

Group B Streptococcal colonization among pregnant women in Siaya County, Kenya

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Background

- Group B *streptococcus* (GBS) important cause of neonatal illness and death in Sub-Saharan Africa
- Maternal colonization data critical for informing GBS models
 - Used to project burden of GBS-associated preterm deliveries, still births, and infant morbidity
- Data on prevalence and serotype distribution of GBS carriage among pregnant women in sub-Saharan Africa are limited

Methods

- We assessed GBS carriage among pregnant women enrolled in ongoing cohort study in Siaya County, rural western Kenya
 - 2 sites: Siaya County Referral Hospital and Bondo sub-County Hospital
 - Pregnant women enrolled at <31 weeks gestation
 - Demographic, clinical and epidemiologic data collected at enrollment and throughout pregnancy
- Samples for GBS collected September 2018- October 2019
- Two vaginal-rectal swabs collected simultaneously at 35 weeks gestation (or at delivery, if before 35 weeks)
- One swab in Carrot Broth™ (CB)
 - Tested at local KEMRI laboratory, using chromogenic media and standard microbiologic procedures
- One swab in skim milk, tryptone, glucose, and glycerin (STGG)
 - Immediately frozen at -80°C; transported to CDC Streptococcal Laboratory in Atlanta
 - Cultured using Lim broth enriched with rabbit serum
- Isolates serotyped using multiplex PCR

Results

Table 1: Characteristics of pregnant women with GBS testing (N=704)

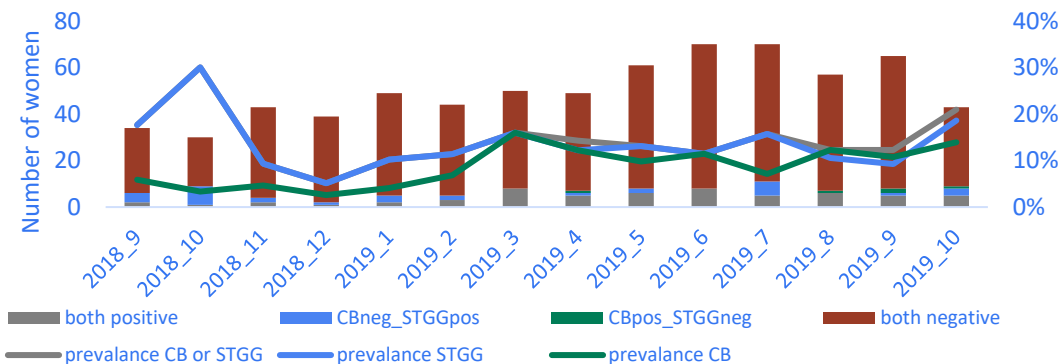
Characteristic	n (%)
Site: Bondo	362 (51.4)
Siaya	342 (48.6)
Median (IQR) age in years	25 (21, 30)
Median (IQR) gestational age at sample collection in weeks	35 (34, 36)
Median (IQR) gestational age at delivery in weeks	39 (38, 40)
Primigravida	117 (16.6)
HIV-infected	126 (17.9)

Table 2: GBS culture results

	STGG positive	STGG negative	Total
CB positive	59	5	38
CB negative	33	607	666
Total	92	612	704

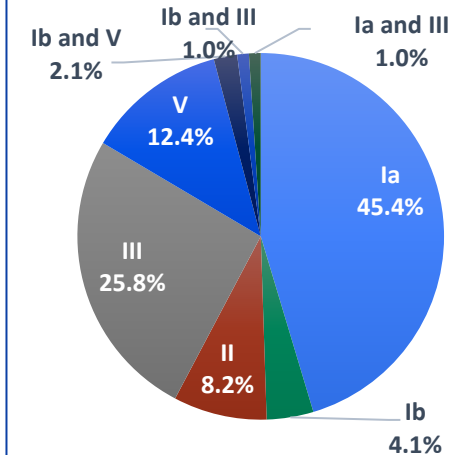
- 97 (13.8%) had GBS detected**
 - 59 (8.4%) on both swabs
 - 33 (4.7%) STGG swab only
 - 5 (0.7%) CB swab only

Figure 1: GBS colonization prevalence over time (N=704 women)



Results (cont.)

Figure 2: serotype distribution among GBS-colonized women (n=97)



Conclusion

- Maternal GBS colonization (13.8%) slightly lower than regional estimates (~18%)
- Serotype distribution similar to other data from East Africa
- Maternal GBS vaccines under development would cover predominant colonizing serotypes among pregnant women in western Kenya