



# New Onset Substance Use Disorder Among High-Risk Teenagers And Young Adults: A Longitudinal Study



Andrés Román-Jarrín<sup>1</sup> MD, MS; Merranko J.<sup>1</sup>, Hafeman D.<sup>1</sup>, Goldstein T. R.<sup>1</sup>, Diler R.<sup>1</sup>, Monk K.<sup>1</sup>, Liao F.<sup>1</sup>, Goldstein B.I.<sup>2</sup>, Axelson D.<sup>3</sup>, Birmaher B.<sup>1</sup>.

<sup>1</sup> Department of Psychiatry, Western Psychiatric Hospital, University of Pittsburgh, Pittsburgh, PA.  
<sup>2</sup> Center for Addiction and Mental Health, University of Toronto Faculty of Medicine, Ontario, Canada.  
<sup>3</sup> Nationwide Children's Hospital and The Ohio State College of Medicine, Columbus, Ohio.

## INTRODUCTION

Offspring of bipolar parents (OBP) have a higher risk of developing a substance use disorder (SUD) compared to offspring of control parents (OCP)

### Aim

We examined the prevalence and incidence of new onset SUD and the factors ascertained at intake associated with increased risk for new onset SUD in OBP compared with OCP (offspring of parents with and without psychopathology)

## METHODS

1. **Design:** Prospective longitudinal cohort study.

2. **Population:**

	Without SUD at intake	With SUD at intake
OBP	484 (59%)	16 (70%)
OCP	OPWP	195 (24%)
	OPW/P	142 (17%)
		6 (26%)
		1 (4%)

OPWP: Offspring of parents with psychopathology  
 OPW/P: Offspring of parents without psychopathology

Mean ages at intake: 10.6 ± 3.6 years.  
 Mean age at follow-up: 21.5 ± 6.5. years

3. **Variables:** Demographic, Clinical and family history variables were assessed over a median of 12.5 years using the Longitudinal Interval Follow-up Evaluation, Kiddie Schedule for Affective Disorders and Schizophrenia, and the Structured Clinical Interview for DSM-IV

4. **Statistics:** Risk factors were analyzed using a least absolute shrinkage and selection operator (LASSO)

## Offspring Risk Of New Onset SUD Increases If Both Parents Have SUD

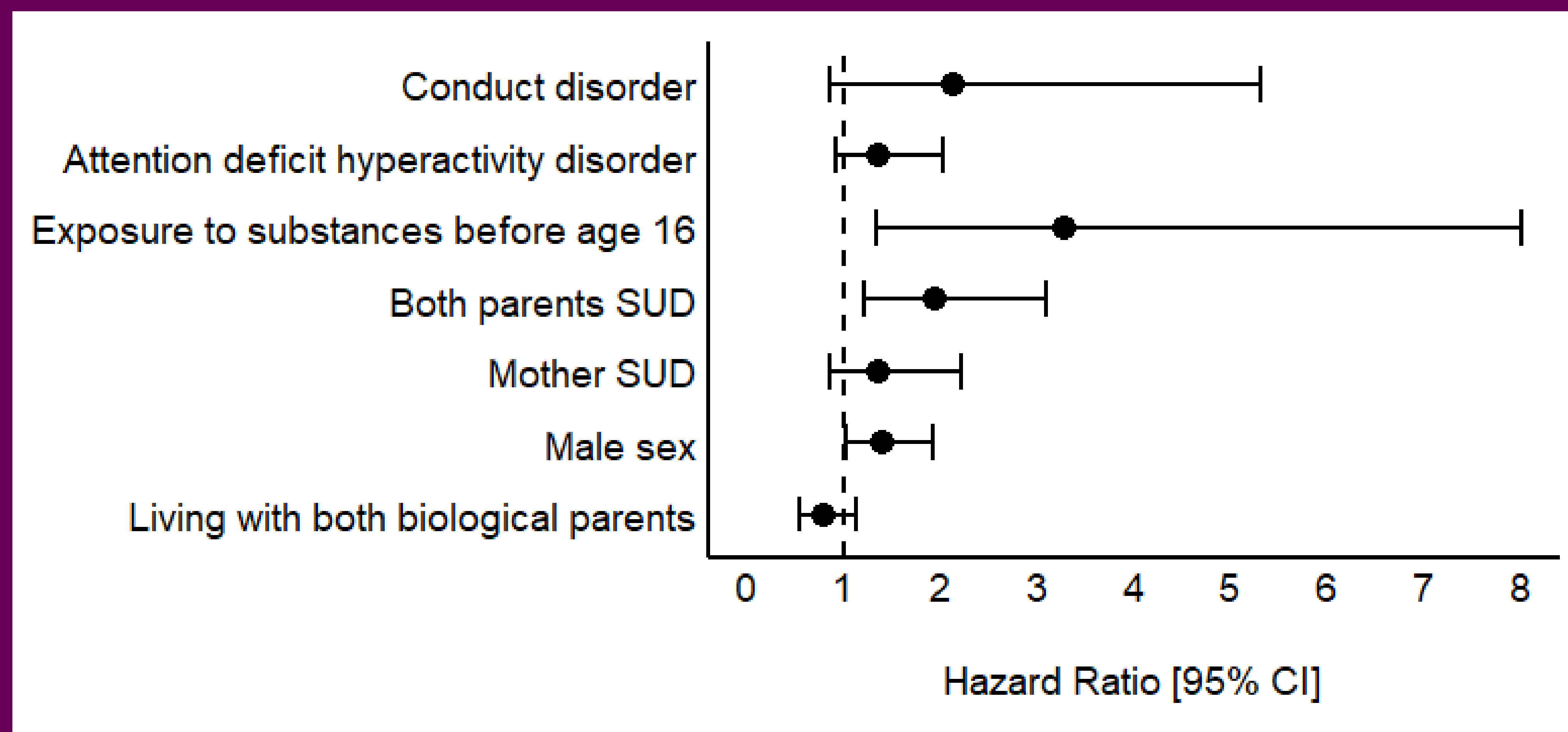


Fig2. Hazard ratios with 95% confidence intervals (estimated via frailty model) for predictors selected by least absolute shrinkage and selection operator (abbreviations: CI=confidence interval, SUD=substance use disorder)

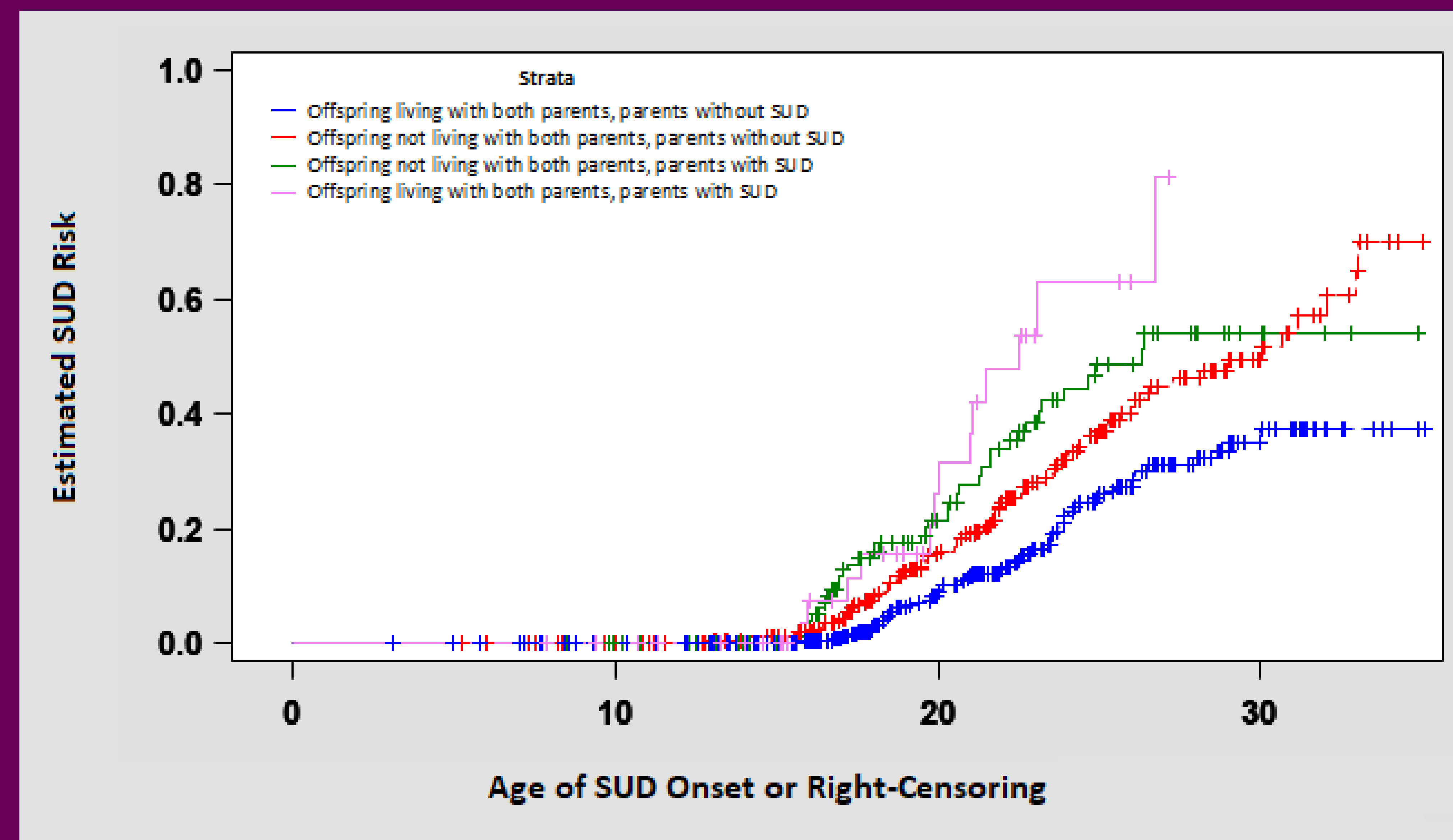


Fig 1. Kaplan-Meier estimates of new-onset SUD risk by age (one minus survival probability) contrasting offspring based on living or not with both parents and parental SUD diagnoses before SUD onset or right censoring (abbreviation: SUD=substance use disorder)

## RESULTS

	Incidence	Prevalence
OBP	127 (26%)	143 (29%)
OCP	OPWP	39 (20%)
	OPW/P	24 (17%)
		45 (22%)
		25 (17%)

• The median age of SUD onset was 32.0 years old

SUD Risk by Parental Grouping				
	HR	95% Wald CI	p-value	
OBP vs OPW/P	1.63	0.99 2.68	0.055	
OBP vs OPWP	1.36	0.99 2.06	0.150	
OPW/P vs OPWP	0.84	0.47 1.49	0.540	

SUD Risk Factors in OBP				
	HR	95% Wald CI	p-value	
Conduct Disorder	4.43	1.79 10.97	0.001	
Maternal SUD	1.65	1.07 2.53	0.023	
Male sex	1.57	1.06 2.30	0.023	
ADHD	1.27	0.80 2.02	0.317	

## CONCLUSIONS

- SUD in OBP is prevalent
- OBP have a non-significant trend for higher SUD risk compared to OPW/P
- Conduct disorder quadrupled the risk of new onset SUD in OBP
- There is over a 60% risk of new onset SUD before age 30 in offspring of parents with SUD

### References

Lau P, Hawes D, Hunt C, Frankland A, Roberts G, Mitchell P (2018). Prevalence of psychopathology in bipolar high-risk offspring and siblings: a meta-analysis. *Eur Child Adolesc Psychiatry* (2018) 27:823-837. <https://doi.org/10.1007/s00787-017-1050-7>