

ADULT ECHOCARDIOGRAPHIC ASSESSMENT BY OBSTETRICIANS:

A REPRODUCIBILITY STUDY



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Objective

This study aims to evaluate the concordance between echocardiographic measurements of key cardiovascular indices obtained by one maternal-fetal medicine (MFM) specialist with extensive experience in maternal transthoracic echocardiography (TTE), one MFM specialist without prior experience in maternal TTE and one Obstetrics and Gynecology (ObGyn) trainee following theoretical and practical training.

Methods

A two-hour theoretical course and five hours of hands-on training were provided to an MFM senior specialist and a third-year ObGyn trainee, both without prior experience in TTE. Twenty healthy adult volunteers were prospectively recruited to undergo three TTE examinations: one performed by the trained MFM specialist, one by the ObGyn trainee, and one by an MFM senior specialist with extensive TTE experience. The following variables were recorded by each operator: left ventricular mass (LVM), ejection fraction (EF), left ventricular outflow tract (LVOT) diameter, LVOT velocity-time integral (VTI), left atrial (LA) area, E/A and E/e'. **Statistical analysis:** The intraclass correlation coefficient (ICC), type 2, was calculated for each variable and interpreted as poor (<0.40), fair (0.40–0.59), good (0.60–0.74), or excellent (≥ 0.75).

Results

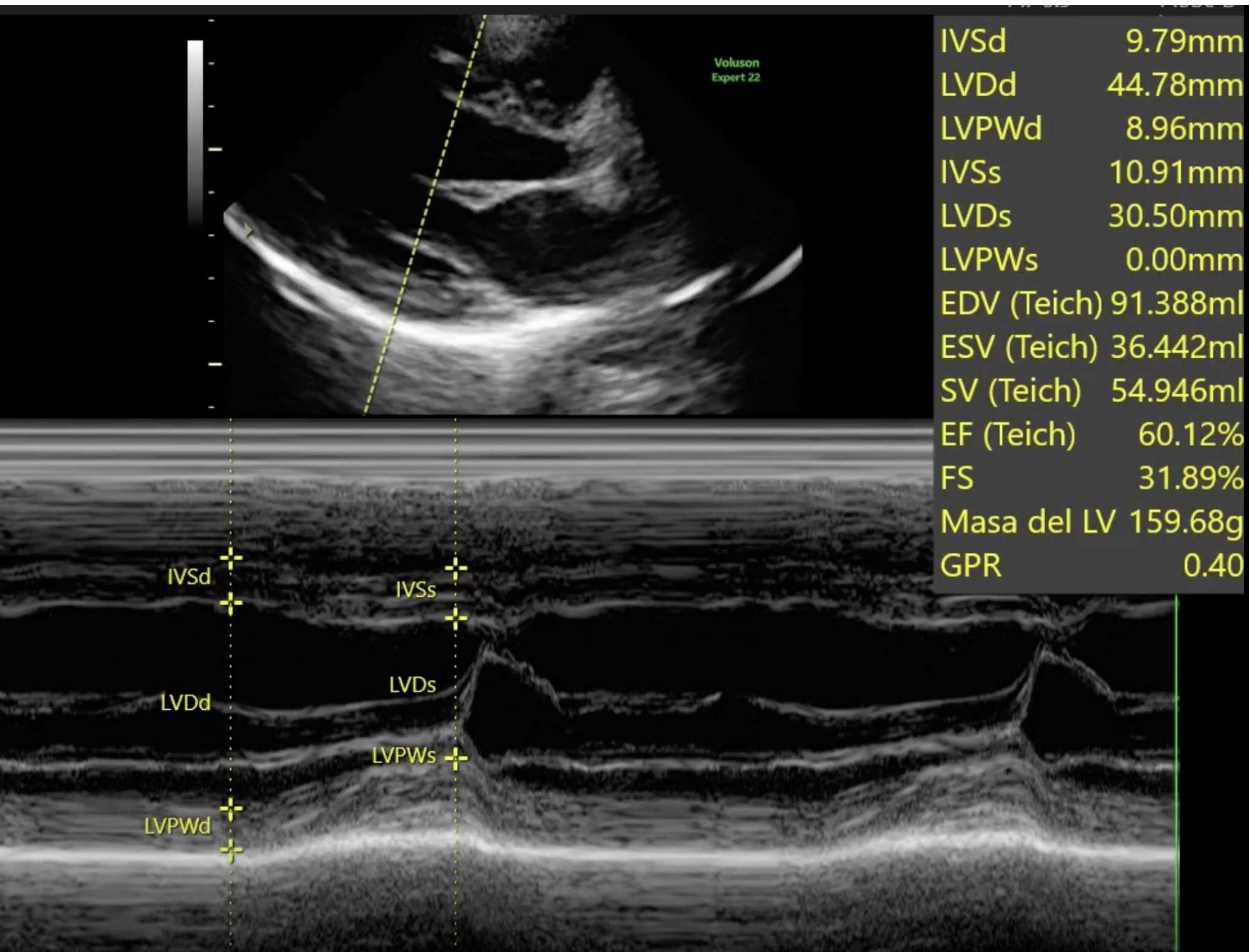
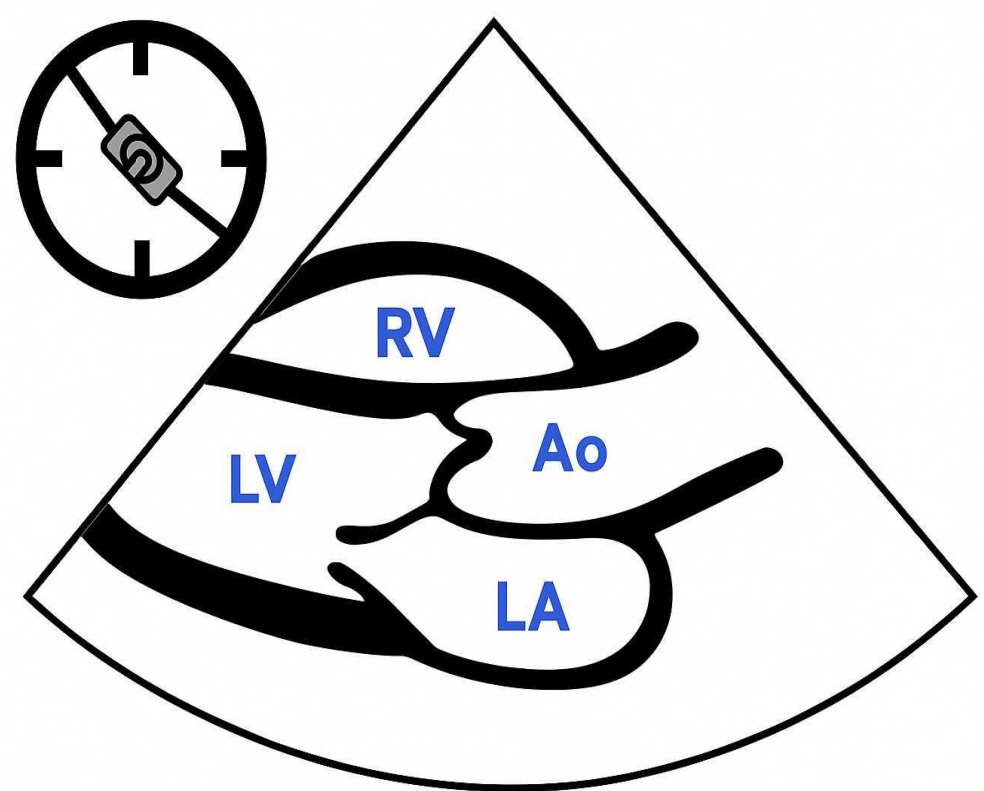
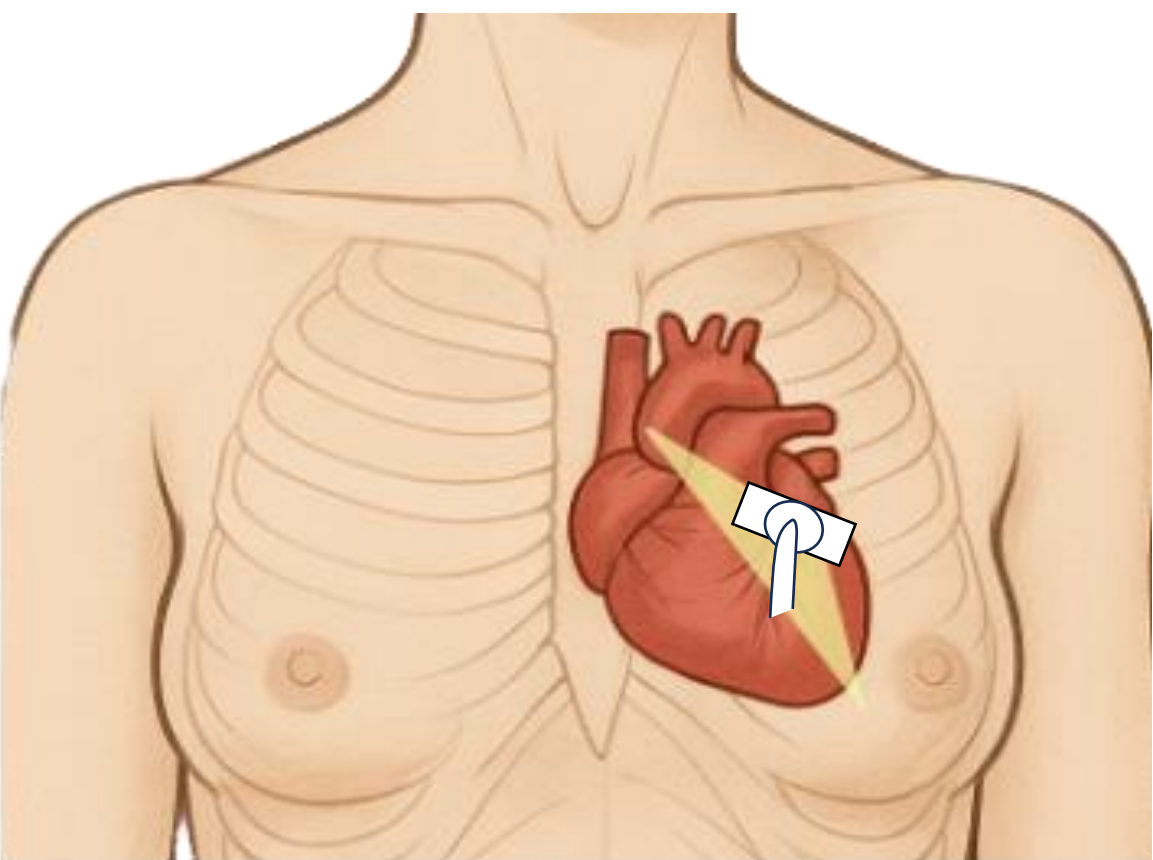
The ICC for each variable is presented in Table 1. There was good agreement for LVM, LVOT diameter, LVOT VTI, LA area and E/e' ratio, but poor for E/A ratio and EF.

Variable	ICC
LV Mass	0.77 (0.59-0.89)
EF Teicholz	0.41 (0.14-0.67)
LVOT Diameter	0.62 (0.38-0.81)
LVOT VTI	0.69 (0.47-0.85)
E/A	0.37 (0.10-0.64)
E/e	0.63 (0.39-0.81)
LA area	0.61 (0.31-0.81)

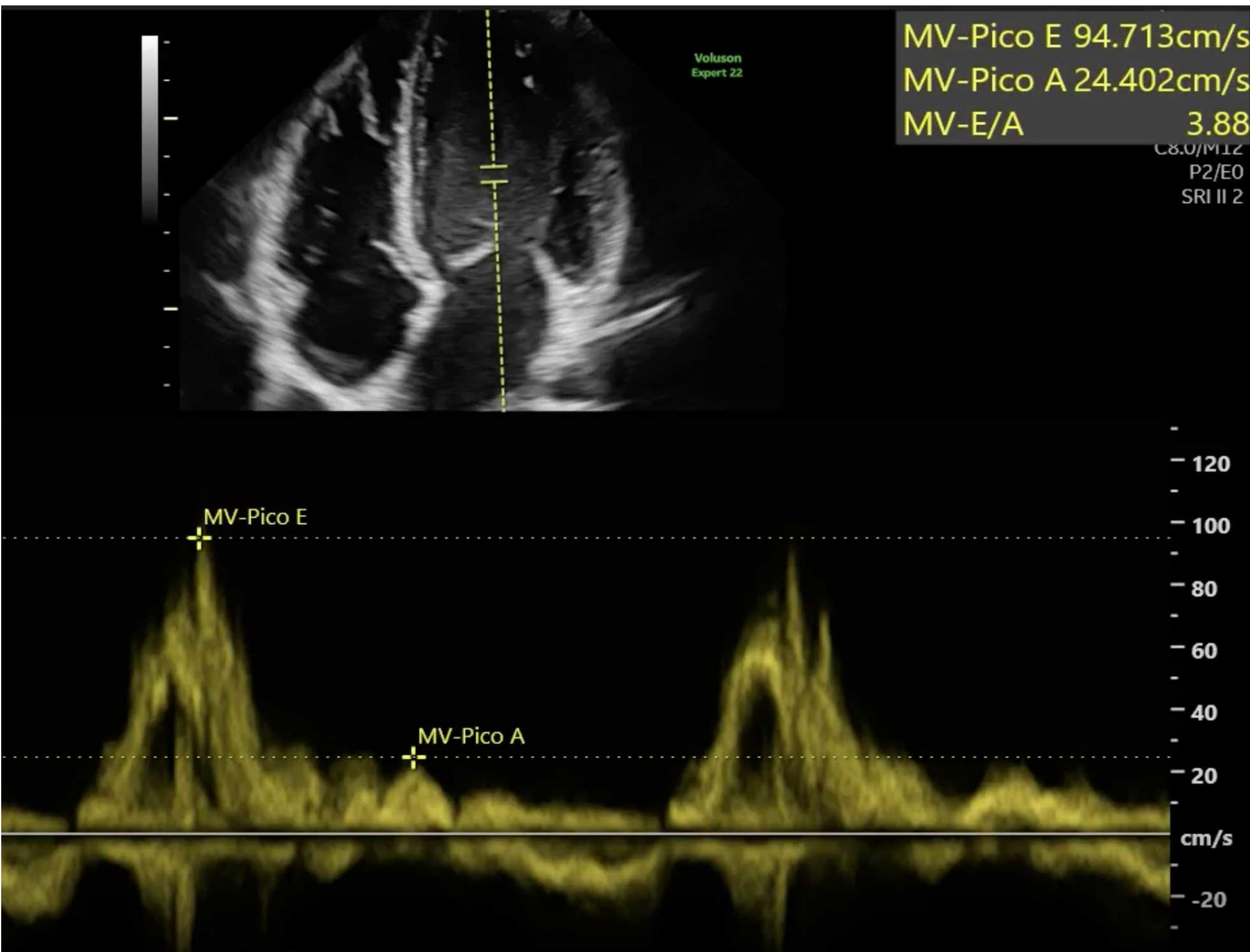
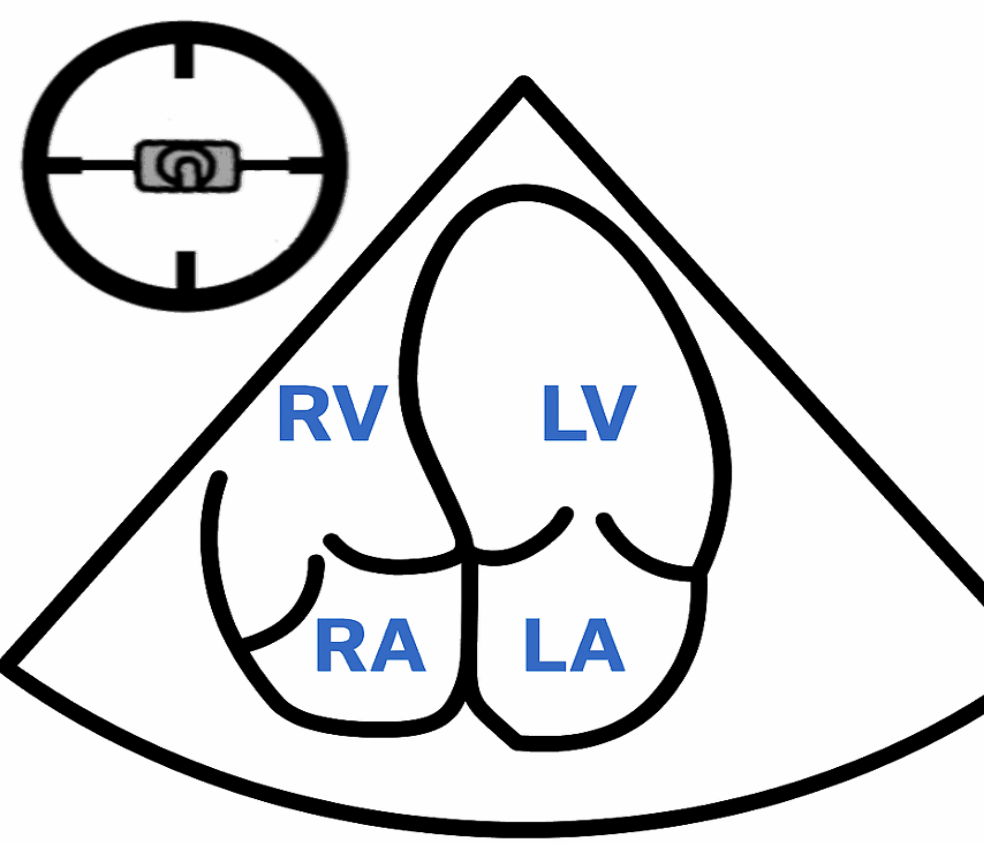
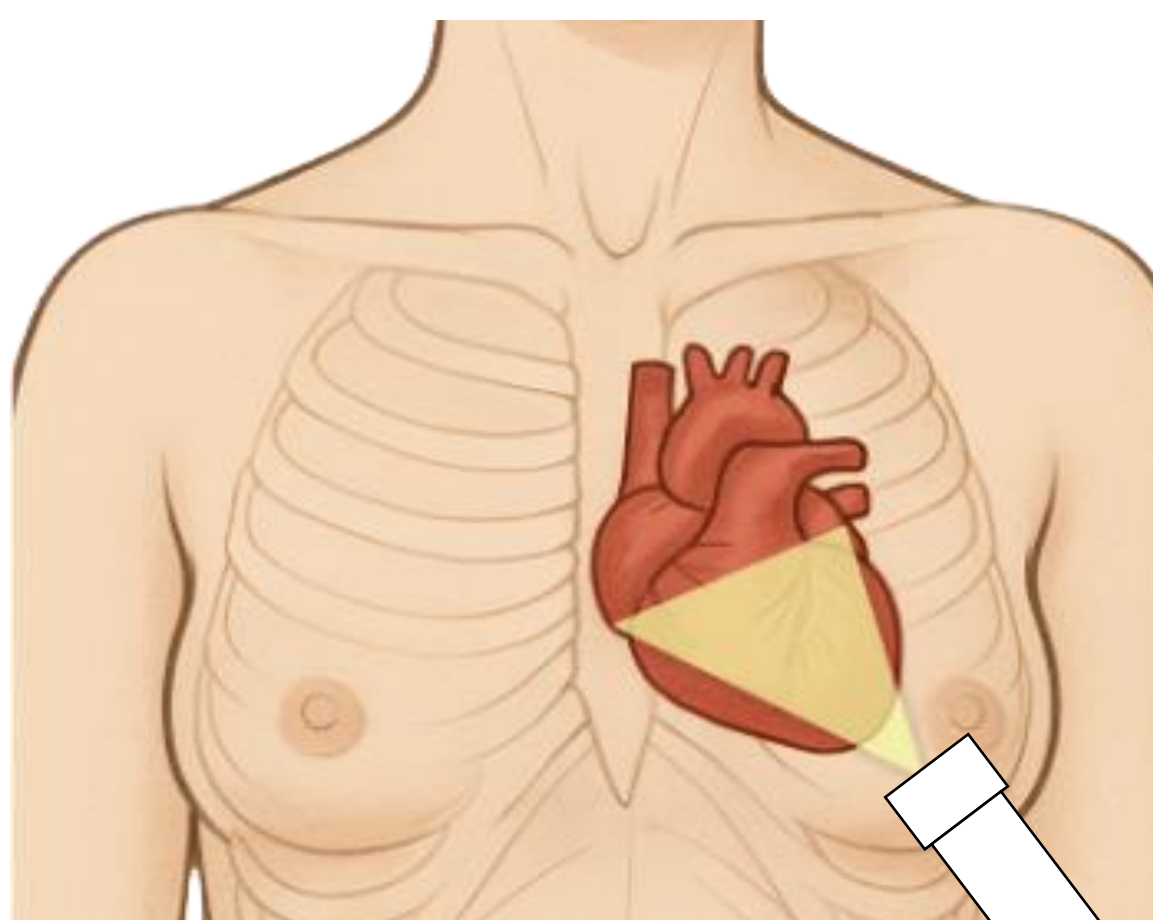
Table 1. Intraclass correlation coefficient (ICC) for each variable.

CONCLUSIONS

After a brief learning intervention, a maternal-fetal medicine specialist and a trainee in Obstetrics were able to adequately measure echocardiographic indices, with positive correlations with the results of an experienced sonographer



PARASTERNAL LONG-AXIS VIEW (PLAX)



APICAL FOUR-CHAMBER VIEW (A4C)