

# Determination of the frequency of growth retardation in pediatric out patients with growth retardation complaints

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## Abstract

**Aim:** Having a healthy child is the most basic concern for parents, and their children being ill or showing signs of illness therefore causes them anxiety. Parents cannot generally be objective in assessing the growth of their own children. Children's growth must be evaluated solely with appropriate measurements and assessment criteria. The purpose of this study is to investigate the growth of patients with suspected retarded growth presenting to the children's health and diseases clinic.

**Material and Methods:** One hundred patients presenting with retarded growth to the Adiyaman University Training and Research Hospital children's health and diseases clinic were included in this study. Patients were evaluated for retarded growth through measurement of weight, height and head circumference.

**Results:** One hundred patients, 49 boys (49%) and 51 girls (51%) presenting with retarded growth were enrolled in the study. Patients' mean age was  $47.62 \pm 43.1$  (3-192) months. The mean weight was  $14.51 \pm 7.9$  (4.5-46.9) kg and mean height was  $95.61 \pm 23.14$  (57-164) cm. Mean head circumference was  $43.97 \pm 2.6$  (37-49) cm. In our observed population, the following measurements fell below the third percentile: Weight: 4 patients (4%); Weight and Height: 12 patients (12%); and Weight, Height and Head Circumference: 4 Patients (4%).

**Conclusion:** An increasing number of concerned parents does not necessarily indicate any actual problem, or any abnormally high incidence of actual retarded growth and development than that might be expected from the literature. Well child visits must be performed and parents provided sufficient information on normal development.

**Keywords:** Child; Growth; Retardation.

## INTRODUCTION

Having a healthy child is the most basic concern for parents, and their children being ill or showing signs of illness therefore causes them anxiety. Having a healthy child, and parental interaction with that child, is one of the most important life perceptions for parents. Parents are delighted if their children have no health problems and exhibit similar characteristics to their peers during the growth process. A healthy child can be regarded as a personal success on the part of its mother and/or father, and an unhealthy child as personal failure (1). Parents therefore compare their child with others in terms of weight and height and evaluate their own child's growth subjectively. However, the evaluation of children's growth should be performed only with appropriate measurements and assessment criteria (2).

The monitoring of children's growth in Turkey is primarily performed by family physicians, and healthy child clinics are also found in some university hospitals (3).

The purpose of this study is to investigate the growth of

patients thought to have retarded growth and presenting to the children's health and diseases clinic for that reason.

## MATERIALS and METHODS

One hundred patients presenting with retarded growth to the Adiyaman University Training and Research Hospital children's health and diseases clinic between 01.12.2016 and 30.12.2016 were included in the study. Approval was granted by the Adiyaman University Biomedical Research Ethical Committee (No. 2016/7-7). Written consent was obtained from all families included.

Anthropometric measurements of the patients in the study were performed by the same health worker. Patients under 2 years in age were weighed and measured lying down, and those aged over 2 were weighed and measured in a standing position. (Baskul, Istanbul, Turkey) and Scaleman (FS038-15, Tainan, Taiwan) devices were used to measure weight and height. Head circumference was measured only in patients aged under 36 months, using a standard tape measure.

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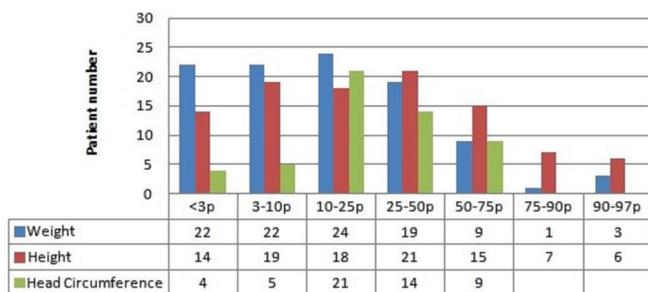
Reference values drawn up for Turkish children by Neyzi et al. (3) were used to assess growth in patients who had been weighed and measured. Statistical analysis of the data obtained was performed on SPSS (Statistical Package for the Social Sciences) 21 (IBM, Armonk, NY, USA) software. Quantitative data were expressed as mean plus standard deviation and descriptive data as frequency and percentage.

Patients not presenting to our clinic due to retarded growth or presenting with retarded growth but also found to have any chronic disease were excluded.

## RESULTS

One hundred patients, 49 boys (49%) and 51 girls (51%) presenting with retarded growth during the study period were enrolled. The mean age of the patients was 47.62 ± 43.1 (3-192) months. When patients were divided into age groups, 53 (53%) were aged ≤36 months, 15 (15%) 37-60 months and the remaining 32 (32%) ≥60 months. Patients' mean weight was 14.51 ± 7.9 (4.5-46.9) kg, and mean height was 95.61 ± 23.14 (57-164) cm. Fifty-three patients were aged less than 36 months, and mean head circumference in these subjects was 43.97 ± 2.6 (37-49) cm. When the weight, height and head circumference percentiles of the patients were evaluated, weight only was lower than the 3rd percentile in 4 patients (4%), weight and height together in 12 (14%), and weight, height and head circumference together in 4 (4%) (Figure 1).

**Percentile distribution of patients**



**Figure 1.** Patients' percentile distributions

## DISCUSSION

The birth of a baby in a family is a turning point in the life of the parents. The birth of a baby is a turning point for parents; they must now rearrange their lives and change habits. Children are regarded as the joint production of the mother and father, a bond binding the parents together, the continuation of the family line, an answer to parental longing, an insurance policy for their parents' future, a gift from the mother and as love (4). The idea that a child so highly valued may be ill causes parents great anxiety. Several studies have reported that anxiety levels rise in families with a child with any disease, that parental anxiety levels rise considerably in minor, same-day surgical procedures, and that anxiety among family members increases still further if the patient is admitted to

intensive care or has a life-threatening condition (1,5,6,7). It is therefore understandable that with such high anxiety levels, parents may think their children have retarded growth and development and take them to clinics for that reason.

Retarded growth is a condition that directly affects morbidity and mortality in childhood (8,9). According to World Health Organization data, pneumonia, diarrhea, malaria, measles and AIDs represent the cause of death in more than half of children under 5, and inadequate nutrition is present in one in three of these patients (10). Weight, height and head circumference were normal compared to peer groups in 78 (78%) of the 100 patients presenting to our children's health and diseases clinic due to retarded growth. Review of the literature revealed no previous studies investigating whether retarded growth is genuinely present in patients presenting for that reason.

Retarded growth must be determined on the basis of patient weight and height, by family physicians at routine check-ups or in patients presenting to children's health and diseases clinics for any reason. Identification of retarded growth and insufficient nutrition, and subsequently informing the family, is the responsibility of the physician. In a retrospective evaluation of 739 patients, Celik et al. (11) identified 39.3% of patients as normal, slow growth in 35.3% and retarded growth in 25.4%. Our findings parallel those of Celik et al. (11). Our study indicates that the fact that families present due to retarded growth does not necessarily mean that we will encounter higher retarded growth levels than might be expected from the literature. Öztürk et al. determined nutritional deficiency in 31.8% of children presenting to hospital at any time (12). The incidence of malnutrition in international studies of children presenting to hospital is 20.4% in Brazil (452 surgical patients were enrolled), 18.7% in Australia (203 surgical patients enrolled), 27% in Colombia (174 surgical and non-surgical patients enrolled) and 4.5% in New Zealand (157 non-surgical patients enrolled) (13-17). Our study results are again compatible with the incidence of malnutrition in the existing literature.

The main limitation of this study is that it examines the incidence of retarded growth in a specific patient group, which might not be representative of a larger population. Additionally, further research measuring parental anxiety would be valuable, along with further insight into the details and circumstances leading to hospital presentation.

## CONCLUSION

In our study, 78% of patients presenting with suspected retarded growth were found to not be afflicted. This suggests that families may not be sufficiently informed, leading to suboptimal results including unnecessary hospital presentations. To avoid these undesirable outcomes, Well Child Visits with a family physician are essential, at which time any positively identified case of retarded growth must be referred to a hospital.

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