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Childhood Vaccines

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Background experience dealing with chronic conditions in children

Original Research

Can Awareness of Medical Pathophysiology in Autism Lead to Primary Care Autism Prevention Strategies?

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Emerging research suggests that the timing of environmental factors in the presence of genetic predispositions has influenced the increase in autism spectrum disorders over the past several decades. A review of the medical literature suggests that autism may be impacted by environmental toxicants, breastfeeding duration, gut flora composition, nutritional status, acetaminophen use, vaccine practices and use of antibiotics and/or frequency of infections. The author reports her retrospective clinical research in a general pediatric practice (Advocates for Children), which shows a modest trend toward lower prevalence of autism than her previous pediatric practice or recent CDC data. Out of 294 general pediatrics patients followed since 2005 there were zero new cases of autism (p value 0.014). Given the prevalence of autism for that cohort of 1 in 50 children in the United States, it is important to consider implementing strategies in primary care practice that could potentially modify environmental factors or affect the timing of environmental triggers contributing to autism.

[N A J Med Sci. 2013;6(3):134-144. **DOI:** *10.7156/najms.2013.0603134]*

Key Words: *primary care, autism, prevention strategies*

Of 294 inborn patients, none developed autism

Background rate:

- 1 in 50 (US) vs 1 in 297 (Mumper)
- P value = 0.014

Latest data from CDC:

- 1 in 36 children
- 1 in 22 males
- 1 in 10 Black/Hispanic

(birth cohort 2012)

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Original Article

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SAGE

Analysis of health outcomes in vaccinated and unvaccinated children: Developmental delays, asthma, ear infections and gastrointestinal disorders

Brian S Hooker[1] and Neil Z Miller[2]

Abstract

Objective: The aim of this study was to compare the health of vaccinated versus unvaccinated pediatric populations.

Methods: Using data from three medical practices in the United States with children born between November 2005 and June 2015, vaccinated children were compared to unvaccinated children during the first year of life for later incidence of developmental delays, asthma, ear infections and gastrointestinal disorders. All diagnoses utilized International Classification of Diseases–9 and International Classification of Diseases–10 codes through medical chart review. Subjects were a minimum of 3 years of age, stratified based on medical practice, year of birth and gender and compared using a logistic regression model.

Results: Vaccination before 1 year of age was associated with increased odds of developmental delays (OR = 2.18, 95% CI 1.47–3.24), asthma (OR = 4.49, 95% CI 2.04–9.88) and ear infections (OR = 2.13, 95% CI 1.63–2.78). In a quartile analysis, subjects were grouped by number of vaccine doses received in the first year of life. Higher odds ratios were observed in Quartiles 3 and 4 (where more vaccine doses were received) for all four health conditions considered, as compared to Quartile 1. In a temporal analysis, developmental delays showed a linear increase as the age cut-offs increased from 6 to 12 to 18 to 24 months of age (ORs = 1.95, 2.18, 2.92 and 3.51, respectively). Slightly higher ORs were also observed for all four health conditions when time permitted for a diagnosis was extended from ⩾ 3 years of age to ⩾ 5 years of age.

Conclusion: In this study, which only allowed for the calculation of unadjusted observational associations, higher ORs were observed within the vaccinated versus unvaccinated group for developmental delays, asthma and ear infections. Further study is necessary to understand the full spectrum of health effects associated with childhood vaccination.

Keywords

Vaccination, developmental delays, asthma, ear infections, gastrointestinal disorders

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Analysis of Results

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4821 pediatric patients

Diagnosis	Vaccinated Cases/Total	Unvaccinated Cases/Total	Odds Ratio (95% CI)	P-value
Developmental Delay	153/1407 (10.9%)	34/630 (5.4%)	**2.18** (1.47 – 3.24)	**0.0001**
Asthma	67/1412 (4.7%)	7/629 (1.1%)	**4.49** (2.04 – 9.88)	**0.0002**
Ear Infection	324/1116 (29.0%)	104/533 (19.5%)	**2.13** (1.63 – 2.78)	**<0.0001**
Gastrointestinal Disorder	55/1382 (4.0%)	18/619 (2.9%)	1.47 (0.84 – 2.57)	0.17
Head Injury	93/1398 (6.7%)	31/627 (4.9%)	1.26 (0.82 – 1.94)	0.29

Number of Vaccines by Quartile

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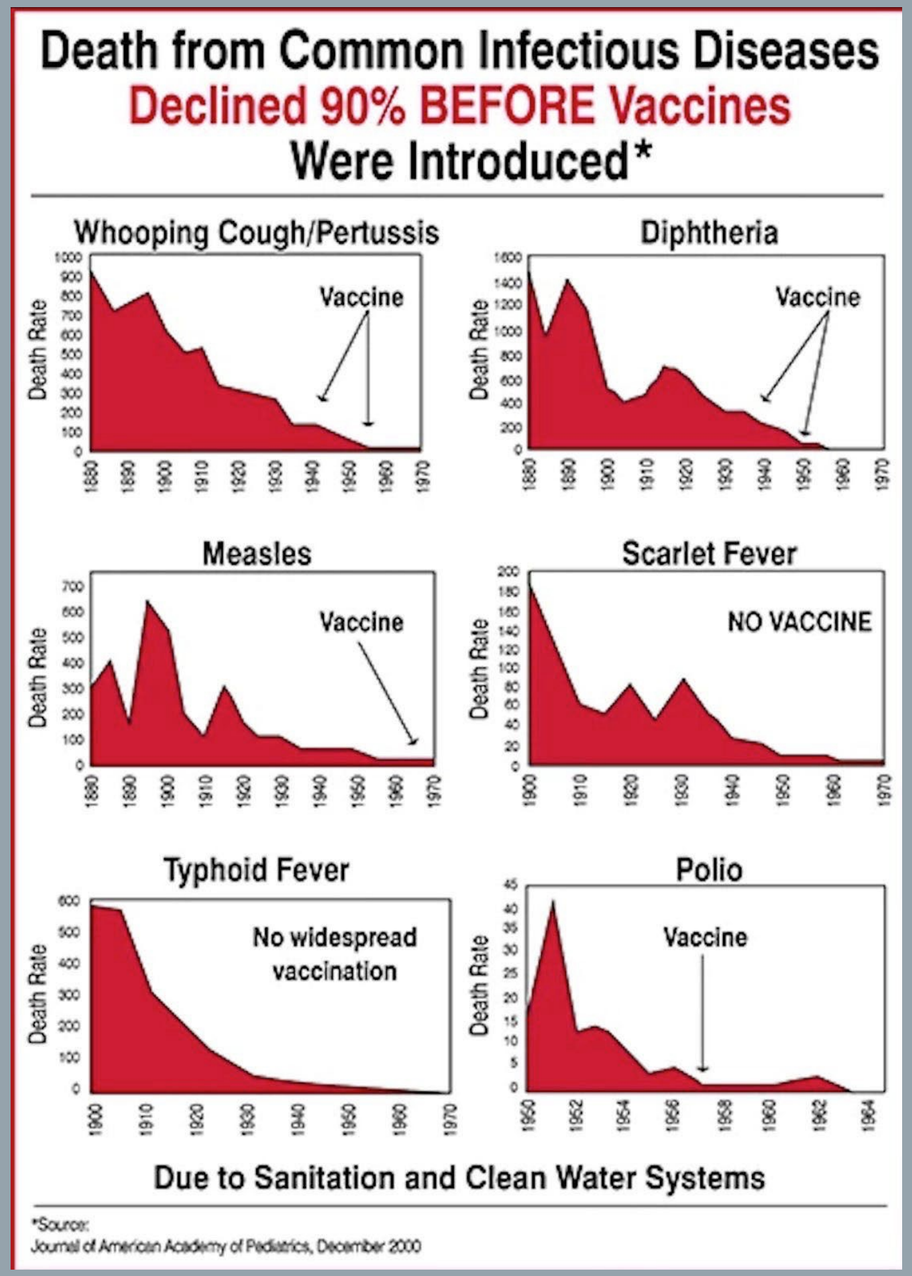
Diagnosis	Quartile 1 1-5 Vaccines (95% CI)	Quartile 2 6-10 Vaccines (95% CI)	Quartile 3 11-12 Vaccines (95% CI)	Quartile 4 13-21 Vaccines (95% CI)
Developmental Delay	1.36 (0.53 – 3.48)	**2.54 (1.30 – 4.96)**	**3.22 (1.70 – 6.09)**	**2.42 (1.17 – 4.99)**
Asthma	1.94 (0.59 – 6.40)	**6.48 (2.64 – 15.9)**	**3.66 (1.42 – 9.46)**	**4.62 (1.68 – 12.7)**
Ear Infection	1.43 (0.98 – 2.07)	**2.48 (1.72 – 3.60)**	**2.26 (1.53 – 3.33)**	**2.81 (1.80 – 4.40)**
Gastrointestinal Disorder	0.49 (0.19 – 1.31)	1.61 (0.68 – 3.84)	**3.77 (1.65 – 8.59)**	**4.03 (1.57 – 10.3)**
Head Injury	0.68 (0.32 – 1.44)	1.56 (0.93 – 2.62)	1.12 (0.65 – 1.94)	1.37 (0.73 – 2.56)

Putting vaccine benefits in perspective



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Thank you

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