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| **Study** | **Period** | **Coutry** | **Population** | **Study size** | **Methods** | **Exposures** | **Outcomes** | **Results** |
| Chen et al. 2022[1] | 2016-2019 | China | All delivered women in Sichuan | 810049 | Instrumental variable methods | number of deliveries in a quarter within each institution | severe maternal morbidity  (SMM) | each increase of 1000 cases in delivery volume would lead to the reduction of 16.2% and 99.5% in the rates and odds of SMM |
| Bozzuto et al. 2019[2] | 1995- 2009 | US | high-risk obstetric patient | 1464470 | Traditional  retrospective cohort  design,  Logistic regression | 1.delivery volume  2.high-risk condition volume  3.combined effect of both types of volume | SMM | higher delivery volume was associated with lower risk of severe maternal morbidity, and higher volumes of high-risk patients may increase risk of adverse outcomes |
| Aoyama et al. 2019[3] | 2004-2015 | Canada | All  delivered women | 3162 303 | Multilevel Logistic Regression | Maternal age, hospital volume | SMM,  mortality | lowest volume was associated with higher risk of SMM (OR: 1.21 (1.01-1.46) ) and mortality(OR:5.26 (1.73-15.96)) |
| Campbell et al. 2019[4] | 2010-2012 | US | term births in California | 1322713 | hierarchical generalized linear model | annual delivery volume,  neonatal care  capacity, teaching/urban‐rural status | in‐hospital maternal death, transfer of mother to another facility for acute inpatient care, diagnosis of 16 major morbidities,  occurrence of five procedures suggestive of severe complications | Hospitals with smaller volume and government ownership tend to have  less desirable outcomes |
| Snowden et al. 2015[5] | 2007-2008 | US, California | low-risk women who delivered non–low-birthweight infants at term | 736643 | chi-square test and logistic regression | hospital obstetric volume | chorioamnionitis, endometritis, postpartum hemorrhag, transfusion of blood products, severe perineal lacerations in spontaneous vaginal deliveries, wound infection in cesarean deliveries, cesarean delivery rate | higher rates of postpartum hemorrhage in the lowest-volume rural hospitals. Rates of outcomes did not differ between volume categories |
| Booker et al. 2019[6] | 2006-2015 | US | preeclamptic patients | 36985729 | Adjusted log linear regression models | Obstetric delivery volume | antihypertensive administration, comorbidity,  SMM | Obstetric delivery volume was not  significantly associated with severe morbidity |
| Walther et al. 2021[7] | 2018 -2020 |  | all births, term/ normal birth weight birth or low risk birth in a nationwide setting with < 5/1000 neonatal deaths | 13 retrospective studies | systematic review | hospital birth volume | maternal mortality, maternal complications | Volume-outcome effects on maternal mortality and maternal complications were inconclusive |
| Kozhimannil et al. 2016[8] | 2011 | US | Low risk women | 508146 | logistic regression | hospital birth volume | postpartum hemorrhage, chorioamnionitis, endometritis, blood transfusion, severe perineal laceration, and wound infection | Low birth volume was a risk factor in both rural and urban non-teaching hospitals, but not in urban teaching hospital |
| Chang et al. 2008[9] | 1995 -2000 | US | Women with vaginal birth after cesarean section | 12844 | logistic regression | hospital birth volume | need for cesarean section after an attempted trial of labor,Uterine rupture, other major maternal morbidity | No relation between hospital volume and outcomes |
| Hunter et al. 2022[10] | 2015 -2018 | US | obstetric deliveries in all military treatment facilities | 102959 | logistic regression | hospital birth volume | SMM | volume had no significant impact on SMM |

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