

**OP\_P004****DIAGNOSTIC ACCURACY OF ARM SPAN-TO-HEIGHT RATIO IN DIFFERENTIATING PHYSIOLOGICAL AND PATHOLOGICAL SHORT STATURE**

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**INTRODUCTION**

Physiological causes account for the most common etiology of short stature (SS). However, it may be the first manifestation of an underlying pathological condition. Thus, careful evaluation and identification of the underlying etiologies is crucial for early prevention and treatment. In order not to miss significant pathological causes or overtreatment of physiological causes of SS, this study aimed to describe the proportion of short stature (SS) based on its etiology in Paediatrics Clinic Hospital Universiti Sains Malaysia and determine the accuracy of arm span-to-height (AS/H) ratio in differentiating physiological and pathological SS.

**METHODOLOGY**

A cross-sectional retrospective study was conducted and a total of 106 patients were analyzed for their demographics, clinical characteristics, aetiology, bone age and auxological data. AS/H ratio was evaluated for its accuracy using the receiver operating characteristic (ROC) curve and its sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were calculated.

**RESULT**

In decreasing order of frequency, the causes of SS were endocrine disorders (28.3%), physiological (22.6%), syndromes (18.9%), chronic systemic illness (13.2%), low birth weight (10.4%) and disproportionate group (6.6%). The sensitivity and specificity of the AS/H ratio as an auxological tool to differentiate physiological from pathological causes of SS were 93% and 40%, respectively, with an AUC of 0.65 (p-value 0.05), at 95%CI (0.54, 0.77).

**CONCLUSION**

Endocrine disorders accounted for the most common cause of SS among 106 patients referred to our institution. The AS/H ratio has 93% sensitivity and 40% specificity in differentiating physiological from pathological causes of SS.