



## Attention-Deficit/Hyperactivity Disorder is Associated with Increased rates of Childhood Infectious Diseases: A Population-Based Case-Control Study.

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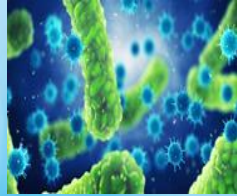
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**Background:** The SARS-CoV-2 pandemic shows again the significant impact and toll that infectious diseases (IDs) carry in the pediatric population. An association between ADHD and IDs has been previously documented, including COVID-19, influenza, and childhood shigellosis.

**Objective:** to test the possibility that ADHD is associated with increased likelihood for IDs at large.

**Methods:** A population-based case-control study was conducted using EMR Leumit Health Services (LHS). The study population consisted of all individuals (5-18 years), members of LHS between 01-01-2006 to 06-30-2021. Cases: children with ICD-9/10 ADHD diagnosis. Controls included randomly selected non-ADHD subjects (2:1 ratio), matched individually by demographic indices.

### Results:

Diagnosis	ADHD	Controls	OR(95% CI)	p value
Total	18,756	37,512		
<b>Bacterial infections</b>				
Streptococcal pharyngitis (034.0)	4,787 (25.5)	8,604 (22.9)	1.2 (1.1-1.2)	<.001
Acute supportive otitis media (382.0)	2,707 (14.4)	4,221 (11.3)	1.3 (1.3-1.4)	<.001
Acute sinusitis (461)	365 (1.9)	605 (1.6)	1.2 (1.1-1.4)	.005
Clinical dysentery (004.90)	319 (1.7)	524 (1.4)	1.2 (1.1-1.4)	.006
Shigellosis (004)	214 (1.1)	292 (0.8)	1.5 (1.2-1.8)	<.001
<b>Viral infections</b>				
Unspecified viral infection (079.99)	8,576 (45.7)	14,896 (39.7)	1.3 (1.2-1.3)	<.001
<b>Fungal infections</b>				
Mycosis (110-118)	1,292 (6.9)	2,073 (5.5)	1.3 (1.2-1.4)	<.001
Candidiasis (112)	488 (2.6)	845 (2.3)	1.2 (1.0-1.3)	.011
<b>Parasitic infections</b>				
Enterobiasis (127.4)	2,479 (13.2)	3,997 (10.7)	1.3 (1.2-1.3)	<.001
<b>Infections of body systems</b>				
Acute respiratory infection (460-466)	13,912 (74.2)	25,320 (67.5)	1.4 (1.3-1.4)	<.001
Acute gastroenteritis (558.94)	3,636 (19.4)	5,681 (15.1)	1.3 (1.3-1.4)	<.001
Bronchopneumonia (485)	1,315 (7.0)	1,138 (5.7)	1.2 (1.2-1.3)	<.001

Anti-infective agent	ADHD	Control	OR (95% CI)	P value
Total	18,756	37,512		
<b>Anti-bacterial agents</b>				
Amoxicillin	11,615 (61.9)	20,662 (55.1)	1.3 (1.3-1.4)	<.001
Azithromycin	6,614 (35.3)	11,043 (29.4)	1.3 (1.2-1.4)	<.001
Amoxicillin/clavulanate	11,043 (26.3)	11,043 (21.8)	1.3 (1.2-1.3)	<.001
Cephalexin	3,866 (20.6)	5,910 (15.8)	1.4 (1.3-1.5)	<.001
Tobramycin	1,633 (8.7)	2,558 (6.8)	1.3 (1.2-1.4)	<.001
Gentamicin	1,497 (8.0)	2,539 (6.8)	1.2 (1.1-1.3)	<.001
Ceftriaxone	404 (2.2)	575 (1.5)	1.4 (1.2-1.6)	<.001
<b>Anti-viral agents</b>				
Acyclovir	463 (2.4)	684 (1.8)	1.4 (1.2-1.5)	<.001
<b>Anti-fungal agents</b>				
Imidazole	1,587 (8.5)	2,404 (6.4)	1.4 (1.3-1.4)	<.001
Miconazole	1,049 (5.6)	1,701 (4.5)	1.2 (1.1-1.3)	<.001
<b>Anti-parasitic agents</b>				
Mebendazole	4,403 (23.5)	7,281 (19.4)	1.3 (1.2-1.3)	<.001
Metronidazole	397 (2.1)	595 (1.6)	1.3 (1.2-1.5)	<.001

There were significantly higher rates of physicians' visits for those with ADHD.

**Conclusions:** Study found an association between pediatric ADHD and childhood infectious diseases. Considering the high prevalence of ADHD, these findings are a significant public health concern. Therefore, special awareness of physicians is warranted.

