

# Nutritional Status and Clinical Outcome in Pediatric Patients with Acute Lymphoblastic Leukemia in a Single Cancer Center in Brazil

# INTRODUCTION

Acute lymphoblastic leukemia (ALL) is the most common neoplasm in Hypothesis was formulated prior to data collection. We intended to this group is an important prognostic factor.

# OBJECTIVE

Evaluate the nutritional status of a pediatric retrospective cohort during ALL treatment and to determine its association with relapse risk and survival rate in a five-year follow-up.

There was a significant increase in body mass index (BMI) average for age during treatment, from 0.13 ± 1.19 at diagnosis to 0.72 ± 1.07 in maintenance phase (p < 0.001). There was a higher risk of relapse in DESIGN males (OR = 2.08 [95% CI 0.54-8.01]), low weight (OR = 2.65 [95% CI This is an observational retrospective study with ALL pediatric patients 0.49-14.58]), high-risk group (OR = 2.85 [95% CI 0.5-16.27]) and those treated in a single cancer center in a five-year follow-up. who had two or more admissions due febrile neutropenia (OR = 1.44

# SETTING

All data was collected during outpatient and inpatient treatment.

### PATIENTS

All ALL pediatric patients (1-18 years old) admitted in our institution January 2004-December 2009, treated according BFM protocol were included. Patients with neurological disorders, Down syndrome, endocrinopathies and under one year old were excluded. Insufficient data was also an exclusion criteria. Fifty four patients were elegible for the study.

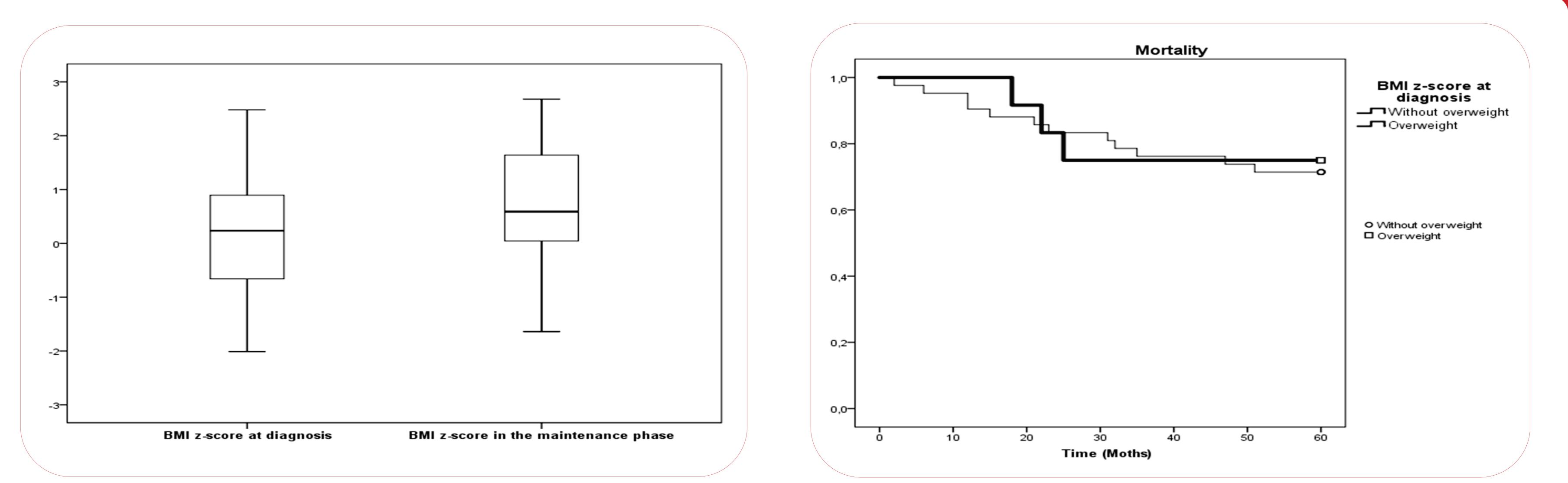
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### MAIN OUTCOME MEASURES

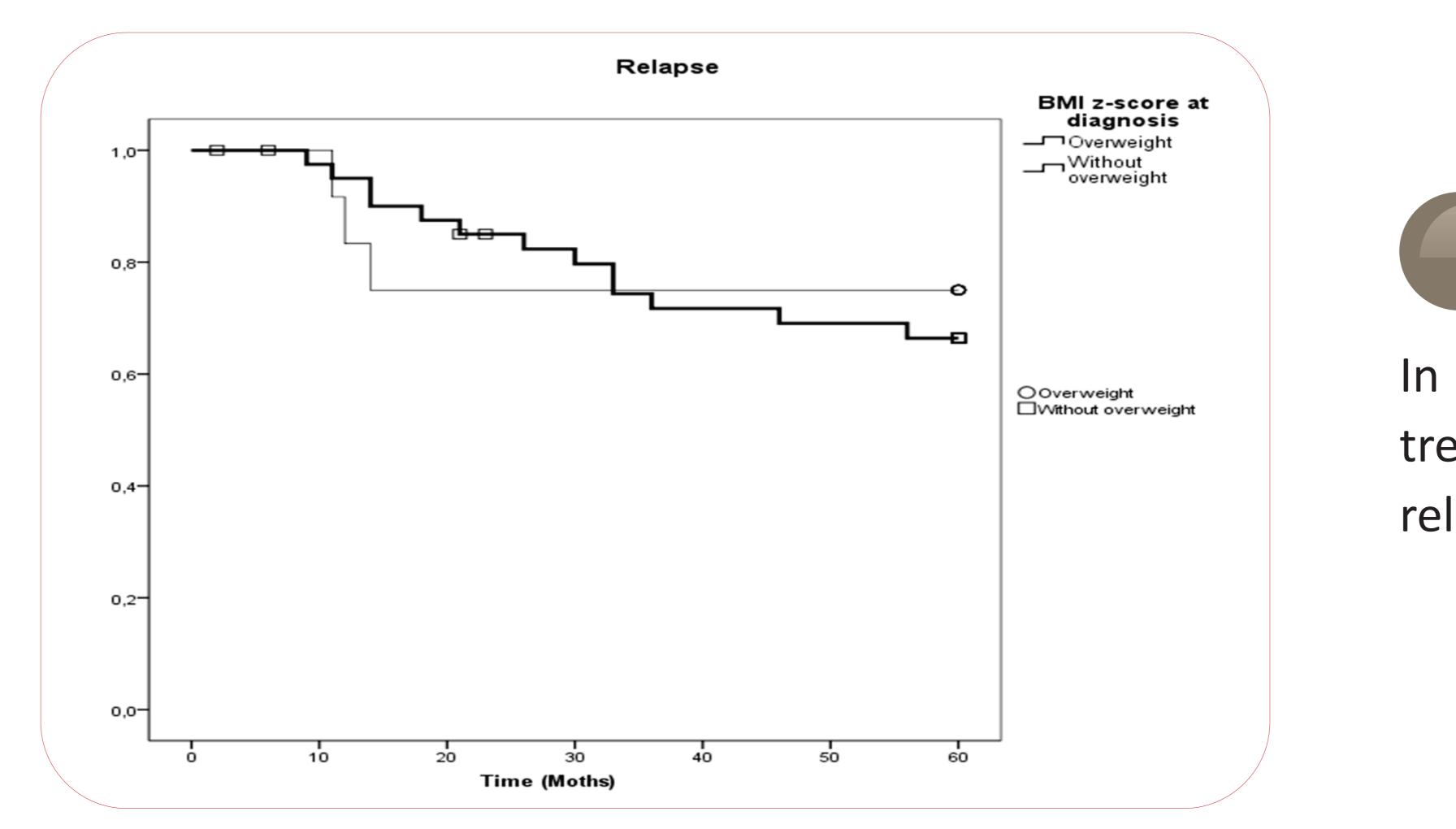
- pediatric population and studies have shown that nutritional status in evaluate whether ALL overweight and/or obese pediatric patients at diagnosis would have more chance of relapse than eutrophic or malnourished patients.

### RESULTS

- [95% CI 0.38-5.48]). However, no statistical association was found. After 60 months, overall survival was 71.4% for non-overweight group and 75% for overweight group (p = 0.81). There were no difference in survival curves between patients with or without weight
- excess at diagnosis.



**Figure 1 -** Distribution of the z-score for BMI at diagnosis and maintenance phase onset (p< 0.0001; paired T-test)



**Figure 2 -** Kaplan-Meier disease free survival curve of by BMI z-score (overweight and non-overweight) at diagnosis. Log-rank test (Mantel–Cox) Chi<sup>2</sup> =0.136, p=0.71



**Figure 3 -** Kaplan-Meier survival curve by BMI z-score (overweight and non-overweight) at diagnosis. Log rank test (Mantel—Cox) Chi2 =0.053, p=0.81

# CONCLUSIONS

In this study, a significant weight gain was observed during treatment, but no association with nutritional status at diagnosis and relapse risk or survival rate was found.

> Projeto Gráfico: Setor de Edição e Informação Técnico-Científica / INCA (INCA SUS