Supplemental Online Content

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This supplemental material has been provided by the authors to give readers additional information about their work.

e Table 1. Search Strategy

We searched PubMed, Web of Science, Embase for studies published in any language up to and including 25 March 2022 that reported the impact of COVID-19 pandemic on infantile neurodevelopment. We searched using keywords related to COVID-19 pandemic and neurodevelopment. Full search strategies for each database are provided below in a table.

Pubmed				
Number	Theme	Search query		
1	COVID-19	("COVID-19" OR "Coronavirus" OR "Severe Acute Respiratory Syndrome" OR "Corona-virus" OR "2019nCoV" OR "Corona Virus" OR "COVID" OR "COVID19" OR "SARS CoV 2" OR "SARS-CoV" OR "SARS-CoV-2")		
2	Neurodevelopment	 ("neurodevelopment" OR "neurodevelopmental" OR "development disorder*" OR "developmental disorder*" OR "Intellectual Disability" OR "Intellectual Developmental Disorder*" OR "mental retardation" OR "Global Developmental Delay" OR "Communication Disorders" OR "gross motor" OR "fine motor" OR "personal social" OR "problem solving") 		
3	Search	#1 AND #2		
Web of science				
1	COVID-19	("COVID-19" OR "Coronavirus" OR "Severe Acute Respiratory Syndrome" OR "SARS-CoV-2")		
2	Neurodevelopment	("neurodevelopment" OR "neurodevelopmental" OR "development disorder*" OR "developmental disorder*" OR "Intellectual Disability" OR "Intellectual Developmental Disorder*" OR "mental retardation" OR "Global Developmental Delay")		
3	Search	#1 AND #2		
Embase				
1	COVID-19	("COVID-19" OR "Coronavirus" OR "Severe Acute Respiratory Syndrome" OR "SARS-CoV-2")		
2	Neurodevelopment	("neurodevelopment" OR "neurodevelopmental" OR "development disorder*" OR "developmental disorder*" OR "Intellectual Disability" OR "Intellectual Developmental Disorder*" OR "mental retardation" OR "Global Developmental Delay")		
3	Search	#1 AND #2		

e Table 2. Subgroup Analysis of Neurodevelopmental Impairment According to the Age at Which Screening Has Been Performed

ASQ-3 domains	Age at	Number	OR (95% CI), p-value	I^2 , p-value
	screening	of		
		studies		
Gross motor	6 months	3	1.63 (0.73, 3.61), p=0.23	12%, p=0.32
	12 months	3	0.97 (0.71, 1.33), p=0.85	42%, p=0.18
Fine motor	6 months	3	0.96 (0.69, 1.33), p=0.79	0.0%, p=0.65
	12 months	3	1.83 (0.66, 5.08), p=0.25	80%, p=0.006
Problem solving	6 months	3	0.98 (0.63, 1.53), p=0.92	0.0%, p=0.53
	12 months	3	1.03 (0.66, 1.59), p=0.91	40%, p=0.19
Personal social	6 months	3	0.85 (0.64, 1.14), p=0.27	0.0%, p=0.46
	12 months	3	1.55 (1.22, 1.96), p<0.001	0.0%, p=0.62
Communication	6 months	3	1.69 (0.83, 3.44). p=0.15	0.0%, p=0.60
	12 months	3	1.86 (1.15, 3.00), p=0.01	70%, p=0.07

e-Figure 1. Meta-Analysis Results on Risk of (a) Problem-Solving and (b) Communication Among Infants Screened During Pandemic vs Before Pandemic

(a)

At risk of problem–solving impairment	Odds ratio with 95% Cl	Weight (%)
Huang et al, ²¹ 2021 6 months	0.87 (0.53, 1.42)	- 17.77
Huang et al, ²¹ 2021 12 months	1.44 (0.83, 2.48)	14.39
Giesbrecht et al, ²³ 2022	0.89 (0.69, 1.16)	63.30
Imboden et al, ²⁰ 2022 6 months	1.51 (0.25, 9.24)	1.32
Imboden et al, ²⁰ 2022 12 months	0.22 (0.01, 4.59) ———	0.46
Shuffrey et al, ¹⁵ 2022	1.80 (0.51, 6.28)	2.76
Overall	0.97 (0.79, 1.19)	•
Heterogeneity: $\vec{l} = 0.00\%$, p = 0.46		
	1/64	1/8 1 8

Random–effects DerSimonian Laird model

(b)

At risk of communication impairment	Odds ratio with 95% CI			Weight (%)
Huang et al, ²¹ 2021 6 months	1.48 (0.67, 3.24)			7.51
Huang et al, ²¹ 2021 12 months	1.51 (1.16, 1.96)			68.67
Giesbrecht et al, ²³ 2022	2.47 (1.56, 3.91)			21.94
Imboden et al, ²⁰ 2022 6 months	6.55 (0.33, 128.41)			0.52
Imboden et al, ²⁰ 2022 12 months	1.11 (0.02, 56.37)			0.30
Shuffrey et al, ¹⁵ 2022	2.23 (0.27, 18.16)			1.05
Overall	1.70 (1.37, 2.11)		•	
Heterogeneity: $f = 0.00\%$, p = 0.5 0				
		1/32	1/2	8 128

Random–effects DerSimonian Laird model

e-Figure 2. Meta-Analysis Results on Risk of (a) Problem-Solving and (b) Communication Among In Utero Exposed vs Unexposed Pandemic-Born Cohorts

(a)

At risk of problem–solving impairment	Odds ratio with 95% Cl		Weight (%)
Shuffrey et al, ¹⁵ 2022	1.39 (0.27, 7.15) —		20.30
Wu et al, ¹⁶ 2021	1.16 (0.51, 2.65)		79.70
Overall Heterogeneity: $\vec{f} = 0.00\%$, p = 0.85	1.20 (0.57, 2.51)		
	_	1/2 1 2 4	

Random–effects DerSimonian Laird model

(b)

At risk of communication impairment	Odds ratio with 95% Cl		Weight (%)
Wu et al, ¹⁶ 2021	0.27 (0.01, 5.65) ——		17.52
Shuffrey et al, ¹⁵ 2022	0.61 (0.15, 2.49)		82.48
Overall Heterogeneity: r ² = 0.00%, p = 0.6 3	0.53 (0.15, 1.89)		
	1/64	1/16 1/4	1 4

Random–effects DerSimonian Laird model