







of Stavanger Introduction of strap-on automatic Doppler (Moyo) improves

Fetal Heart Rate Monitoring (FHRM) practices in a Resource Limited Setting in Tanzania

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Background

- About 2.7 million neonatal deaths and 2.6 million stillbirths occur annually - the majority in resource-limited settings
- Birth asphyxia accounts for a third of the neonatal deaths.
- FHRM is crucial for early detection of abnormal FHR and thereby timely intervention

Objectives

 We explored practices of FHRM and newborn outcomes before and after introduction of strap-on automatic Doppler (Moyo, Laerdal Global Health)



MOYO

- With 9-crystal sensor instead of 1-crystal
- Good FHR detection with 2-5 seconds (Pinard 1-3 minutes)
- Detection area increased to 15 cm radius
- Using dry electrodes, maternal HR can be compared with FHR

Methods

- A pre/post observational descriptive study among low risk pregnancies at a district urban hospital with low midwives/ patient ratio from March to December 2016 was conducted
- In the first 3 months Fetoscopes (Pinard) were used intermittently (n=1640) and subsequent 5 months Moyo were used for continuously (n=2442) FHRM.
- Trained nurses observed deliveries and recorded data
- Descriptive statistics, chi-square, and none parametric tests were calculated
- Adjusted Odds Ratio comparing comparing outcomes before and after Moyo were calculated

Results

Table 1: FHRM practices and outcomes before and after introduction of strap-on automatic Doppler (Moyo) at Temeke Hospital

	Values	AOR Before vs	95% CI		p-value
		After Moyo			
Documentation/	Assessment/	45.70	33.906	61.623	<0.001
Assessment	Documentation				
FHRM rate (min)	<30	1			
	31-60	0.870	0.561	1.385	0.558
	61-120	0.3378	0.2178	0.5238	<0.001
	>120	0.039	0.0255	0.0620	<0.001
FHR during labor	Abnormal	8.146	4.331	15.321	
Mode of delivery	Normal (SVD)	1	1.656	3.445	
	Caesarean	2.389	1.656	3.445	<0.001
	Section				
	Vacuum	2.983	2.983	2.012	4.403
Birth outcomes	Normal	1	2.021	4.405	
	Admitted	1.708	1.182	2.468	0.004
	Stillbirth	1.810	0.555	5.899	0.325
Early Neonatal	Normal	1			
outcomes					
	Still admitted	2.103	1.316	3.361	0.002
	Deaths	0.983	0299	3.231	0.978
Apgar score	Normal	1			
	Low	1.572	0.947	2.624	
Need for	Yes	0.626	0.521	0.753	0.001
resuscitation					
Stimulation	Yes	0.861	0.706	1.005	0.140
Suction	Yes	0.995	0.814	1.215	0.960
Need BMV	Yes	2.240	1.545	3.247	<0.001

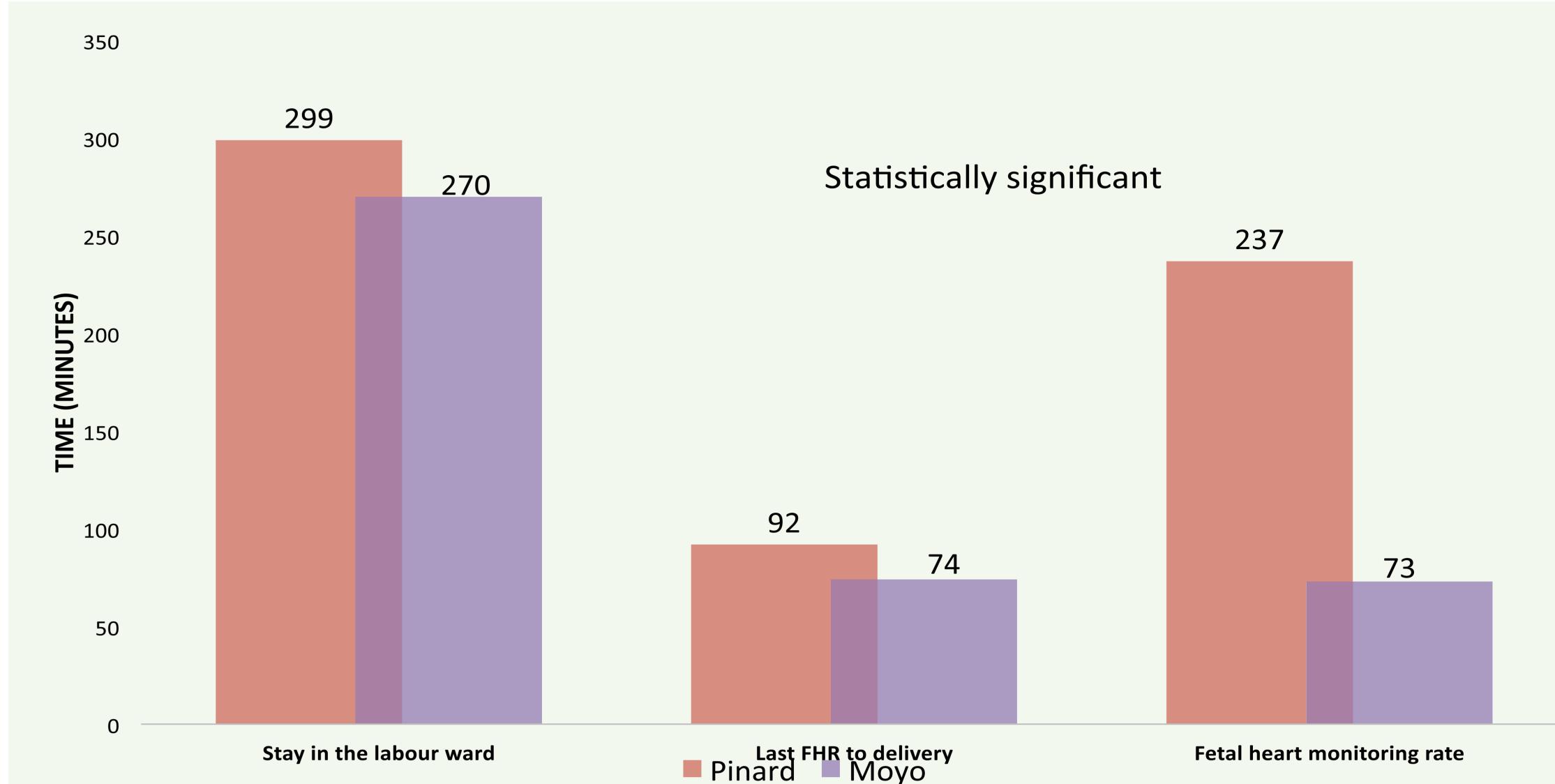


Figure 1: Comparison of midwifery practices before and after introduction of Moyo at Temeke Hospital



Conclusion

- The use of continuous Moyo improved proper midwifery practices as recommended by international guidelines in LIC
- Its use coupled with other interventions may contribute to reduction in adverse perinatal outcomes

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