

Sample Selection for MMR/Autism Study

Selection Criteria	Controls			Cases		
	Yes	No	No%	Yes	No	No%
Available Sample	2143			706		
Valid CASENUM	2113	30	1%	706	0	0%
Confirmed Autism Case	2113	0	0%	660	46	7%
Matched Cases and Controls	1912	201	10%	647	13	2%
Original 3 Controls	1891	21	1%	647	0	0%
Missing Age Data	1890	1	0%	647	0	0%
Missing MMR Vaccine Date (1,2)	1876	14	1%	629	18	3%

1) 11 controls were missing their entire vaccination record

2) 14 cases were missing their entire vaccination record

06/05/2002

Table 1: Descriptive Statistics For Entire Sample *

Variable	Category	Controls		Cases	
		N	Percent	N	Percent
Age 1996	3 - 5 yrs	635	34%	215	34%
	6 - 8 yrs	973	52%	321	51%
	9 - 10 yrs	268	14%	93	15%
	Total	1876	100%	629	100%
Sex	Male	1506	80%	505	80%
	Female	370	20%	124	20%
	Total	1876	100%	629	100%
Race	White	930	52%	336	55%
	Black	674	38%	232	38%
	Other	175	10%	40	7%
	Total	1779	100%	608	100%

* All subjects reported in table had date of receipt of MMR vaccine

* All cases are confirmed cases

Table 2: Associated Conditions for Autism Cases

Other Associated Conditions	Yes	%	No	%	Total
Mental Retardation	378	60%	251	40%	629
Mental Retardation DX <= 1 Year	10	2%	619	98%	629
Cerebral Palsy DX <= 1 Year	7	1%	622	99%	629
Visual Impairment DX <= 1 Year	1	0%	628	100%	629
Hearing Impairment DX <= 1 Year	3	0%	626	100%	629
<i>Major</i> Selected Birth Defects	28	4%	601	96%	629
Other Pre-existing conditions <= 1 Year *	212	34%	417	66%	629
Any Pre-Existing Conditions <= 1 Year	235	37%	394	63%	629
Epilepsy ???	49	8%	580	92%	629
Regression or Plateau	80	13%	549	87%	629

* These conditions were identified through chart review

Table 3: Descriptive Statistics for Birth Certificate Variables

Variable	Category	Controls		Cases	
		N	Percent	N	Percent
Age in 1996	3 - 5 yrs	382	36%	127	35%
	6 - 8 yrs	552	53%	182	51%
	9 - 10 yrs	115	11%	50	14%
	Total	1049	100%	359	100%
Sex	Male	834	80%	286	80%
	Female	215	20%	73	20%
	Total	1049	100%	359	100%
Race	White	578	55%	201	56%
	Black	405	39%	139	39%
	Other	66	6%	19	5%
	Total	1049	100%	359	100%
Maternal Age	< 20 yrs	102	10%	16	4%
	20 - 34 yrs	823	78%	282	79%
	35+ yrs	124	12%	61	17%
	Total	1049	100%	359	100%
Maternal Race	White	618	59%	209	58%
	Black	399	38%	138	38%
	Other	30	3%	12	3%
	Total	1047	100%	359	100%
Maternal Educ	<= 12 yrs	485	46%	138	38%
	13 - 15 yrs	259	25%	100	28%
	16+ yrs	305	29%	121	34%
	Total	1049	100%	359	100%
Birth Weight	0 - 1499 gms	11	1%	12	3%
	1500 - 2499 gms	55	5%	37	10%
	2500 + gms	983	94%	310	86%
	Total	1049	100%	359	100%
Multiplicity	Singleton	1017	97%	333	93%
	Twin +	32	3%	26	7%
	Total	1049	100%	359	100%
Parity	1st Born	462	44%	151	42%
	2nd or Higher	578	56%	206	58%
	Total	1040	100%	357	100%

* All subjects reported in table had date of receipt of MMR vaccine

** All cases are confirmed cases

*** Subjects are unmatched. There are significantly fewer matched cases and controls

Table 4: Statistical Analyses

Sample	Exposure	Case Definitions	N	Crude OR			Adjusted OR		
				OR	L95CI	U95CI	OR	L95CI	U95CI
Total	MMR < 18 Mo	Total Matched Cases	629	1.13	0.92	1.39			
		No Pre-Existing Conditions Before Age 1 Year	394	1.08	0.83	1.40			
		Regression or Plateau	80	1.46	0.83	2.60			
Birth Certificate	MMR < 24 Mo	Total Matched Cases	629	1.23	0.95	1.60			
		No Pre-Existing Conditions Before Age 1 Year	394	1.15	0.83	1.59			
		Regression or Plateau	80	1.45	0.69	3.04			
Birth Certificate	MMR < 18 Mo	Total Matched Cases	311	1.00	0.72	1.38	0.95	0.67	1.33
		No Pre-Existing Conditions Before Age 1 Year	187	1.09	0.71	1.66	1.06	0.68	1.64
		Regression or Plateau *	31	1.02	0.39	2.67	---	---	---
		Maternal Age 35+ Years	53	0.60	0.26	1.36	0.50	0.21	1.20
		Maternal Education 16+ Years *	100	1.63	0.83	3.20	---	---	---
		Birth Weight < 2500 gms *	42	0.76	0.32	1.80	---	---	---
		Total Matched Cases	311	1.14	0.74	1.75	1.04	0.66	1.63
Birth Certificate	MMR < 24 Mo	No Pre-Existing Conditions Before Age 1 Year	187	1.10	0.62	1.95	1.04	0.57	1.89
		Regression or Plateau *	31	0.93	0.27	3.25	---	---	---
		Maternal Age 35+ Years	53	1.37	0.45	4.22	0.98	0.29	3.29
		Maternal Education 16+ Years *	100	4.92	1.09	22.13	---	---	---
		Birth Weight < 2500 gms *	42	1.12	0.40	3.19	---	---	---

* Multivariate models were not stable

unmatched

unmatched

MR/No MR

Unmatched Analyses

Separate Table

Yes/No
 ①
 ②
 ③

Age of 1st MMR Vaccination by Case Status

