Prevalence and risk factors of group B streptococcus colonization in intrapartum women: A cross-sectional study

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Objective

To evaluate the prevalence and risk factors of group B streptococcus (GBS) colonization in intrapartum women.

Methods

A cross-sectional study was conducted at a Thai university hospital between November 2016 and March 2017. Inclusion criteria was all pregnant women from 28 weeks of gestation who were admitted to the labor room for delivery. Rectovaginal specimens were collected from each woman and processed for identification of GBS by the protocol recommended by the Centers for Disease Control and Prevention. Demographic data, patient characteristics and pregnancy outcomes were collected. Univariate and multiple logistic regression analyses were conducted to evaluate factors associated with GBS colonization. Statistical significance was set at $P<0.05$.

Results

Fifty-seven of 505 pregnant women (11.3%) were found to have GBS colonization. Teenage pregnancy (odds ratio [OR] 3.83, 95% confidence interval [CI] 1.13-13.02, $P<0.05$), multi-parity (OR 3.59, 95% CI 1.69-7.60, $P<0.01$), and non-Buddhist religions (OR 1.87, 95% CI 1.01-3.48, $P<0.05$) were significantly associated with GBS colonization. Intrapartum risk factors were not associated with the GBS colonization.

Conclusion

The prevalence of GBS colonization among pregnant women at the target hospital was 11.3%. Teenage pregnancy, multi-parity, and non-Buddhist religions were significant risk factors for GBS colonization.

Table 1. Characteristics of the participants.

Age, y (mean ± SD)	30.1 ± 5.5
Gestational age at specimen collection, (median [IQR])	38 weeks 5 days (2 weeks)

Parity
    0
    1
    ≥2
	
	310 (61.4)
	135 (26.7)
	60 (11.9)

Religion
    Buddhism
    Islam
    Other
	
	389 (77.0)
	114 (22.6)
	2 (0.4)

History of spontaneous abortion	87 (17.2)

Clinical presentation
    Labor pain
    Mucous bloody show
    Rupture of membranes
	
	241 (47.7)
	72 (14.3)
	93 (18.4)

Presence of intrapartum risk factor at time of specimen collection
    Gestational age <37 weeks
    Rupture of membranes >18 hours
    Body temperature >38°C
	
	89 (17.6)
	6 (1.2)
	1 (0.002)

Values given as mean±SD or number (percentage).	

Table 2. Univariate analysis of risk factors for GBS colonization.

Risk factor	GBS (n=57)	Non-GBS (n=448)	*P value*
Teenage pregnancy	5 (8.8)	14 (3.1)	<0.05
Multi-parity	15 (26.3)	45 (10.0)	<0.01
Non-Buddhist	22 (38.6)	94 (21.0)	<0.01
Education < university	23 (40.4)	136 (30.4)	0.13
Rupture of membranes ≥18 hr	0 (0.0)	6 (1.3)	0.49
GA at collection <37 weeks	10 (17.5)	79 (17.6)	0.99
Intrapartum BT ≥38°C	1 (1.8)	0 (0.0)	0.11
Values are given a number (percentage). Abbreviations: GBS, group B *streptococcus*; GA, gestational age; BT, body temperature.			