NUTRITIONAL STATUS AND ITS DETERMINANTS OF CHILDREN WITH ACUTE LYMOPHOCYTIC LEUKEMIA ATTENDING THE OUTPATIENT CLINIC, SMOUHA ALEXANDRIA UNIVERSITY CHILDREN'S HOSPITAL

Nagwa Fouad Shokeir, Hoda Mohamed Abou El Fetouh Hassab, Dalia Khamis El Deeb, Sara Hussien Abd El-Aziz Mohamed Abd El-Salam*

Department of Community Medicine, Pediatric Medicine*, Faculty of Medicine, Alexandria University, Egypt

Introduction

Acute lymphoblastic leukemia (ALL) is the most common pediatric malignancy, representing 75%–80% of acute leukemias among children. ALL children are at increased risk for malnutrition mostly due to the treatment related adverse events. This fact is often ignored during their management. Malnutrition may vacillate between weight loss and excessive weight gain. The goal of nutritional assessment in children with cancer is to assess the nutritional needs, to provide the optimal nutrition, to prevent or treat nutritional disorders and the increased morbidity and mortality that accompany them. Nutrition is a supportive care modality that can improve tolerance to chemotherapy, survival, increased quality of life, and decreased risk of infection in children undergoing anticancer therapy.

Aim of the work

Assessment of nutritional status of children with ALL attending the Pediatric Hematology Oncology Unit (PHOU), Smouha Hospital for Pediatric Medicine and Surgery, to give a basis for providing patients with nutritional intervention.

Subjects and Methods

A cross-sectional study was conducted on children with ALL attending the Pediatric Hematology Oncology Unit (PHOU), Smouha Hospital for Pediatric Medicine and Surgery. The study included 105 children. Data was collected from October 2018 till February 2019 from mothers/care givers accompanying the selected children with ALL using a specifically designed structured interview form which consisted of the following sections;

Section 1: included data about sociodemographic characteristics, medical history, dietary habits ,dietary history using the 24 hour dietary recall, physical, mental, social and functional health status.

Section 2: data collected from patients files and records.

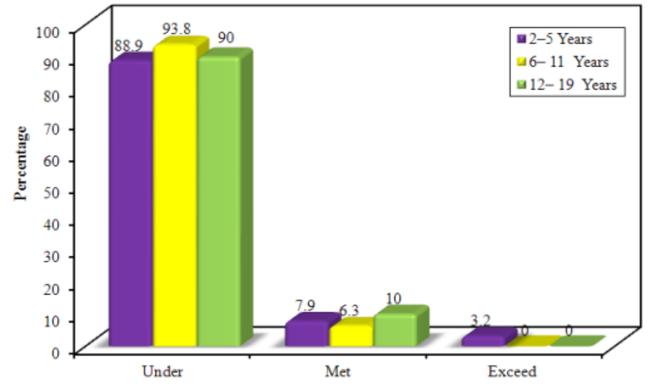
Section 3: Anthropometric measurements which are weight, height, body Mass Index, triceps skin fold thickness and mid arm circumference. The proposal gained approval from the Research Ethics Committee at the Alexandria University Faculty of Medicine. Informed consents were obtained from mothers/care givers enrolled. Privacy and confidentiality of data were ensured.

Results

less than half of the studied children (45.7%) had normal BMI, however, nearly one quarter of them (24.8%) were obese and about one fifth (21.9%) were overweight, while minority (7.6%) were underweight. Such high rate of overweight and obesity are almost attributed to the receiving of steroid by more than half of the studied children (54.3%), lack of physical activities as only about one fifth (22.2%) could walk daily. In addition to the wrong eating habit of more sweets by more than two thirds of the children (64.8%).The mean HB level of underweight children was 9.83 ± 1.69 mg/dl indicating the presence of anemia. The dietary intake of calories by the majority of studied ALL children of all age groups and both genders were below the DRI* of calories as reported by NHANES**. Also, the mean dietary intake of fat, protein and carbohydrates were lower than normative values.

*Dietary Recommendation Intake (DRI)

**National Health and Nutrition Examination Survey (NHANES)



Percentage of studied ALL children under, meeting or exceeding DRI of Calories by age group

Conclusion

- the most striking symptoms of the studied ALL children were RTI(63.8%), anorexia(59 %), sense of fullness(56.2%) and stomatitis (50%) as an end result of chemotherapy and was considered a contributing factor for the lower dietary intake and weight loss among them. These findings put the children at risk for malnutrition with its bad consequences. Therefore, nutritional assessment is recommended to be done at regular basis from the beginning of diagnosis of ALL and throughout the whole course of treatment with the establishment of nutritional support to the severely malnourished children. There is an evident need for dietary counseling for care givers to ensure healthy eating habits of ALL children to improve the outcome of oncology management.