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ASSESSMENT OF DEPRESSION STATUS IN THE TRANSFUSION DEPENDENT THALASSEMIA CHILDREN IN VANIVILAS HOSPITAL, BANGALORE: A CROSS SECTIONAL STUDY

Paediatrics

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ABSTRACT

Introduction: Thalassemia is an inherited blood disorder which is characterized by the reduced or absent synthesis of one or more of the 4 globin chains in the haemoglobin and causes chronic anemia[1]. Thalassemia is a quantitative defect of hemoglobin synthesis. Depression is the most common psychological complication in the thalassemia children. Thalassemia children are more exposed to emotional higher levels of distress[4,5]. This study is conducted to know the depression status in transfusion dependent thalassemia children at our center. **Method:** A cross sectional study was conducted, data was collected regarding depression status of 52 transfusion dependent thalassemia children, who are in follow up at Vani Vilas Children Hospital, Bangalore. Depression status in these children will be assessed using The Children Depression Inventory (CDI) scale. Assessment tool were evaluated, variables assessed using chi-square test. **Results:** There is significant depression in transfusion dependent thalassemia children of adolescent age group. 28.8% (n=15) of children were found to have significant depression, predominantly in age group above 10 years. No children of age group 7-9 years were found to have depression. **Conclusion:** The prevalence of depression among transfusion dependent thalassemia children of adolescent age group found to be high. Pediatrics should screen, monitor and offer treatment interventions for depression in these children throughout lifetime.

KEYWORDS

Transfusion dependent thalassemia children, depression, The Children Depression Inventory (CDI) scale.

INTRODUCTION

Thalassemia is an inherited blood disorder which is characterized by the reduced or absent synthesis of one or more of the 4 globin chains in the haemoglobin and causes chronic anemia[1]. A mutation in the Beta-globin gene leads to various degrees of defective Beta chain production and causes imbalance in the Alpha/Beta globin chain synthesis, resulting in ineffective erythropoiesis and spectrum of anemia[2]. Thalassemia is a quantitative defect of hemoglobin synthesis. The Beta-thalassemia is classified into three based on clinical and laboratory findings. Beta-thalassemia minor, also called as carrier or trait, is the heterozygous state which is usually asymptomatic with mild anemia. Homozygosity or compound heterozygosity for beta-thalassemia mutation causes a severe spectrum of anemia called beta-thalassemia intermedia and beta-thalassemia major. These two are clinically distinguished by transfusion dependence. Beta-thalassemia major requires recurrent blood transfusion but beta-thalassemia intermedia does not[3].

The treatment themselves lead to iron overload, which is reduced with iron chelation therapy to prevent early complications that end with the life due to organ failure[2].

Depression is the most common psychological complication in the thalassemia children[4]. Thalassemia children are more exposed to emotional higher levels of distress related to their symptoms that may affect self-esteem negatively across the life span as children, adolescents and adults[5].

Most of the previous studies are mainly included adolescent and adult age populations and studies including a children age group are less in number.

METHODOLOGY

Study design: A cross sectional study

Study period: April 1, 2023 to May 1, 2023

Place of study: Vani Vilas Children Hospital, BMCRI, Bengaluru

Study population: Transfusion dependent thalassemia children of age group 7 to 17 years in follow up at Vani Vilas children Hospital.

Data: The screen was self administered by the children and any clarification required by the children were addressed prior to scoring the test. A CDI containing 27 questionnaire, each question score from 0 to 2 and any score 19 or more was considered a positive screen for depression.

Statistical analysis: The collected data was analysed using SPSS software, ver.20. Continuous variables are expressed in terms of Mean, Standard deviation (SD), median, interquartile range (IQR). There are 52 participants in this study (n=52).Categorical variables are expressed in frequency (n) and percentage (%). Chi-square test was used to assess the significance between categorical variables. Independent t test was used to compare continuous variables between 2 age groups. $P < 0.05$ was considered as statistically significant.

RESULTS

52 transfusion dependent thalassemia children participated in this study. Participants were divided into two groups of 7-9 years and 10-17 years based on development. Of the 52 participants, 25 (44.2%) were of 7-9 years and 29 (55.8%) were of age group 10-17 years. There were 25 (48.1%) females and 27 (51.9%) male children in this study. A CDI scale containing 27 questionnaire was used, each question score from 0 to 2 and any score 19 or more was considered a positive screen for depression.

No children out of 23 of age group 7-9 years were found to be in depression and 15 children (51.7%) out of 29 of age group 10-17 years found to be have significant depression.

Gender distribution		
Male	25	48.1%
Female	27	51.9%
Total	52	

Age distribution (in years)				
No.	Minimum	Maximum	Mean	SD
52	7	17	10.96	3.36

Age distribution (in years)		
7-9	25	44.2%
10-17	29	55.8%
Total	52	

Depression			
	Absent	Present	Total
7-9 years	25	0	25
10-17 years	14	15	29
Total	39 (75%)	15 (28.8%)	52

DISCUSSION

Depression is the most common psychological complication in the thalassemia children[4]. Thalassemia children are more exposed to emotional higher levels of distress related to their symptoms that may affect self-esteem negatively across the life span as children, adolescents and adults[5]. In our study, depression status is assessed by CDI scale containing 27 questionnaire, each question score from 0 to 2

and any score 19 or more was considered a positive screen for depression and the scale was self administered by the children. Toret.E et al conducted a study in Turky with population of beta-thalassemia major and the control group in two state hospitals, Turkey during a period from January 2018 to May 2018 with sample size of 107 (57 were between 15-39 years) and Beck Depression Inventory scale was used. Quality of Life and Depression in Turkish Patients with beta-Thalassemia Major: A Cross-Sectional Study. Concluded beta-thalassemia majot patient have a comparatively worse QoL subscales than the normal population in Turkey. Beta-thalassemia major patient also suffered from higher level of depression[7]. Contrary to our study, The Beck Depression Inventory scale was used, as their study included adolescent and adult population rather younger age group. In our study, 28.8% (n=15) of children of adolescent age group 10-17 years found to have a higher level of depression. As the screen is self administered, it needs a further screening, monitoring and appropriate treatment by the pediatrician to these children.

CONCLUSION

The prevalence of depression among transfusion dependent thalassemia children of adolescent age group found to be high and have a significant impact on quality of life in these children. Psychological support need to be given for these children. Pediatrics should screen, monitor, early diagnose and offer treatment interventions for depression in these children throughout lifetime.

REFERENCES

1. Shafie AA, Chhabra I, Wong J, Mohammed NS, Ibrahim HM, Alias H (2020) Health-related quality of life among children with transfusion-dependent thalassemia: a cross-sectional study in Malaysia. Health Qual Life Outcomes 18:141.
2. Taher AT, Musallam KM, Cappellini MD, Weatherall DJ (2011) Optimal management of beta thalassemia intermedia. Br J Haematol 152(5):512-523.
3. Needs T, Lynch DT (2018) Beta thalassemia. In:NCBI (National Center for Biotechnology Information) Bookshelf. StatPearls Publishing LLC. October 2, 2018. Accessed Nov 21.
4. American National Institute of Mental Health [NIMH] (2020) Depression. Accessed 25 Jan.
5. Galanello R, Origa R (2010) Beta-thalassemia. Orphanet J Rare Dis 5:1.
6. Al-Hakeim HK, Najm AH, Al-Dujaili AH, Maes M. Major Depression in Children with Transfusion-Dependent Thalassemia Is Strongly Associated with the Combined Effects of Blood Transfusion Rate, Iron Overload, and Increased Pro-inflammatory Cytokines. Neurotox Res. 2020 Jun;38(1):228-241.
7. Toret E, Karadas NO, Gokce NO, Kaygusuz A, Karapinar TH, Oymak Y, Gozmen S. Quality of Life and Depression in Turkish Patients with beta-Thalassemia Major: A cross-sectional Study. Hemoglobin. 2018 Sep-Nov;42(5-6):326-329.
8. Keskek SO, Kirim S, Turhan A, Turhan FG. Depression in subjects with beta-thalassemia minor. Ann Hematol. 2013 Dec;92(12):1611-5.
9. Sarhan AL, Modallal S, Mahamid FA. Et al Depression symptoms and associated factors among thalassemia patients in the Palestinian Territories: a cross-sectional study. Middle East Curr Psychiatry 29,2 (2022).