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Exclusive breastfeeding between mothers who delivered vaginally versus cesarean section: A retrospective exploratory comparative study

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Background

The rate of breastfeeding remains fairly low in the United States whereas the rate of cesarean deliveries is increasing. Review of the literature reveals an apparent direct negative effect on breastfeeding initiation for mothers that underwent cesarean delivery compared to those who delivered vaginally. National policy as evidenced through Healthy People 2020 identifies targets to increase the proportion of infants who are breastfed. Additionally, as of January 2016, The Joint Commission expanded the threshold for exclusive breast milk feeding (PC-05) in the core measure set for perinatal care. This expansion will impact more than 80% of accredited hospitals with birthing units that will provide essential data to improve the health care delivery process for exclusive breastfeeding.

Purpose

The purpose of this study was to determine whether cesarean delivery is associated with a lower rate of initiating breastfeeding when compared to vaginal delivery. Specifically, this study explored, described, and assessed for relationships between maternal factors, neonatal factors, and breastfeeding status at delivery and post delivery follow-up.

Methods

Retrospective data was collected from medical charts of women who delivered via vaginal versus cesarean section (N= 197) between October 1, 2011 and September 30, 2014. Random chart selection was conducted with subgroup differentiation further classified breastfeeding intention and status at follow up.

Table 1: Distribution of delivery method and parity in the sample (n = 197)

	Primiparous	Multiparous	Total
Vaginal	47	45	92
C-section	42	63	105
Total	89	108	197

Table 2: Proportion of intention for baby feeding by group (n = 197)

	Breastfeed only	Breastfeed & formula	Formula only	Total
Primiparous vaginal	25 (53.2%)	22 (46.8%)	0 (0.0%)	47
Multiparous vaginal	14 (31.1%)	23 (51.1%)	8 (17.8%)	45
Primiparous C-section	14 (33.3%)	25 (59.5%)	3 (7.1%)	42
Multiparous C-section	19 (30.2%)	43 (68.3%)	1 (1.6%)	63
Total	72 (36.6%)	113 (57.4%)	12 (6.1%)	197

Table 3: Feeding status at 2-8 week follow-up by group (n = 178)

	Breastfeed only	Breastfeed and formula	Formula only	Total
Primiparous vaginal	18 (42.9%)	14 (33.3%)	10 (23.8%)	42
Multiparous vaginal	17 (42.5%)	14 (35.0%)	9 (22.5%)	40
Primiparous C-section	11 (29.0%)	17 (44.7%)	10 (26.3%)	38
Multiparous C-section	26 (44.8%)	30 (51.7%)	2 (3.5%)	58
Total	72 (40.5%)	75 (42.1%)	31 (17.4%)	178

Results

Data included a random sample of 197 deliveries for which there was no significant association between parity and delivery method: ($\chi^2_{1df} = 2.434$, $p = 0.11$) Table 2 illustrates expressed intention for feeding at delivery. The primiparous-vaginal subgroup expressed the highest intent to exclusively breastfeed (53.2%), whereas, multiparous vaginal subgroup expressed the highest intention for exclusive formula feeding (17.8%), ($\chi^2_{6df} = 22.431$, $p = 0.001$). Primiparous mothers delivered by C-section maintained exclusive breast feeding at the lowest proportion (29.0%) at the 2 to 8 week post delivery follow up. At follow up (Table 3), the multiparous mothers delivered by C-section, who on the whole had the highest professed intention to both breast and formula feed, yielded an increased rate of exclusively breastfeeding, and the lowest proportion of formula feeding (3.5%) ($\chi^2_{6df} = 14.007$, $p = 0.030$), I. The relationship between expressed feeding intention and actual feeding status at follow-up indicated significant change, ($\chi^2_{4df} = 23.70$, $p < 0.001$).

Results

Furthermore, primiparous mothers who had a c-section delivery seem to have the lowest success rate in breastfeeding exclusively at follow-up. Only 50% of those who intended to breastfeed only were doing so at the first follow-up visit compared to more than 60% in the other groups. The highest conversion from intention to use both breastfeeding and formula to formula only (33.3%) was seen in the primiparous mothers who had a vaginal delivery, the other groups showing a conversion rate of less than 20%. The highest conversion from intention to use both breastfeeding and formula to breastfeeding only (35.9%) was seen in the multiparous mothers who had a c-section delivery, the other groups showing a conversion rate of less than 29%.

Discussion

Data collection supported the hypothesis of a negative impact of c-section on breastfeeding in primipara. Primiparous mothers who delivered by c-section had the lowest success rate in breastfeeding exclusively at follow-up compared to the other groups. In multiparous women there was minimal difference in breastfeeding rate at follow up regardless of type of delivery.

Implications for Practice

- At a systems level, hospitals can be evaluated on TJC core measurement.
- OB/GYN: utilizing the measures through ACA to provide education on resources available for breastfeeding supplies (DME-breast pumps).
- Residents play a crucial role in prenatal, antenatal and postnatal care. Patient education through each stage can facilitate an open avenue to address concerns and ongoing needs.



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