

# How Strong is the Association Between Preeclampsia/Eclampsia and Congenital Heart Disease?



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## Background

- Preeclampsia/Eclampsia (P/E) are common gestational conditions among pregnant women, which can put mother and fetus at risk.<sup>1,2</sup>
- It is unclear if P/E specifically affect incidence of congenital heart defects (CHD) in the fetus.
- This review investigates whether an association exists between CHD, and maternal P/E in the neurotypical and neurodivergent population.

## Results

Type of CHD	Prevalence	
	Total	Neurodiverse
Ventricular Septal Defect	1/240	?
Atrial Septal Defect	1/1859	?
Coarctation of the Aorta	1/1800	?
Tetralogy of Fallot	1/2518	?
Pulmonary Atresia	1/7100	?
Tricuspid Atresia	1/9751	?
Truncus Arteriosus	1/10000	?

Table 1: Prevalence of Congenital Heart Defects in the United States. Data Source: CDC. No information available for neurodivergent population in the United States.

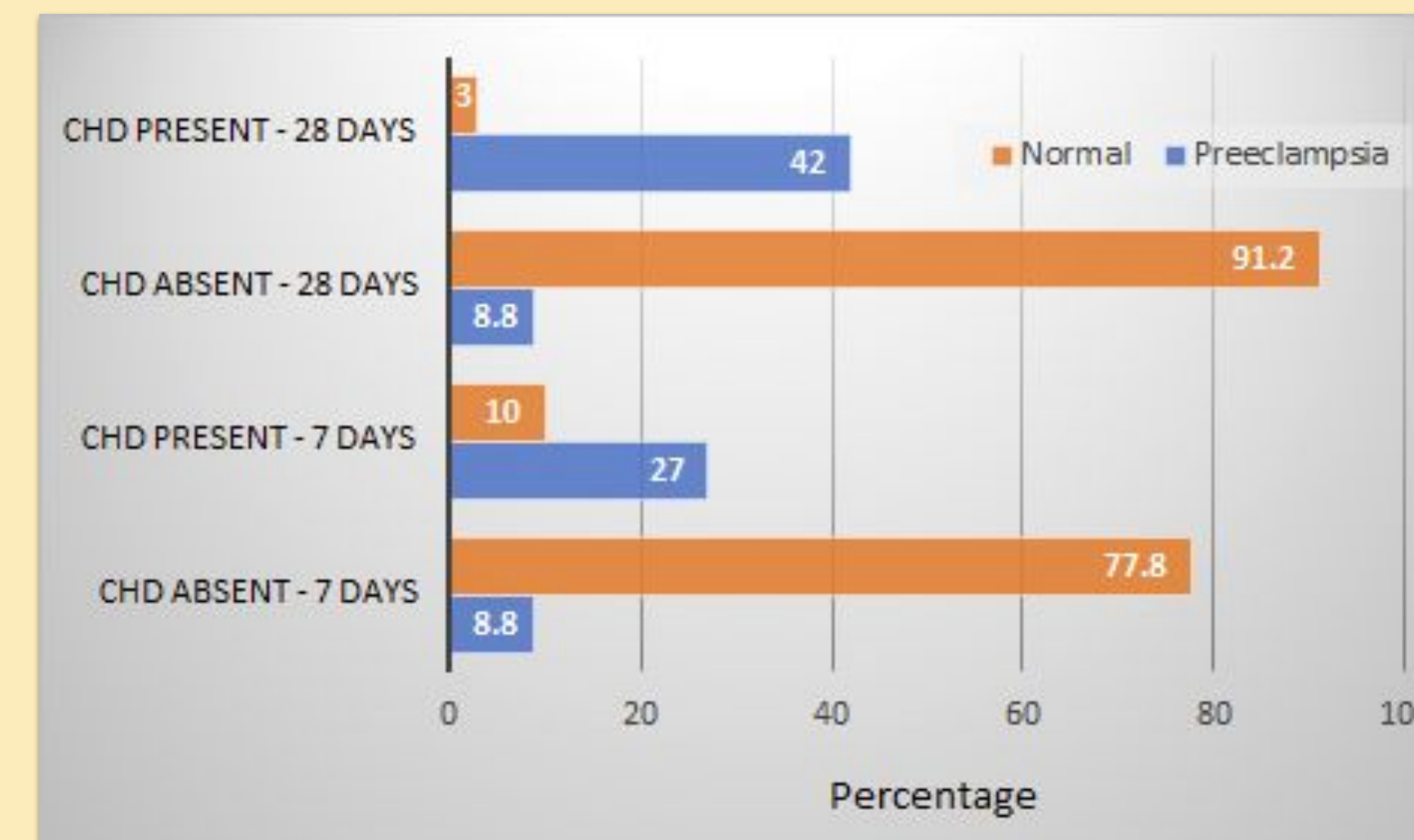


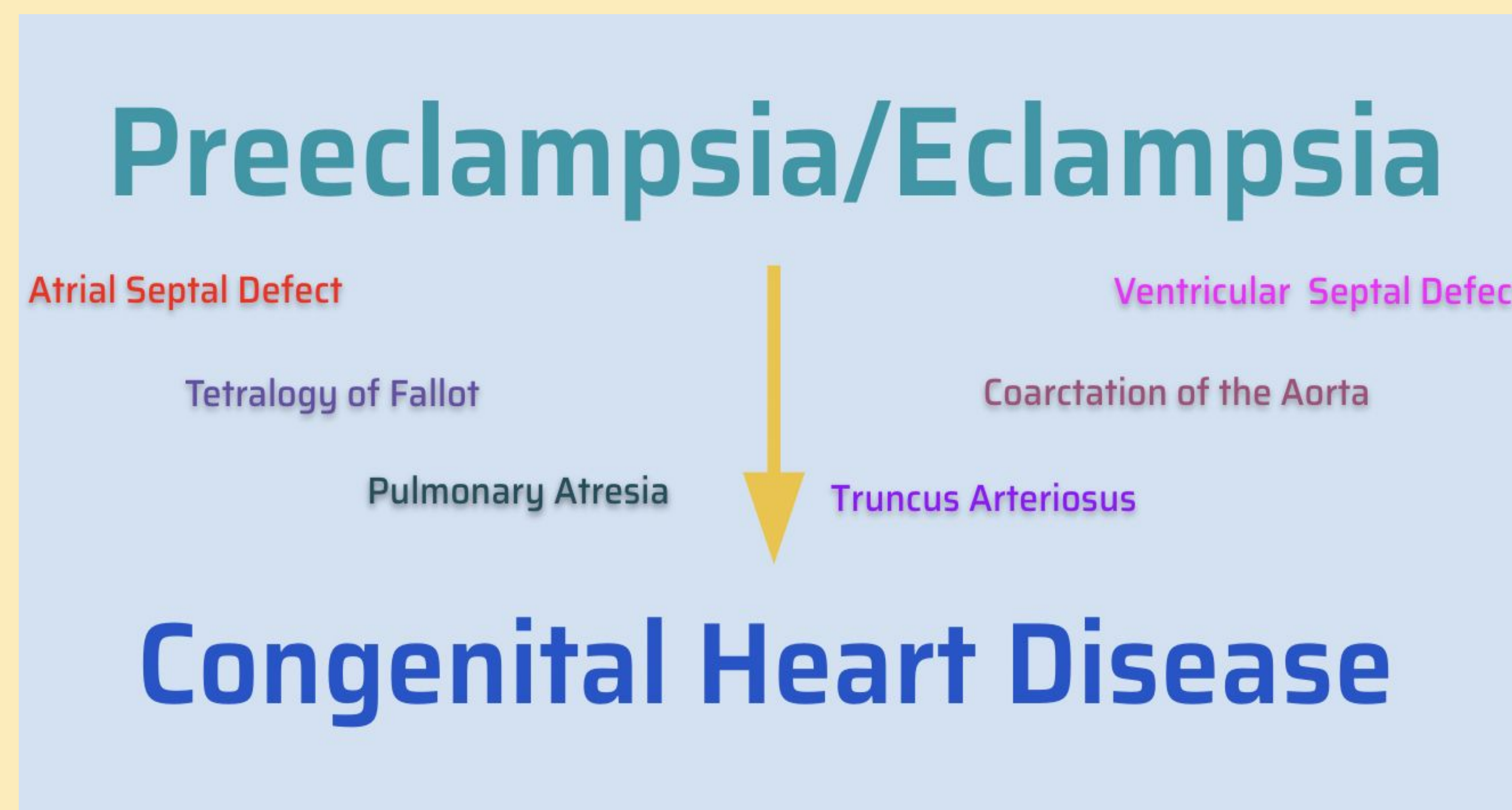
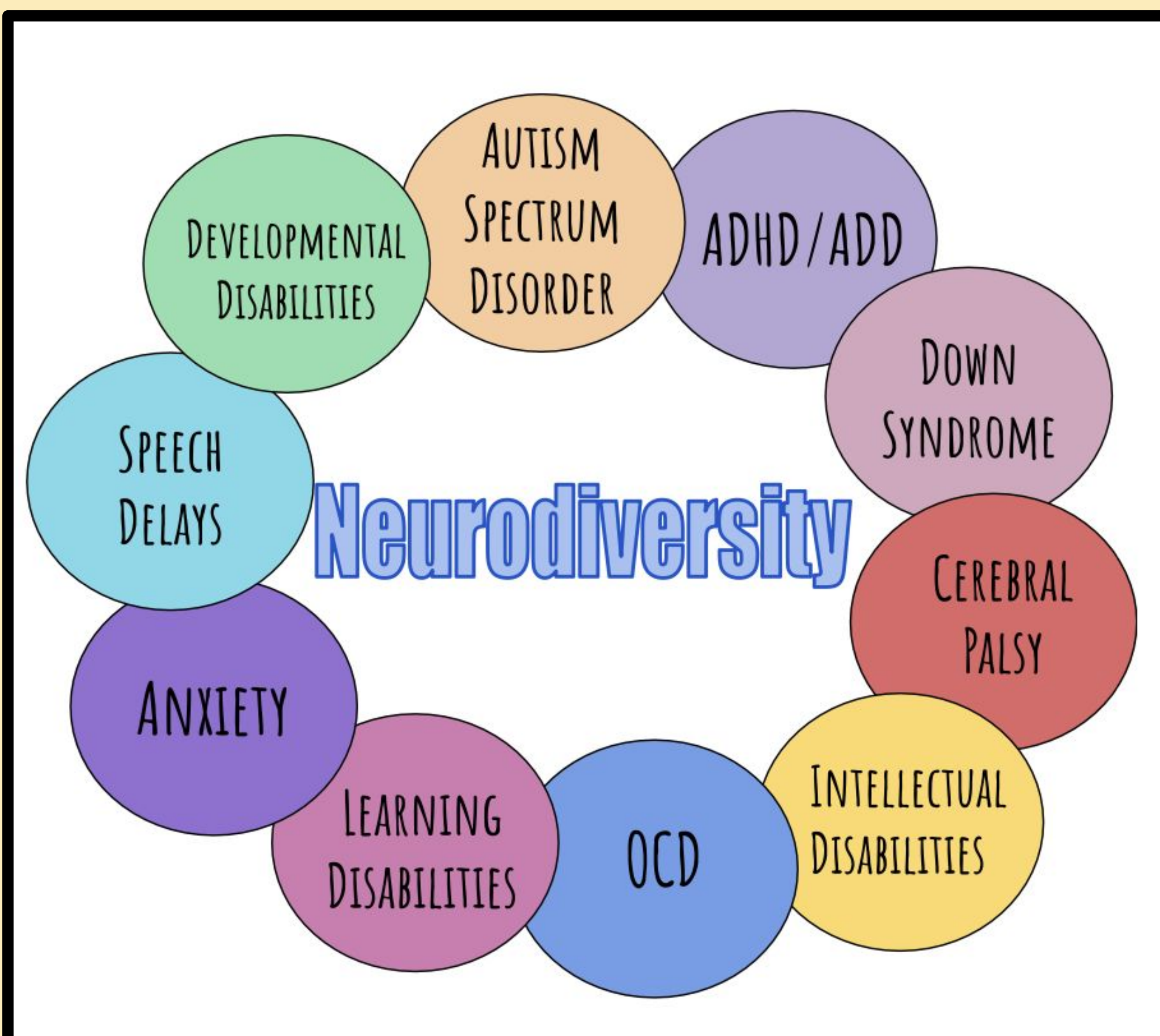
Figure 1: Percentage of children with Congenital Heart Defects upon Preeclampsia exposure.  $p < 0.001$  (28 days);  $p = 0.001$  (7 days). Data from Yilgwan et al., 2020 PLOS One

Variables	B	SE	Wald	p value	Exp (B)	Lower	Upper
Birth weight	0	0.001	0.424	0.52	1	1	1
Miscarriages	0.28	0.299	0.892	0.33	1.3	0.7	2.4
<b>Preeclampsia</b>	<b>2.06</b>	<b>0.586</b>	<b>12.437</b>	<b>&lt; .001</b>	<b>7.9</b>	<b>2.5</b>	<b>24.9</b>
Maternal age(yr)	-0.03	0.045	0.556	0.456	0.97	0.89	1.1
Gestational age	0.1	0.144	0.563	0.45	1.1	0.84	1.5

Table 2: Logistic regression estimates of the relationship between some study variables and congenital heart disease (CHD). Data from Yilgwan et al., 2020 PLOS One

## Discussion

- There is information on the relationship between P/E and CHD in neurotypical children: both in terms of prevalence and association (Tables 1 & 2; Figure 1).
- Is the relationship similar or stronger in the neurodivergent population?
- The answer is critical for overall care, especially with respect to end organ damage.
- Additional research is essential in order to provide optimal care to the already vulnerable neurodivergent population.



## References



Scan Here!

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