

cm dilated (15.49% vs. 3.50%, aOR 4.95 [1.62-15.16]). There was no statistical difference between SSI and endometritis between the two cervical dilation groups (Table 1).

CONCLUSION: While there is no difference between infection rates between the two groups, women with an advanced cervical dilation at time of cesarean delivery have a statistically increased risk of blood transfusions compared to women at less cervical dilation. We postulate this increase in blood transfusion may be related to a thinner lower uterine segment and increased rates of uterine extensions in those with more advanced cervical dilation.

Table 1: Comparison of transfusion, SSI, and endometritis with different cervical dilation measurements

Measure	Dilation		P value	aOR (95%CI)
	6-7 (N=143)	8-9 (N=71)		
	n (%)			
Transfusion	5 (3.50)	11 (15.49)	<.01	4.95 (1.62, 15.16)
SSI	7 (4.90)	3 (4.23)	>.99	1.02 (0.25, 4.22)
Endometritis	3 (2.10)	3 (4.23)	.40	2.31 (0.43, 12.31)

363 The latest and greatest vs. those fell out-of-favor in Ob/Gyn: A topic modeling approach

Roni Zemet¹, Yiftach Barash¹, Eyal Klang¹, Rakefet Yoeli-Ulman¹, Shali Mazaki-Tovi²

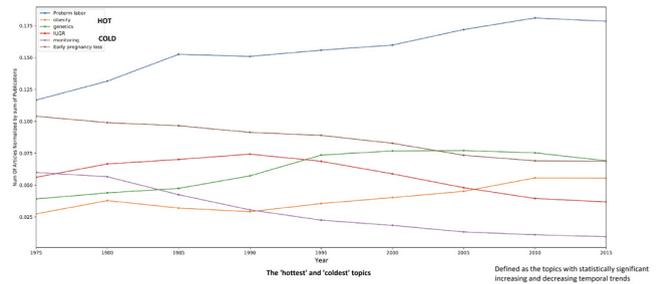
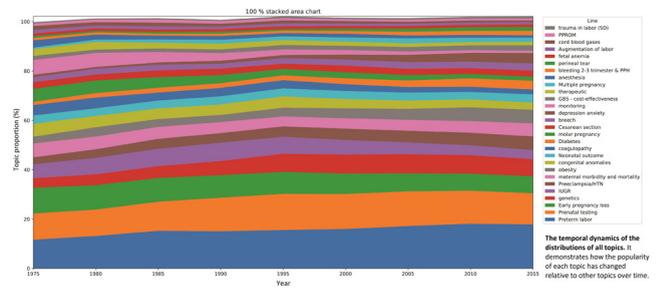
¹Sheba Medical Center, Ramat-Gan, Israel, ²Sheba Medical Center, Tel-Hashomer, Ramat-Gan, Israel

OBJECTIVE: The Ob/Gyn discipline has a vast published literature world-wide. It is labor-intensive and time consuming to extract information from continuously growing large dataset. Text mining-using a topic modeling approach, applied techniques from machine learning and computational statistics to find important patterns and trends in large text datasets. This study aims to discover major research topics and trends in obstetrics literature.

STUDY DESIGN: The entire Medline/PubMed database was used as article source. We analyzed the abstracts of 248,423 articles in 126 journals dedicated to Ob/Gyn published from 1975 to 2018. Latent Dirichlet allocation model, a topic modeling approach, was applied to extract 28 main topics related to obstetrics and determine their trends ('cold and hot topics'). We then represent each study as a distribution of LDA topics, and conducted trend analysis to explore the temporal dynamics of these topics over the years.

RESULTS: The top 5 most published topics in the obstetrics literature were 'preterm labor', 'prenatal testing', 'early pregnancy loss', 'genetics' and 'IUGR'. The results of a time trend analysis on the proportion of topics by 5-years indicated that the topics with the most compelling growth are the ones related to preterm labor, genetics and obesity ('hot topics'). Preeclampsia, diabetes, multiple pregnancy and depression and anxiety showed slightly increased pattern, and the topics related to prenatal testing showed highly dynamic pattern over time. Topics related to cesarean section, breech presentation and GBS displayed a slight fluctuation in popularity. Meanwhile, some topics, such as IUGR, monitoring and early pregnancy loss, have gradually lost prominence in recent years ('cold topics').

CONCLUSION: This study applied the LDA for text-mining of a vast amount of literature on obstetrics and gynecology. The results of the present study showed the ability of topic modeling to identify the hot and cold topics. This information may be of great value for individual physicians, as well as research and financing institutes who support research in our discipline.



364 Maternal anemia is associated with adverse obstetric, neonatal and placental outcomes in Mbarara, Uganda

Paula K. Edelson¹, Danni Cao², Kaitlyn E. James¹, Joseph Ngonzi³, Drucilla J. Roberts⁴, Lisa M. Bebell⁵, Adeline A. Boatin¹

¹Massachusetts General Hospital, Department of Obstetrics and Gynecology, Boston, MA, ²Brandeis University, Boston, MA, ³Mbarara University of Science and Technology, Mbarara, Uganda, ⁴Massachusetts General Hospital, Department of Pathology, Boston, MA, ⁵Massachusetts General Hospital, Infectious Diseases Division, Boston, MA

OBJECTIVE: Maternal anemia is a significant risk factor for maternal morbidity and mortality, affecting 42% of pregnant women globally. In addition to increased risk of death from peripartum hemorrhage, anemic pregnant women are at increased risk of preterm birth, intrauterine growth restriction and stillbirth. The World Health Organization defines moderate and severe anemia in pregnancy as hemoglobin (Hb) < 10 g/dl and Hb < 7 g/dl, respectively. We aimed to characterize the effect of moderate and severe maternal anemia on obstetric, neonatal and placental outcomes in a resource-limited setting.

STUDY DESIGN: Prospective cohort of 352 pregnant women delivering at a tertiary Ugandan referral hospital serving a mixed urban-agrarian population. 176 (50%) women were living with HIV and taking antiretroviral therapy. Anemia was diagnosed in labor using point-of-care Hb estimation via peripheral venipuncture. Placentas were collected at birth for gross and histologic examination. Obstetric and neonatal outcomes were determined through chart review and questionnaires. Categorical variables were analyzed using Chi squared and Fisher's exact tests.

RESULTS: Moderate or severe anemia (Hb < 10 g/dl) was present in 17/352 (5%) of women. The mean Hb was 8.5 g/dl in the anemic group, and 12.9 g/dl in the non-anemic group. The only demographic difference between groups was a higher proportion of married in the non-anemic group. More anemic women were HIV-infected, 14/17 (82%) vs 162/335 (48%) in the non-anemic group (P=0.006). There were no differences in obstetric outcomes. There



were more blood transfusions in the anemic group (12% vs 2%, $P=0.04$) and more neonatal deaths (12% vs 3%, $P=0.01$). Placental thickness was lower in the anemia group (1.4 cm vs 1.7 cm, $P=0.04$). Placental weights and histologic findings did not differ between groups.

CONCLUSION: Moderate to severe anemia is associated with increased risk of maternal blood transfusion, neonatal death and decreased placental thickness in Uganda. Future studies should investigate whether treating maternal anemia decreases risk of adverse outcomes.

Table 1: Demographics

	Hb \geq 10 g/dl n=335 n (%)	Hb<10 g/dl n=17 n (%)	P-value
Age in years, mean (SD)	26.5 (5.7)	27.0 (5.2)	0.74
Parity, mean (SD)	3.1 (1.8)	3.3 (1.2)	0.68
Married	305 (91.0%)	12 (70.6%)	0.006
Income in Uganda Shillings, mean (SD)	231,906.4 (255,168.4)	256,250.0 (147,448.5)	0.79
Completed at least primary school	136 (40.6%)	9 (52.9%)	0.68
Attended 4 or more antenatal care visits	214 (63.9%)	9 (52.9%)	0.36
HIV-infected	162 (48.4%)	14 (82.4%)	0.006
Malaria rapid diagnostic test positive	41 (12.2%)	1 (5.9%)	0.43
Syphilis rapid diagnostic test positive	13 (3.9%)	0 (0.0%)	0.41

Table 2: Obstetric, Neonatal and Placental Outcomes

	Hb \geq 10 g/dl n=335 n (%)	Hb<10 g/dl n=17 n (%)	P-value
Hb (g/dl), mean (SD)	13.0 (1.4)	8.5 (1.2)	<0.001
Gestational age at delivery weeks, mean (SD)	38.9 (3.6)	39.0 (1.7)	0.86
Cesarean delivery	107 (31.9%)	7 (41.2%)	0.43
Post-partum or peripartum-hemorrhage (PPH)	11 (3.3%)	0 (0.0%)	0.43
Blood transfusion	5 (1.5%)	2 (11.8%)	0.004
Intensive Care Unit transfer	0 (0.0%)	0 (0.0%)	--
Maternal death	0 (0.0%)	0 (0.0%)	--
Birthweight grams, mean (SD)	3208 (447)	3112 (492)	0.39
Stillbirth	6 (6.8%)	1 (5.9%)	0.24
Neonatal death	9 (2.7%)	2 (11.8%)	0.04
Placental weight grams	458 (101)	444 (85)	0.58
Placental thickness cm	1.7 (0.5)	1.4 (0.6)	0.04

365 Does magnesium prophylaxis affect maternal and neonatal outcomes among women with preeclampsia without severe features?

Taylor S. Freret¹, Kaitlyn E. James¹, Sarah E. Little², Anjali J. Kaimal¹

¹Massachusetts General Hospital, Department of Obstetrics and Gynecology, Boston, MA, ²Brigham and Women's Hospital, Boston, MA

OBJECTIVE: Practice patterns vary regarding use of magnesium prophylaxis in preeclampsia without severe features. Our objective was to characterize the maternal and neonatal outcomes associated with magnesium sulfate use in a contemporary cohort.

STUDY DESIGN: This retrospective cohort included all women diagnosed with preeclampsia without severe features who delivered at term between April 2016 and April 2019 at two university-affiliated

hospitals in one health care system. One hospital has a policy of administering magnesium to all women with preeclampsia, including in the absence of severe features; the other does not. Labor management protocols are otherwise similar. Women who did and did not receive magnesium sulfate for seizure prophylaxis were compared with regards to baseline characteristics and outcomes.

RESULTS: 664 patients were included, of whom 251 (37.8%) received magnesium sulfate. Baseline characteristics including age, parity, BMI, gestational age, epidural use, and IUGR were similar between groups. There was no difference in mode of delivery, estimated blood loss, or postpartum hemorrhage (Table). Admission to delivery time was longer in the group that received magnesium (24.9 vs 20.6 hours, $p=0.02$). Women who received magnesium were less frequently diagnosed with chorioamnionitis (4.8 vs 9.9%, $p=0.02$). One seizure occurred during labor in a patient receiving magnesium for prophylaxis. Neonatal outcomes were similar between the groups.

CONCLUSION: In this contemporary cohort of women with preeclampsia without severe features being managed in tertiary care centers, labor, maternal, and neonatal outcomes did not differ based on magnesium exposure with the exception of a slightly longer admission to delivery interval and lower rate of chorioamnionitis among women who received magnesium. Eclampsia was rare. The clinical decision to administer magnesium to women with preeclampsia without severe features should incorporate informed patient preference as well as information regarding the risks and benefits of each strategy.

Table: Baseline Characteristics, Labor, Maternal, and Neonatal Outcomes by Magnesium exposure

	No Magnesium (N = 413)	Magnesium (N = 251)	p-value
<i>Baseline Characteristics</i>			
Maternal Age	32.2 (5.2)	32.7 (5.5)	0.19
Race			0.55
White	245 (59.3%)	150 (59.8%)	
Black or African-American	62 (15.0%)	31 (12.4%)	
Asian or Pacific Islander	24 (5.8%)	15 (6.0%)	
Hispanic or Latino	18 (4.4%)	7 (2.8%)	
Other or Unknown	64 (15.5%)	48 (19.1%)	
Nulliparous	250 (60.5%)	164 (65.3%)	0.22
Pregavid BMI	26.5 (22.8-32.3)	26.9 (23.3-31.9)	0.60
Gestational Age at Delivery	38.6 (37.4-39.4)	38.3 (37.3-39.4)	0.08
Preexisting or Gestational Diabetes	52 (12.6%)	36 (14.3%)	0.52
Intrauterine growth restriction	21 (5.1%)	14 (5.6%)	0.78
Epidural Anesthesia Use	312 (78.4%)	198 (80.2%)	0.59
<i>Labor and Maternal Outcomes</i>			
Cesarean Delivery	160 (38.7%)	98 (39.0%)	0.94
Admission to Delivery Time (h)	20.6 (10.2-34.6)	24.9 (13.3-38.2)	0.02
Estimated Blood Loss (mL)	614 (440)	631 (499)	0.65
Vaginal Delivery	436 (383)	458 (340)	0.72
Cesarean Delivery	897 (372)	909 (583)	0.57
Postpartum Hemorrhage	77 (24.4%)	47 (23.5%)	0.81
Chorioamnionitis	41 (9.9%)	12 (4.8%)	0.02
Eclampsia during labor	0	1 (0.5%)	0.21
<i>Neonatal Outcomes</i>			
Five Minute Apgar < 7	13 (3.1%)	4 (1.6%)	0.22
Cord Gases Sent	38 (9.8%)	25 (10.3%)	0.83
Assisted Ventilation Required	34 (8.9%)	20 (8.3%)	0.79

366 Incidence of and characteristics associated with failed induction of labor

Taylor S. Freret¹, Anjali J. Kaimal¹, Mark A. Clapp¹

¹Massachusetts General Hospital, Department of Obstetrics and Gynecology, Boston, MA