

The methodology developed for taking the survey was Questionnaire (Table 1). Among 38 students of biotechnology there were 6 male students and 32 female students who had participated in the survey. All of the students were from Bahauddin Zakariya University, Multan Pakistan. Only students of Mphil were included and no student of BS level had participated in the survey. About 15 questions were asked from students.

Table 1 Questionnaire to evaluate awareness about etiology of Thalassemia

	Thalassemia is a	**Yes**	**No**
1.	Viral disease		
2.	Bacterial disease		
3.	Fungal disease		
4.	Genetic disease		
5.	Metabolic disease		
	Ever suffered from Thalassemia		
6.	You		
7.	Your family		
8.	Your relative		
9.	Your neighbor		
10.	Your friend		
	Thalassemia is transmitted by		
11.	Contacts or blood transfusion		
12.	From parents to offspring		
	Thalassemia may be treated by		
13.	Medicines		
14.	Surgery		
15.	Do not worry, it is easily curable		

Result and discussion

Awareness about etiology of Thalassemia is given in Table 2. Only 16.6% males and 3.1% females considered thalassemia a viral disease and 83.3% males and 96.8% females considered it non-viral. Total 5.2% students considered it viral and 94.7% denied this. Only 12.5% females considered thalassemia a bacterial disease and 87.5% females and 100% males were not in this favor. Thus, total 10.5% students considered it bacterial and 89.4% were against this. All males and females didn't consider it fungal. All males and 87.5% females referred it a genetic disease only 12.5% females didn't agree with it. Thus, about 92.1% students considered Thalassemia genetic and 7.8% denied it. About 16.6% males and 62.5% females had their opinion that metabolic disorder is also a reason of thalassemia and 83.3% males and 37.5% males didn't agree with it. Thus, 55.2% students considered it metabolic and 44.7% students didn't agree with it (Table 2).

Neither male nor a female was affected with this disease and any family member, relative, neighbor and friend of male students was not suffering with this disease. Only 3.1% females had family members and friends affected with the disease and other 96.8% females didn't have any affected family member and friends. Thus, 97.3% females didn't have any thalassemia affected family member and friend only 2.63% females' family members and friends were affected. Relatives and neighbors of only 6.2% females were affected with thalassemia and 93.7% females' relatives and neighbors were safe. Thus, only 5.2% students' relatives and neighbors were affected and 94.7% students were not having any thalassemia affected relatives and neighbors (Table 3).

About 66.6% males and 53.1% females considered that this disease is prevalent through contacts or blood transfusions and 33.3% males and 46.8% denied it. Total 55.2% students were in this favor and 44.7% weren't. All males had their opinion that this disease can be transmitted from parents to offspring and 96.8% females considered that thalassemia can be transmitted from parents to offspring and 3.1% females didn't agree with this. Thus, only 2.6% students agreed that thalassemia is prevalent from parents to offspring and 97.3% students denied it (Table 4). About 83.3% males and 81.2% females thought that this can be cured by medicines and only 16.6% males and 18.7% females thought that this can't be cured by medicines. Thus, total 81.5% students considered that this can be treated with medicines and 18.4% students disagreed with it. All males considered that surgery can't be used as a treatment for thalassemia and this disease is a big reason to worry because it cannot be cured easily. While only 28.1% females thought it can be treated with surgery and 71.8% females denied this. Thus, total 23.6% students considered surgery as a treatment and 76.3% students disagreed with it. Only 6.25% females didn't consider it a reason to worry but 93.7% females had opinions that thalassemia can't be cured easily. Thus, total 5.2% students thought that thalassemia can be treated easily and 94.7% students considered thalassemia a big reason to worry (Table 5).

Similar survey about thlassemia was taken by another group among 200 people in which parents of thalassemia patients, general public, students of Pharm D and MBBs were involved but the awareness rate was not up to expected level. And there results showed that only 22% people were having satisfactory knowledge about this disease and there were no proper awareness about the disease among rest of 78% population. There results revealed that there was minimal awareness in general public as compared to medical students about thalassemia.[3]

Table 2 Awareness about etiology of Thalassemia:Views of Postgraduate Students

Questions		Male		Female		Total	
		Yes	No	Yes	No	Yes	No
1.	Viral disease	17%	83%	3.10%	96.80%	5.20%	94.70%
2.	Bacterial disease	0.00%	100.00%	12.50%	87.50%	10.50%	89.40%
3.	Fungal disease	0%	100%	0%	100%	0%	100%
4.	Genetic disease	100%	0%	87.50%	12.50%	92.10%	7.80%
5.	Metabolic disease	16.60%	83.30%	62.50%	37.50%	55.20%	44.70%

Table 3 Awareness about etiology of Thalassemia:Views of Postgraduate Students

Questions		Male		Female		Total	
		Yes	No	Yes	No	Yes	No
1.	You	0%	100%	0%	100%	0%	100%
2.	Your Family	0%	100%	3.10%	96.80%	2.63%	97.30%
3.	Your Relative	0.00%	100.00%	6.20%	93.70%	5.20%	94.70%
4.	Your Neighbor	0%	100%	6.20%	93.70%	5.20%	94.70%
5.	Friend	0%	100%	3%	97%	3%	97%

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Table 4 Awareness about etiology of Thalassemia: views of postgraduate Biology students

Questions		Male		Female		Total	
		Yes	No	Yes	No	Yes	No
1.	Contacts or blood transfusion	66.60%	33.30%	53.10%	46.80%	55.20%	44.70%
2.	Parents to offspring	100.00%	0.00%	96.80%	3.10%	2.60%	97.30%

Table 5 Awareness about etiology of Thalassemia:Views of Postgraduate Students

Questions		Male		Female		Total	
		Yes	No	Yes	No	Yes	No
1.	Medicine	83.30%	16.60%	81.20%	18.70%	81.50%	18.40%
2.	Surgery	0%	100%	28.10%	71.80%	23.60%	76.30%
3.	Don't worry, it is easily curable	0%	100%	6.25%	93.70%	5.20%	94.70%

Conclusion

It was concluded from this study that most of the post graduate students were aware of this disease.

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None.

Conflicts of interest

The authors declare there is no conflict of interest.

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