

BEST PRACTICES (2018-19)

A BEST PRACTICE -1:

1) Title of the Practice: “Blood Screening for Thalassemia Test”

2) The Objectives:

To eradicate Thalassemia from India.

3) The Practice and Evidence of Success

Thalassemia is an inherited disorder characterized by abnormal hemoglobin. It is a severe type of anemia where alpha or beta chain of hemoglobin are not formed by natural process. Thalassemia is caused by mutation in the DNA of cells that make hemoglobin.

Thalassemia patients not have enough healthy RBC, and therefore, oxygen deficiency is found. This prolonged deficiency of oxygen causes the patient to feel very tired, weak and short of breath. They suffer from severe anemia. This disease cause bone deformities in the face and skull. It also causes frequent infections, enlargements of spleen and pale looks of skin. Their appearance become frightful, horrible and pathetic.

Thalassemia disease is passed on from parents to their children through their genes. The symptoms and sufferings start from childhood and continues throughout the life. This disease never develops later in life. A child born with Thalassemia cannot be cured completely, only life can be prolonged with the help of blood transfusion and using supportive costly medicines.

Human have 23 pairs of chromosomes. In each pair of chromosomes, one comes from our father and one from our mother. In chromosomes there are genes, which are also in pair. Genes are responsible for all the characteristics that we inherit from our parents. Thus, genes pass genetic information from parents to their offsprings. Just like colour of hair or eyes, our blood type is inherited from our parents. Among all pairs of genes there is a particular pair which is responsible for all the formation of blood and type of blood.

If both of these genes (one from each parent) in this particular pair are normal, the blood of their offsprings will also be normal. If one of the genes is defective and the other is normal then the offsprings becomes thalassemia minor. If both the genes are defective the offspring becomes thalassemia major.

People with thalassemia minor do not usually have any sufferings and symptoms. They are quite normal people and can lead normal daily life as ordinary healthy people do. But it is important to note that though they are normal people, they are considered as thalassemia carriers as their offsprings may become thalassemia major patients. If one of the parents is thalassemia minor (i.e. carrier) and the other is normal then there is a 50% chance of their offsprings heredity thalassemia minor.

If both the parents are thalassemia minors (i.e. carrier) then the chance of their offsprings to be thalassemia minor is 50%, thalassemia major is 25% and completely normal is 25%.

Thus, thalassemia major, which is a very serious disease can occur only if both of the father and mother are thalassemia minor (i.e. carrier). So, in order to eradicate thalassemia, we should restrict the marriage between thalassemia minor and thalassemia minor. If this simple restriction is imposed in the marriage system, we can get a world without any thalassemia major patient. This is the only job that we have to do to remove thalassemia from our beloved world. Strictly following only this restriction some countries of the world have already eradicated thalassemia from their countries. We, the Indians can also do that.

For this, we first have to detect the persons who are thalassemia carriers and then make them aware not to marry another carrier. This thalassemia carrier detection can be done at free of cost for schools and college students. The name of the test is HPLC or Hb electrophoresis.

NSS units of Kharagpur College has been doing this noble job of carrier detection for college students with the technical support from the medical team of Thalassemia Society of Midnapore District of Health & Family Welfare department, Govt of West Bengal, for the last three years very successfully and sincerely.

The number of students who have gone through this test for the last three years are as follows.

Session	Duration	No of students undergone thalassemia test done
2016-2017	04.12.2016 to 27.01.2017	1200
2017-2018	24.11.2017 to 10.01.2018	1329
2018-2019	19.02.2019 to 28.03.2019	854

It is seen that, among the persons who had undergone this test, about 12% became thalassemia carriers which is normal trend of the district of Paschim Medinipur to which Kharagpur College belongs.

4) Problems Encountered:

Although notice for thalassemia blood screening test is circulated to all the departments, college notice board and in the college webpage well ahead of the programme; it is found that few students remain absent on the schedule dates due to their lack of awareness or usual absence. As this blood screening test is done in three consecutive years, therefore, it is expected that all the students will get chance to undergo this test in their three years period of study in the college.

These thalassemia carrier students are given proper counselling by renowned councilors and we are very much satisfied to convince them about not marrying another carrier. Like previous years, this year (session 2020-21) also we will carry on this thalassemia detection after restoration of normalcy when students will start attending their classes regularly.

5) Resource Required:

As Thalassemia Society of Midnapore District of Health & Family Welfare department, Govt of West Bengal is providing all the medical support, expense to carry out these tests is not an obstruction. A minimal resource is required to carry out these tests. Only, notice for this blood screening test to be circulated among the student in massively and well in advance.

B. The Best Practices II

1) Title: Water quality testing and maintenance

2) The Context:

Supply of quality drinking water to all.

3) The Objectives:

Contaminated water is the route of the water borne diseases which are common to locality like ours. Testing of the presence of pathogenic bacteria in the overhead water tanks and the ground water from the mouth of water lifting pump are done periodically by the Public Health Engineering Department, Kharagpur and water treatment, cleaning of water tanks is done regularly. Again, installation of water purifiers in different locations of our institution has also made a positive bearing in this respect.

4) The Practice:

The students and staff s of the college are using all the purifiers in an effective manner. They keep proper vigilance of the purifier machines is and report to the college authority if any disorder is found therein. The college authority thereafter takes immediate action to bring them into working condition.

5) Evidence of Success:

Due to use of purified and well treated drinking water, the mind-set of our students changed regarding health and hygiene issues. Many of the students are even accustomed to use this purified water by carrying it to home. As per verbal discussion with the

students, it appears that the occurrence of water borne diseases declined significantly in recent times.

6) Problems Encountered:

Huge number of students, their demand for purified water and insufficient number of machines occasionally create some problems, especially in summer season. It is also to be noted that the university examinations are hold during summer when a large number of examinees along with their guardians from other colleges assemble at Kharagpur College, and the college has to meet their demand for purified drinking water. Besides these, improper handling of purifiers by some of our students, especially the outside students, brings about damage to some purifiers that pose some problems like enhanced repairing and maintenance expenses and scanty supply of purified waters at some locations.

7) Resource Required:

More number of water purifiers including eight (08) coolers (for summer season) are required to meet the need of the huge number of students and staff of the college. It also requires huge fund to meet the said amenities. But lack of sufficient fund creates some hindrance in this respect.