

ABSTRACT

Background: To find out the profile of bone age in pediatric patients at Airlangga University Hospital and determine the relationship between bone age with the Tanner Whitehouse II (TW2-20) method and chronological age.

Method: Bone age measurements were performed on 32 patients (with instruments in the form of secondary data medical records of X-Ray) of children aged 2 months to 18 at Airlangga University Hospital. Measurements were made using the Tanner Whitehouse II (TW2-20) method. The grouping has been done based on a certain age range to find out at what age range there is the most significant difference in bone age and chronological age. To determine the difference between bone age and chronological age a statistical test was performed with the paired sample T-test.

Results: The most significant differences in bone age and chronological age were found in the 9—11,99 years age group in male patients and 12-14,99 years in female patients. Based on the paired sample T-test, it was found that the value of $p < 0,001$ means that it can be concluded that there is a significant difference between chronological age and bone age.

Conclusion: It was found that bone age slowed in the majority of pediatric patients who performed a plain X-ray examination at Airlangga University Hospital. The results of bone age calculation using the TW2-20 method have a significant difference with chronological age. Thus, this method is not applicable for the observed samples.

Keyword: bone age, children, tanner whitehouse