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HEIGHT AND WEIGHT CORRELATION IN THALASSEMIC PATIENTS FROM SOLAPUR DISTRICT, MAHARASHTRA, INDIA

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ABSTRACT
Present study includes the height and weight correlation in thalassemic patients from Solapur District, Maharashtra, India. The medical records of thalassemia patients were reviewed. Present observational survey study, one hundred twenty five clinically proved by their medical reports, cases of thalassemic children's with age 6 months to 18 Years, coming for to get blood transfusion from different parts of Solapur district. The Maximum patients were: 34(27.2%) in the age group of 6 months to 3 years of age and minimum patients were: 10(8%) in both age group of 14-16 and 17-18 years age. The height and weight mean rage was higher in male than female thalassemic patients.

KEY WORDS: Cooley's anemia, Geographical distribution, Prevalence, Thalassemia

INTRODUCTION

Thalassemia is the name of a group of genetic, inherited blood disorder passed down through families in which the body makes an abnormal form of hemoglobin, the protein in red blood cells that carries oxygen. It results in excessive destruction of red blood cells, which leads to anemia. It is not infectious and cannot be passed from one individual to the other by personal or any other contact, or through blood transfusion, food or air (Wikipedia, 2008). Thalassemia is a major health problem, placing an immeasurable emotional, psychological and economic burden on millions of people around the World (Panos, 2005; Riewpaiboo *et al.* 2010). The burden of haemoglobinopathies in India studied by Balgir (2000). Vaz *et al.* (2000) finds the distribution of BT mutations in the Indian population. Genetic epidemiology of the sickle cell anaemia in India observed by Balgir (2001).

MATERIALS AND METHODS

Present observational survey study, 125 (Male =73, Female =52) clinically proved by their medical reports, cases of thalassemic children's with age 6 months to 18 Years, coming for to get blood transfusion from different parts of Solapur district, Maharashtra State. The entire survey study was carried out under the observations of Medical officer from Thalassemia transfusion centre, Indian Red Cross Society, Gopabai Damani Blood Bank, Solapur Maharashtra, India.

The study population consisted of one hundred twenty five, cases of Thalassemia children attending for regular blood transfusions in the following blood banks and hospitals collaborating in this multicentre study were carried out, with prior written consent from the parents/ guardians.

1) Indian Red Cross Society, Gopabai Damani Blood Bank, Thalassemia Centre, Solapur.
2) Hedgewar Blood Bank, Solapur
3) M/s Indian Red Cross Society Blood Bank, Sub Branch Sou Sarjubhai Bajaj Blood Bank, Pandharpur, District-Solapur.
4) Shriman Rambhai Shah Blood Bank, Sub Branch, Indian Red Cross Society, Barshi, District- Solapur.
5) Chatrapati Shivaji Rugnalaya, Government Hospital, Solapur.

Geographical Distribution of Thalassemia

The geographical regions of Solapur District, Thalassemia analyzed (**Figure -1**) in the framework of this thesis:
i) Akkalkot ii) Barshi iii) Karmala iv) Madha v) Malshirus vi) Mangalveda vii) Mohol viii) North Solapur ix) Pandharpur x) South Solapur xi) Sangola xii) Solapur City
All individuals were non-related and their selection depended on their well-defined phenotypes, transfusion-dependency, and geographical origins.

Inclusion criteria:

The criteria followed for the inclusion of the patients for this study was;
1. Patient was known thalassemic
2. Age at commencement of transfusion was more than six months
3. The interval between the transfusions was at least 3 weeks.

Equipments

Equipments facilities from the Indian Red Cross Society, Gopabai Damani Blood Bank at Solapur, Maharashtra State, India, were used in the framework of present research work. Guidelines of Shinton et al. 1982 used for evaluation of instruments in hematological laboratories.

RESULTS AND DISCUSSION

The age range of thalassemia patients in our study was from 6 months to 18 years. In Table-1 showed the sex wise mean height and weight in thalassemia patients. The geographic distribution of thalassemia in Solapur District shown in Figure-1. The prevalence percentage of different types of thalassemia in Solapur District age between 6 months to 18 years shown in Figure-2. In Figure-3 shows that the mean height (Inch) and weight (Kg) in thalassemia patients.

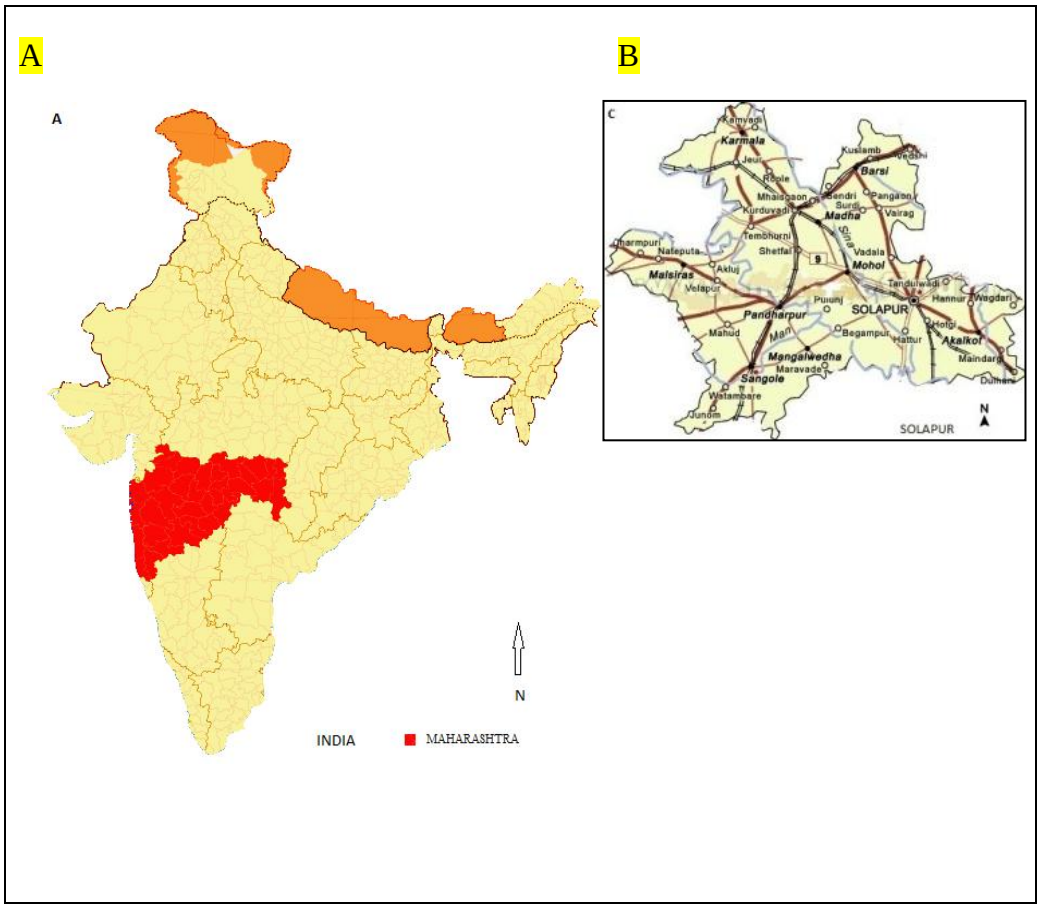

Figure- 1. Map of India; Red Color indicates Maharashtra State.
B- Map of Solapur Solapur District, the geographical area of thalassemia in the framework of this Research work.

The mean age was around 8.75 years. There were Male 19 female 15 total 34(27.2%) patients in 6 months-3 years age group, patients between 4-6 years, Male female 6 total 18(14.4%), patients in 7-10 years, Male 22 female 11 total 33(26.4%), in 11-13 years Male 9 female 11 total 20(16%), in between 14-16 age Male7 female 3 total 10(8%), in 17-18 years Male 4 female 6 total 10(8%), Maximum patients was: 34(27.2%) were in the age group of 6 months to 3 years of age and minimum patients was: 10(8%) in both age group of 14-16 and 17-18 years age.

Height

The mean of Height (Inch) of thalassemia patients showed in **Table- 1** and **Figure- 3**. Male (45.43%), female (44.67%) total (45.12%). The Height to Weight Ratio Chart is compared the data from Disabled World.

Weight

The mean of weight (Kg) of thalassemia patients showed in **Table-1** and **Figure-3**. Male (20.45%), female (20.38%) total (20.42%). The total number thalassemia patient, their code and initials, sex, diagnosis, locality, height (Inch), weight (Kg), of the thalassemia patients. Due to thalassemia, observations showed that the majority patient's growth were failure.

Table -2. Showed sex wise mean height and weight in thalassemia patients.

Sex	Male (%)	Female (%)	Total Male + Female (%)
Mean height (Inch)	45.43	44.67	45.12
Mean weight (Kg)	20.45	20.38	20.42

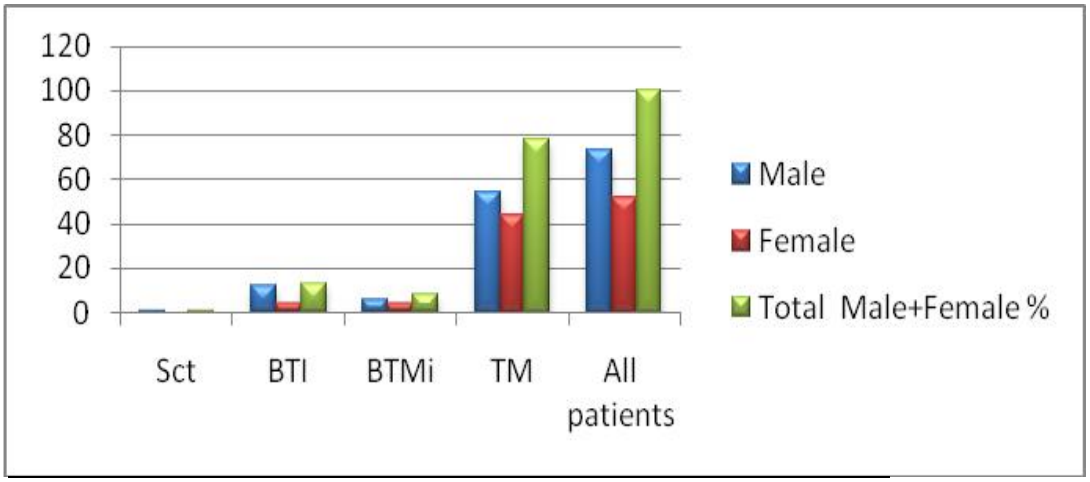

Figure-2. Showing prevalence percentage of different types of thalassemia in Solapur District age between 6 months to 18 years.

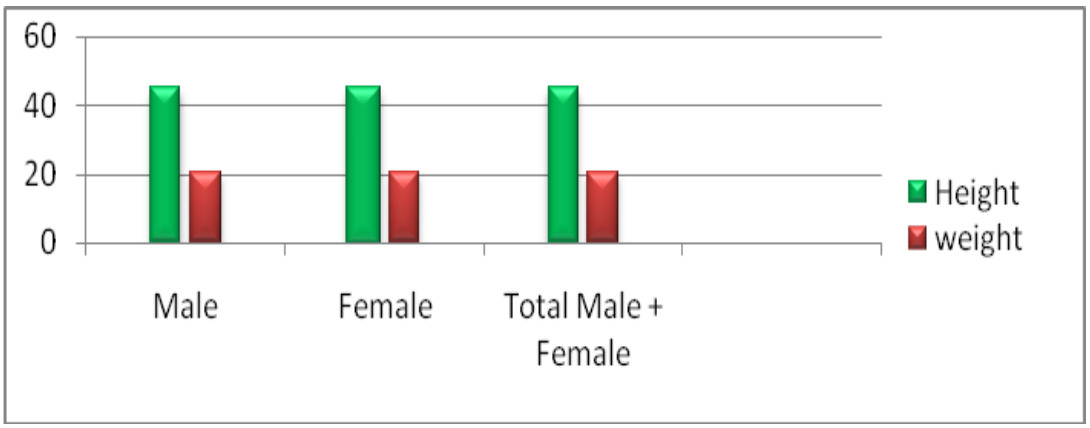

Figure -3. Showing the mean height (Inch) and weight (Kg) in thalassemia patients.

The mean height and weight of thalassemia patients were below in which the distance increased with the increase of age with a peak in puberty years which is probably due to hormonal disorder. Physical growth in children with transfusion-dependent thalassemia, the results compared with the data observed by Pemde et al., (2011); Soliman *et al.*, (1999); Kamali *et al.*, (2001). The observations for growth retardation in thalassemia major patients, the data compaired with findings of Saxena (2003).

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