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Importance of nutrition in sickle cell disease children

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Sickle-cell disease (SCD), is one of the most common genetic haemoglobin disorders, largely ignored in many parts of the world, including India. SCD affected children have normal weight and length at birth but after 6 months of age, their growth pattern diverges from normal. Children with SCD need 20% more calories to increase the production of RBCs. Nutritional intake differs vastly amongst various communities suffering from SCD. A study has been attempted to investigate nutritional habits and intake status of SCD children and its effect on various haematological parameters in rural areas of central India.

Materials and Method: The data (name, age, caste, sex, education, SCD history, nutrition intake, socioeconomic status) was collected with the help of a standard questionnaire. Randomly gathered total of 181 individuals were screened by using solubility test method. The study results for various parameters were statistically analyzed.

Results: The haemoglobin values of the SCD sufferers belonging to different castes were significantly low. Poor socioeconomic status had an adverse effect on the nutritional status. Nutritional intake was different in different castes. People of different caste had differences in the nutritional status. SCD children were undersized, starved, weighed less and were susceptible to infectious diseases which caused high morbidity and mortality, as compared to normal children. BMI is a good indicator of nutritional status and BMI values of SCD children were less than desired. SCD children need additional nutritional supplements, such as vitamins [folic acid, vitamin B (12), and vitamin B (6)]. It would be more useful to carry out studies that can pin-point the specific causes for inadequate nutrition

Conclusion: SCD management should be based on in-depth assessment of the health conditions of the sufferers, with adequate importance given to their haematological status, which is based on nutritional intake. The significant ($P<0.05$) differences in the haematological parameters warrant that a dedicated monitoring program needs to be initiated for effective management. Low body mass index (BMI) indicated that adequate nutritional supplement at a young age is a prerequisite. There is an acute need for more effort and resources to be directed towards research related to the nutritional intake status of SCD sufferers which can provide a clearer picture to healthcare professional for delineating therapies (preventive and prophylactic) for SCD patients vis-a-vis various infectious diseases. The monitoring of growth and nutritional status in children with SCD is an essential requirement for comprehensive care. A healthy diet will help every child grow well and avoid illness. Education for patients with sickle cell disease should focus on specific food intake which can increase the nutritional value including proteins, vitamins etc through various foods.

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