



AP006

Paediatric Cardiology & Congenital Heart Disease • Poster Presentation

RELIABILITY OF EJECTION FRACTION (EF) MEASUREMENT METHODS IN DIFFERENT CLINICAL CONTEXTS AMONG PATIENTS AT CARDIAC CENTRE, BABCOCK UNIVERSITY TEACHING HOSPITAL, ILISHAN-REMO, OGUN STATE.

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Background: Left ventricular ejection fraction (LVEF) is an important echocardiographic parameter used to assess left ventricular systolic function and guide the diagnosis, prognosis, and management of cardiovascular diseases. This study compared the reliability of the Teichholz (M-mode), Simpson's biplane, and Global Longitudinal Strain (GLS) methods for estimating LVEF across different clinical contexts.

Methodology: This retrospective cross-sectional study analyzed echocardiographic records of 144 adults who underwent transthoracic echocardiography between January and March 2026. Demographic data, clinical indications, and EF values obtained using the Teichholz, Simpson's biplane, and GLS methods were extracted and compared. The influence of age and sex on EF measurements was also assessed.

Results: The commonest indications for echocardiography were hypertensive heart disease (23%), pre-operative evaluation (18.6%), and routine assessment (8.3%). Mean EF was $55.35 \pm 11.30\%$ with Teichholz, $53.22 \pm 10.70\%$ with Simpson's biplane, and $51.45 \pm 10.90\%$ with GLS. EF differed significantly among the methods ($p < 0.001$), with Teichholz producing the highest values and GLS the lowest. Age and sex had no significant influence on EF measurements.

Conclusion: Significant variability exists among Teichholz, Simpson's biplane, and GLS-derived EF measurements. Simpson's biplane and GLS provided more consistent estimates of left ventricular systolic function than the Teichholz method.

Keywords: Echocardiography, Ejection fraction, Teichholz method, Simpson's biplane method, Global longitudinal strain.