

Don't Hesitate, Moms Vaccinate: Exploring Varicella and MMR Vaccination Rates in Postpartum Mothers

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BACKGROUND

- Recent measles and rubella outbreaks along with decreasing vaccination and completion rates for measles, rubella, and varicella leads to an increased risk of contracting these diseases.
- Pregnant women and their children (born and unborn) are at risk for serious complications, including birth defects and miscarriages.

OBJECTIVES

- We sought to understand the rates at which postpartum mothers were being vaccinated and the rates at which the vaccination series were being completed at either their delivery date or at their 6-week postpartum follow up visit.
- Understanding these rates will help to pinpoint possible points of intervention to increase postpartum vaccination and series completion.

METHODS

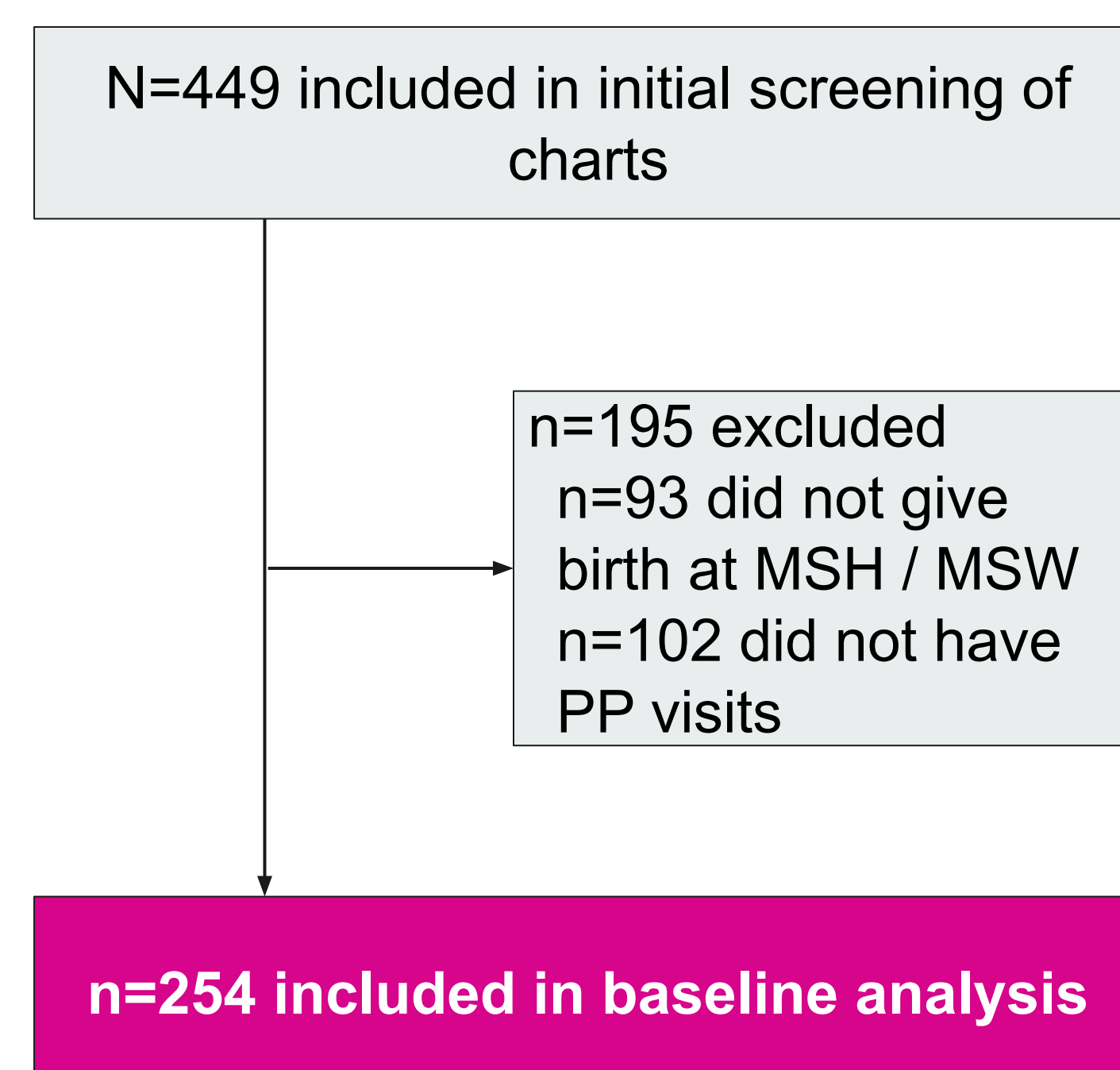
- Retrospective chart review of patients who received prenatal and postpartum care at two tertiary care institutions in New York City (Mount Sinai Hospital [MSH] and Mount Sinai West [MSW]).
- Patients were screened for immunity against measles, rubella and varicella via serologic testing for IgG against these viruses.
- Vaccination records of patients who delivered between 01/01/2021 to 6/27/2022 were collected from EPIC.
- Patients were excluded if they did not have a 6-week postpartum visit or if they were pregnant at the time of analysis.
- The immediate postpartum course (IPC) was defined as the patient's inpatient stay immediately following birth.
- Assumptions:
 - Patients who were serologically non-immune to MMR and/or varicella were offered vaccines during the IPC.
 - No record of vaccinations on file during the patient's IPC means that the patient was offered vaccination, but refused.

TABLES/FIGURES

Table 1. Demographic characteristics of included and excluded non-immune patients

	Included (n = 254)	Excluded (n = 195)
	Mean ± SD	Mean ± SD
Age	30.3 ± 5.6	29.3 ± 5.9
	Number Observed (%)	Number Observed (%)
Race		
White (n=34)	16 (6.3%)	18 (9.2%)
Black (n=137)	73 (28.7%)	64 (32.8%)
Hispanic (n=194)	114 (44.9%)	80 (41.0%)
Asian (n=13)	8 (3.1%)	5 (2.6%)
American Indian / Pacific Islander (n=4)	1 (0.4%)	3 (1.5%)
Other (n=50)	31 (12.2%)	19 (9.7%)
Unknown (n=17)	11 (4.3%)	6 (3.1%)
Date of Birth		
1970-1979 (n=6)	2 (0.8%)	4 (2.1%)
1980-1989 (n=110)	67 (26.4%)	43 (22.1%)
1990-1999 (n=274)	155 (61.0%)	119 (61.0%)
2000-2009 (n=59)	30 (11.8%)	29 (14.9%)
Insurance		
Private (n=48)	30 (11.8%)	18 (9.2%)
Medicare (n=5)	2 (0.8%)	3 (1.5%)
Medicaid (n=388)	218 (85.8%)	170 (87.2%)
No Insurance (n=7)	3 (1.2%)	4 (2.1%)
Unknown (n=1)	1 (0.4%)	0
Parity		
0 (n=20)	0	20 (10.3%)
1 (n=187)	107 (42.1%)	80 (41.0%)
>1 (n=223)	143 (56.3%)	90 (46.2%)
Unknown (n=9)	4 (1.6%)	5 (2.6%)

Figure 1. Inclusion / Exclusion flow diagram



Abbreviations: SD = standard deviation; MSH = Mount Sinai Hospital; MSW = Mount Sinai West; MMR = measles, mumps, or rubella; IPC = immediate postpartum course; PP = postpartum

Table 2. Previous and current vaccination series completion rates

	MMR Non-Immune (n = 157)	Varicella Non-Immune (n = 137)
	N (%)	N (%)
Previously Received Series	33 (21.0)	39 (15.4)
Started Series at IPC	77 (52.7)	61 (44.5)
Finished Series	6 (4.1)	26 (19.0)
Started Series at PP Visit	6 (4.1)	19 (13.9)
Finished Series	0 (0.0)	8 (5.8)

RESULTS

- 254 patients were identified as serologically non-immune to measles, rubella, or varicella.
 - 104 patients were non-immune to measles (40.9%)
 - 53 patients were non-immune to rubella (20.9%)
 - 137 were non-immune to varicella (53.9%)
- Of the 157 patients who were non-immune to measles or rubella, 77 started their series during their IPC (52.7%) and 6 during their postpartum visit (4.1%).
 - 6 (4.1%) and 0 (0%) of these patients finished their IPC-started and PP-visit-started series, respectively.
- Of the 137 patients who were non-immune to varicella, 61 started their series during their IPC (44.5%) and 19 during their postpartum visit (13.9%).
 - 26 (19.0%) and 8 (5.8%) of these patients finished their IPC-started and PP-visit-started series, respectively.

CONCLUSIONS

- Mothers in NYC are being vaccinated at insufficient rates against measles, rubella, and varicella.
- These findings raise concerns about shortcomings in patient and provider education and hospital protocols.
- The Prenatal Care Assistance Program (PCAP) template may be an impactful point of intervention, as it requires healthcare providers to check each woman's vaccination history and offer pertinent vaccines.
 - Our team proposes an adjustment and expansion to the existing PCAP template to increase vaccination and series completion rates in postpartum mothers. A greater emphasis should be placed on documentation of immunization to indicate whether the vaccine was offered, accepted and given, declined, or scheduled for future administration at a different time/facility.
 - An ongoing study will evaluate the outcome of the alterations that were made to the PCAP template at our home institution.
- Limitations include the collection of data from only one institution, the aforementioned assumptions, and data restricted to an 18 month time frame.

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