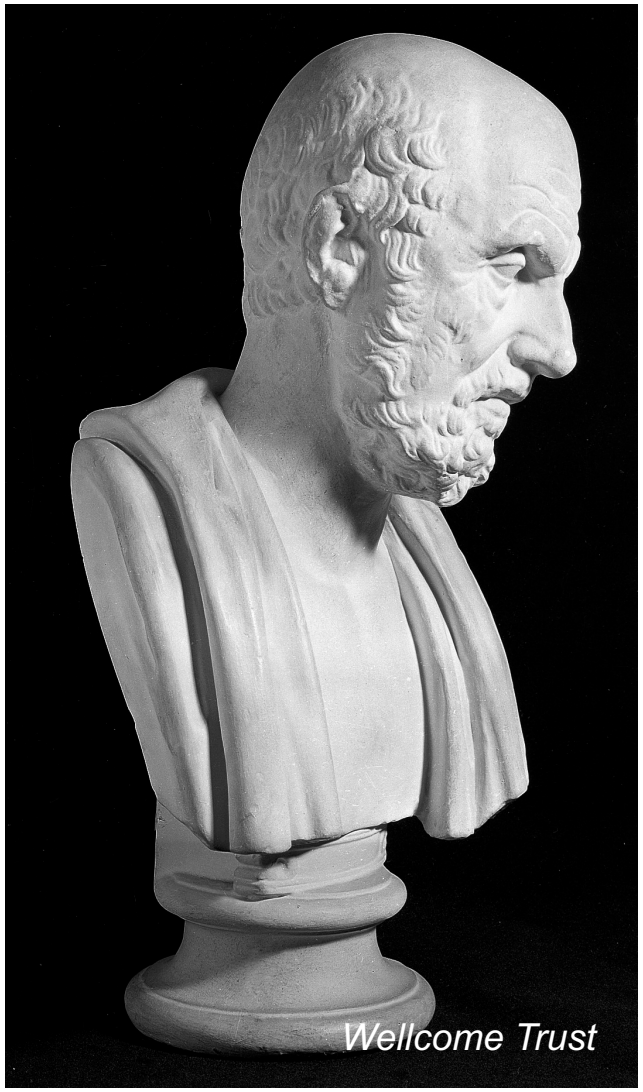
Psychosis and Motherhood

Arianna Di Florio

diflorioa@cf.ac.uk

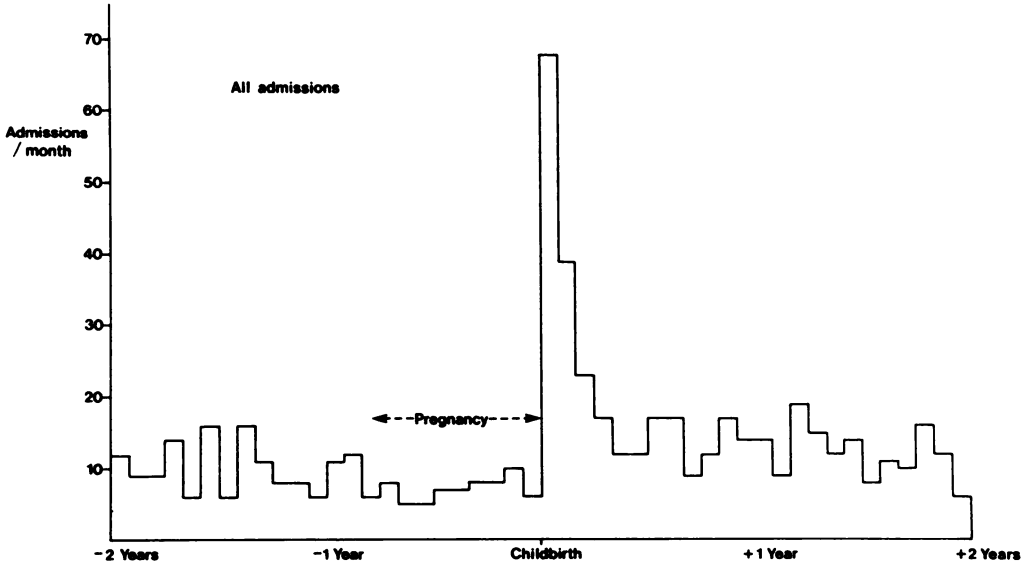


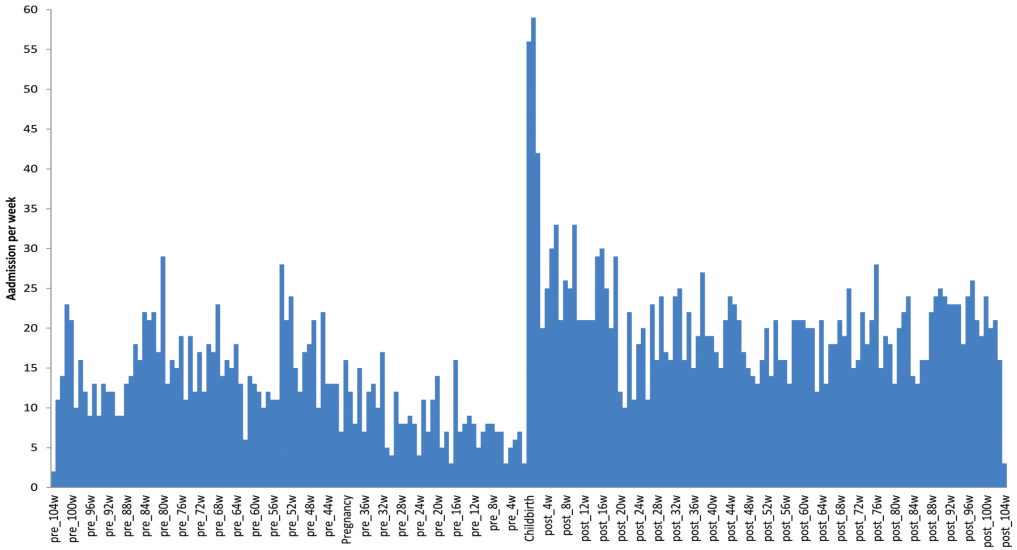
Hippocrates of Kos
(c. 460 – c. 370 BC)

Jean-Étienne Dominique Esquirol
(1772 –1840)

Louis-Victor **Marcé**
(1828, 1864)

The postpartum is a period of high risk





British Journal of Psychiatry (1987), **150**, 662–673

Epidemiology of Puerperal Psychoses

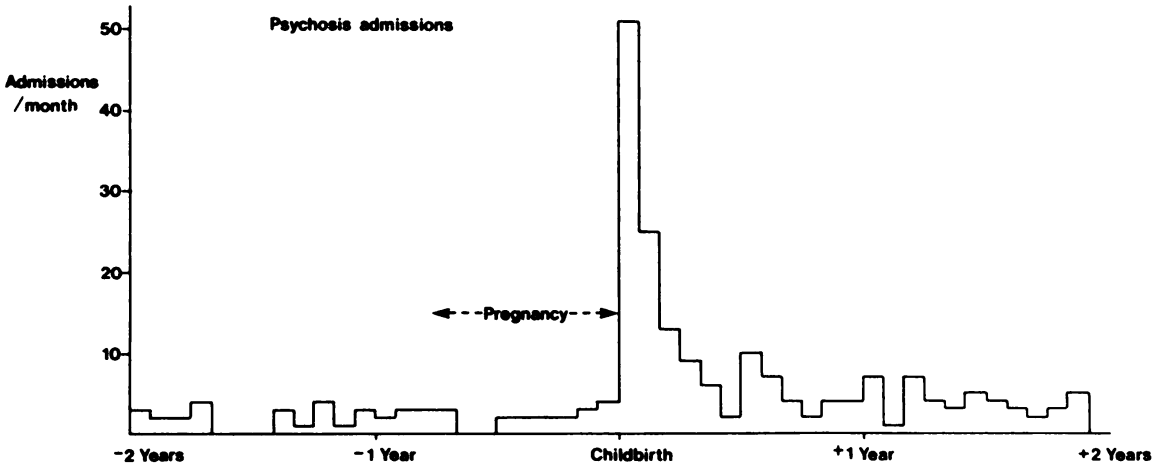
R. E. KENDELL, J. C. CHALMERS and C. PLATZ

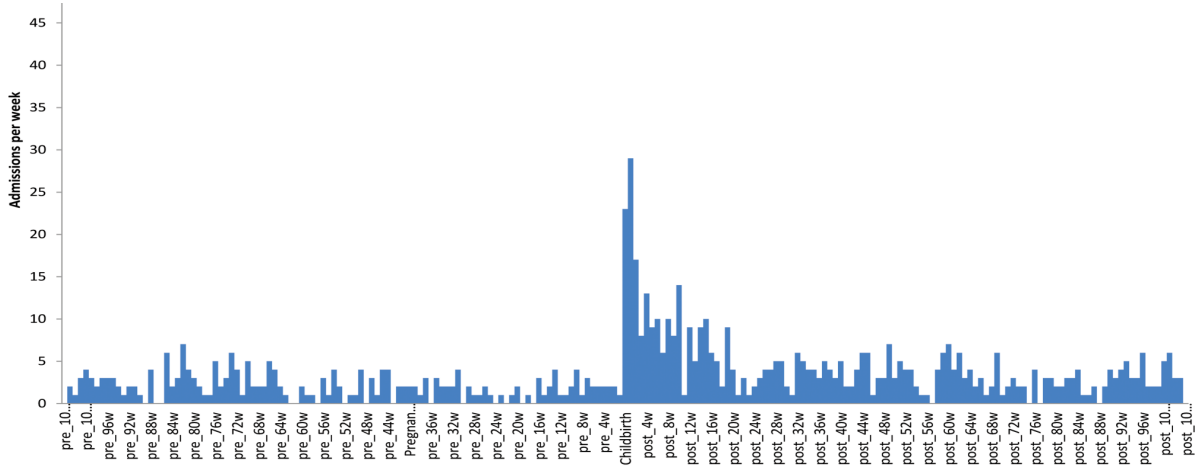
BMJ Open Admission to psychiatric hospital in the early and late postpartum periods: Scottish national linkage study

Julie Langan Martin,[1] Gary McLean,[1] Roch Cantwell,[2] Daniel J Smith[1]

2016;**6**:e008758. doi:10.1136/bmjopen-2015-008758

The postpartum is a period of high risk of psychosis





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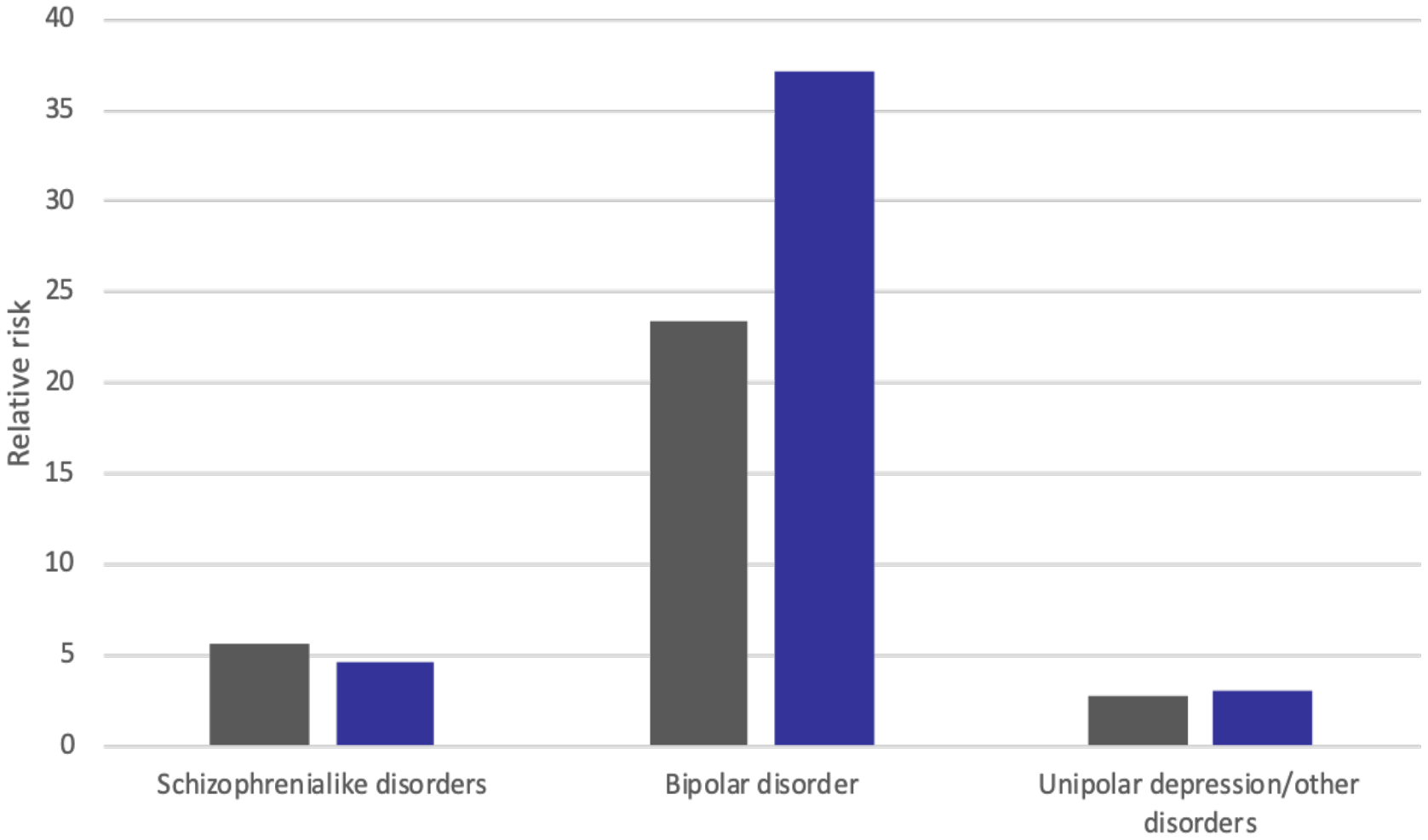
New Parents and Mental Disorders
A Population-Based Register Study

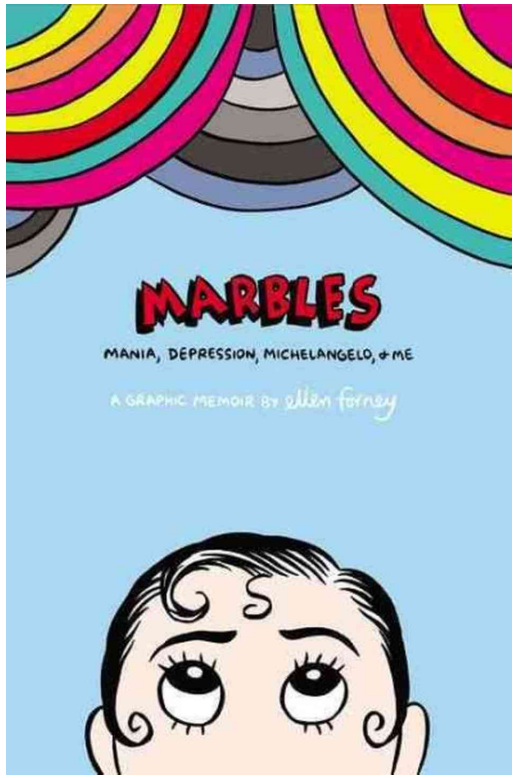
JAMA. 2006;296:2582-2589

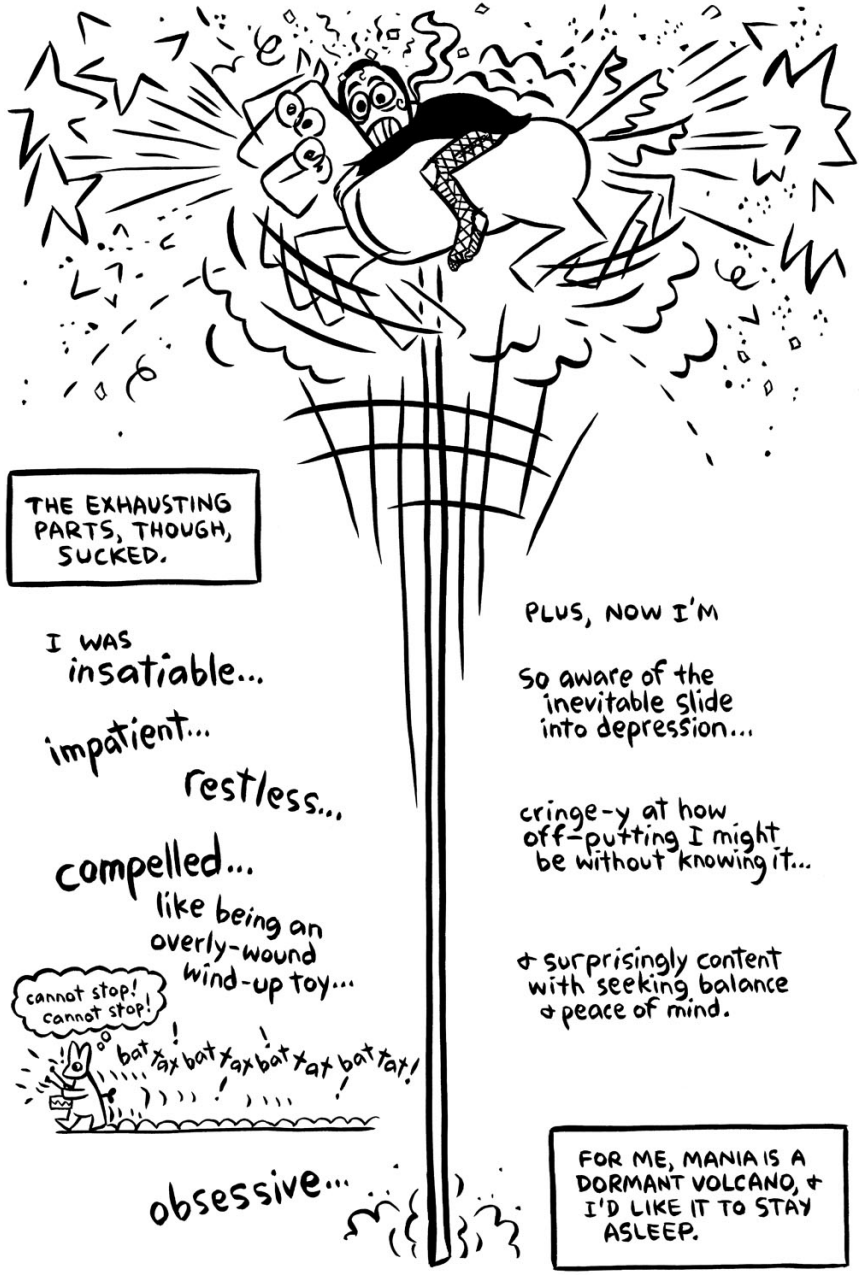
Risks and Predictors of Readmission for a Mental Disorder During the Postpartum Period

Arch Gen Psychiatry. 2009;66(2):189-195

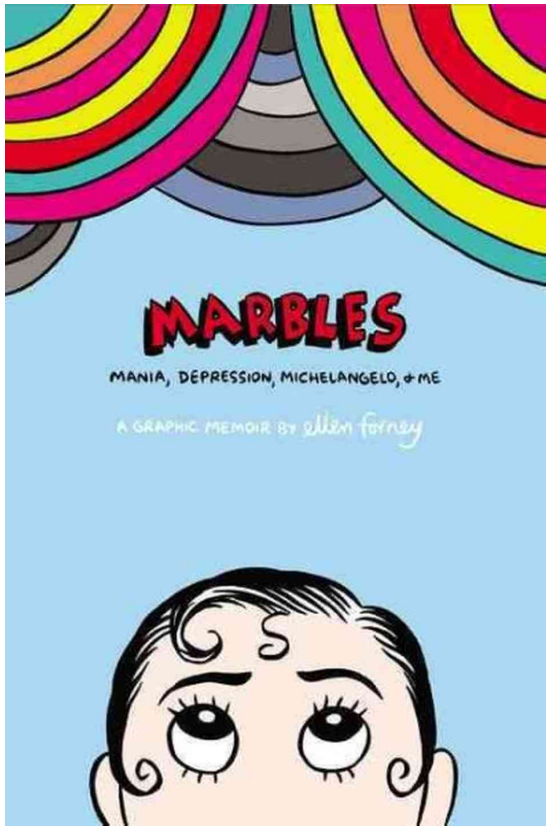


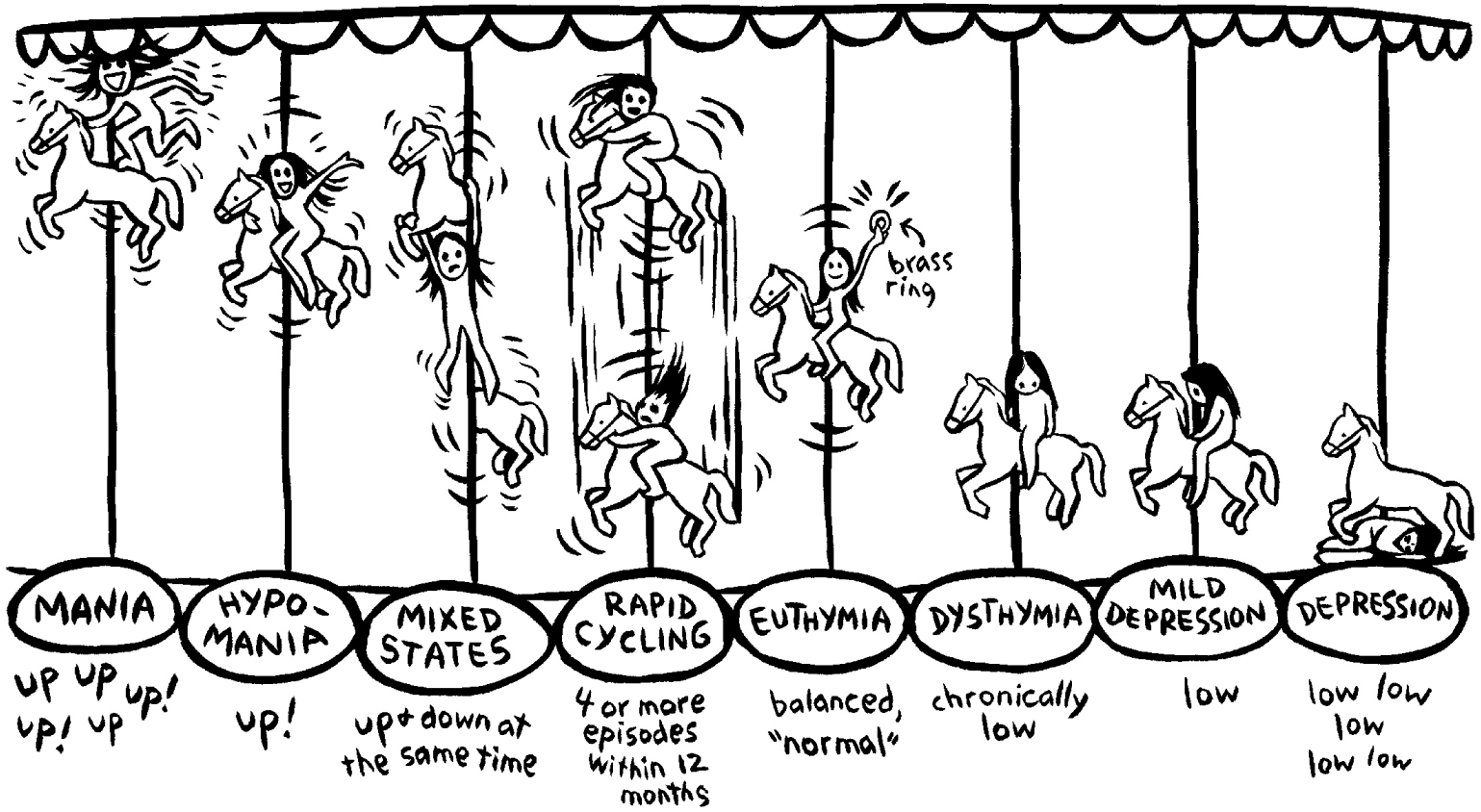
Mania





Ellen Forney
Marbles: Mania, Depression, Michelangelo, and Me: A Graphic Memoir
Penguin, 2012





Ellen Forney
Marbles: Mania, Depression, Michelangelo, and Me: A Graphic Memoir
Penguin, 2012

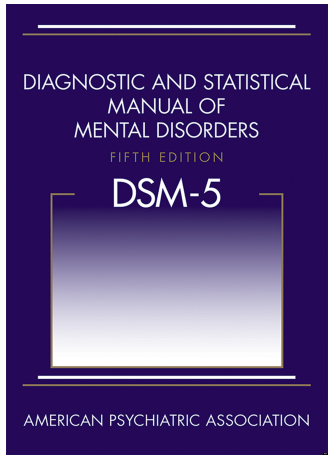
Conclusion

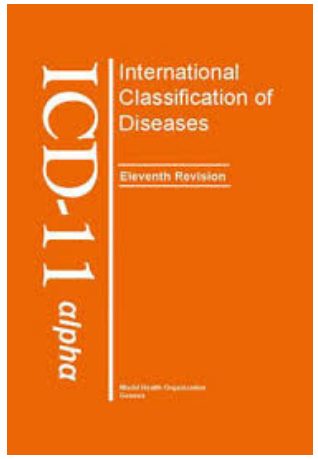
- Robust evidence for association between psychosis and childbirth
  - Specific for bipolar disorder

Problems

- Nature of the association between postpartum psychosis and bipolar disorder
- Identification and clinical management of women at risk

Nature of the association between postpartum psychosis and bipolar disorder





THE LANCET
Psychiatry

CORRESPONDENCE | VOLUME 3, ISSUE 6, P502, JUNE 01, 2016

The birth of a psychiatric orphan disorder: postpartum psychosis

Arianna Di Florio • Trine Munk-Olsen • Veerle Bergink

Postpartum psychosis

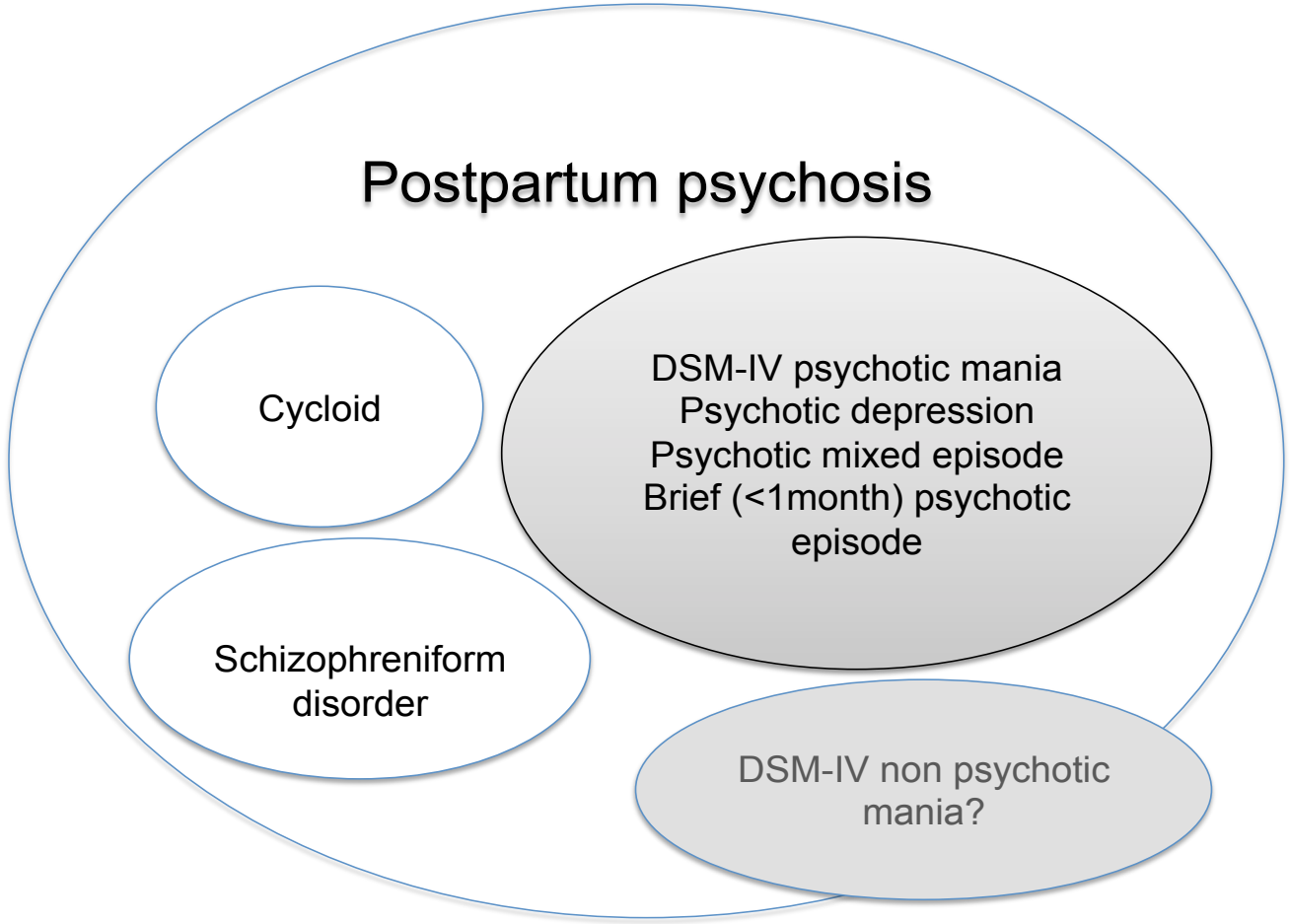
ORPHA:443173

Classification level: Disorder

Synonym(s):
Puerperal psychosis

Age of onset: **Adult**

ICD-10: **F53.1**



A case – control study of filicide in 90 mothers

30 committed filicide
30 with psychopathology
30 without psychopathology

Bipolar Disorder
BDRN
Research Network

Genomic evidence differentiates First Onset Postpartum Psychosis from Bipolar Disorder

nature genetics
ARTICLES
https://doi.org/10.1038/s41588-019-0397-8

Genome-wide association study identifies 30 loci associated with bipolar disorder

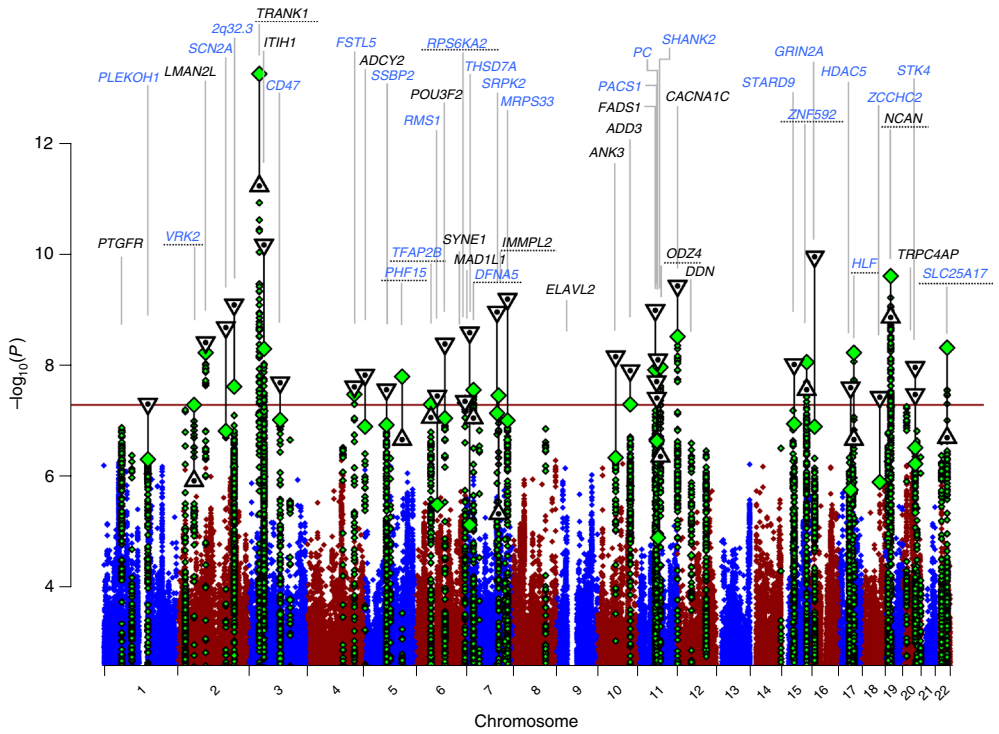


Fig. 1 | Manhattan plot for our primary genome-wide association analysis of 20,352 cases and 31,358 controls. GWAS $-\log_{10}P$ values are plotted for all SNPs across chromosomes 1–22 (diamonds, green for loci with lead SNP GWAS $P<10^{-6}$). Combined GWAS + follow-up $-\log_{10}P$ for lead SNPs reaching genome-wide significance in either GWAS or combined analysis (triangles, inverted if GWAS + follow-up $-\log_{10}P >$ GWAS $-\log_{10}P$). Labels correspond to gene symbols previously reported for published loci (black) and the nearest genes for newly identified loci (blue), at top if GWAS + follow-up $P<5\times10^{-8}$. Loci with one-tailed follow-up $P>0.05$ (Table 1) have dotted underlined locus names.

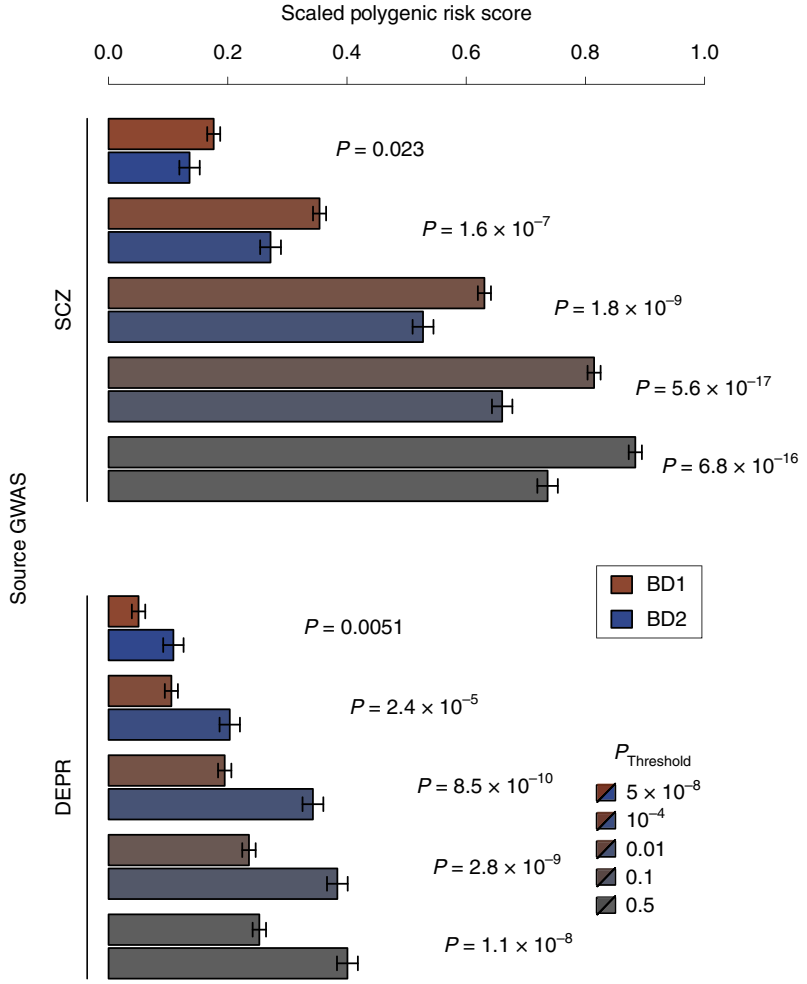
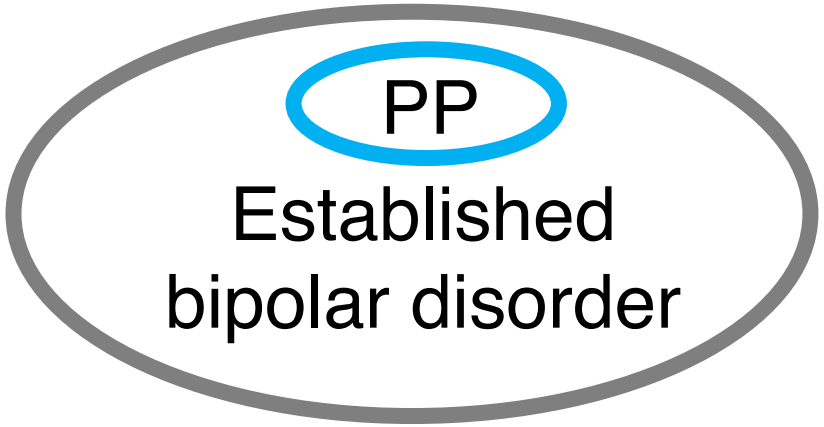
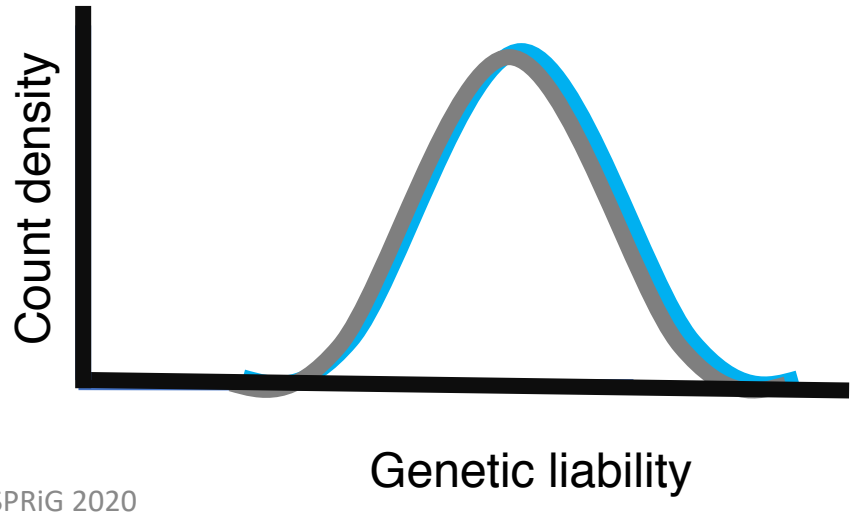
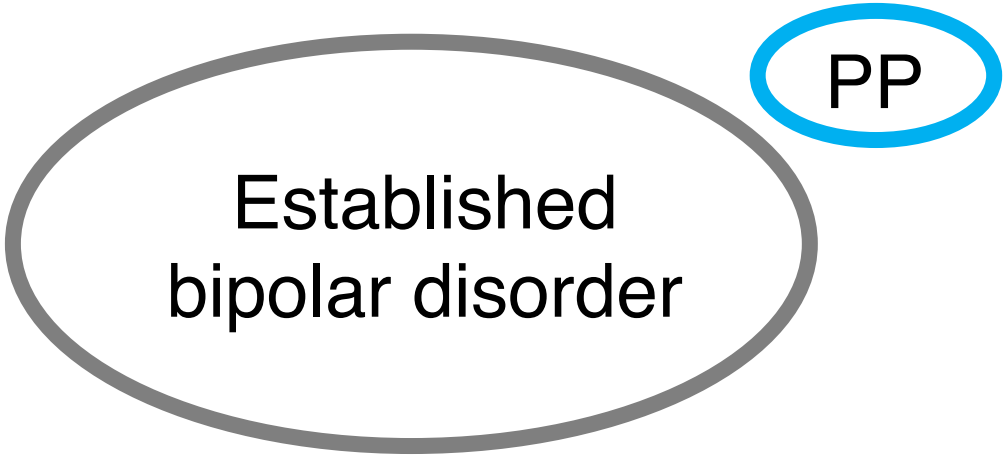


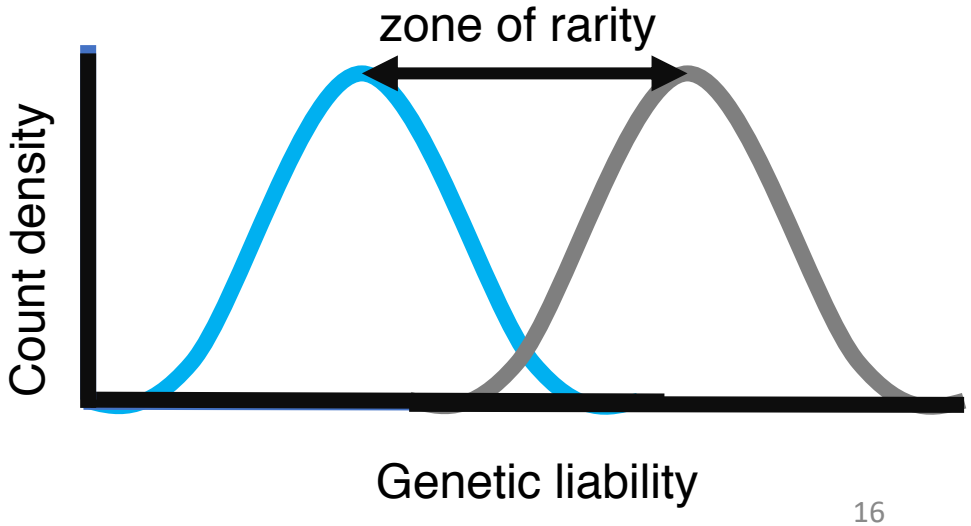
Fig. 2 | Association of BD1 and BD2 subtypes with SCZ and DEPR PRS. The mean PRS values (1 s.e.m. error bars) are shown, adjusted for study and ancestry covariates and scaled to the PRS mean and s.d. in control subjects, in BD1 (red) and BD2 (blue) cases, for increasing source GWAS *P* value thresholds (increasing gray) as indicated. *P* values (italics) test BD1 versus BD2 mean PRS, in logistic regression of case subtype on PRS with covariates. Results are detailed in Supplementary Table 13.

Heuristic model



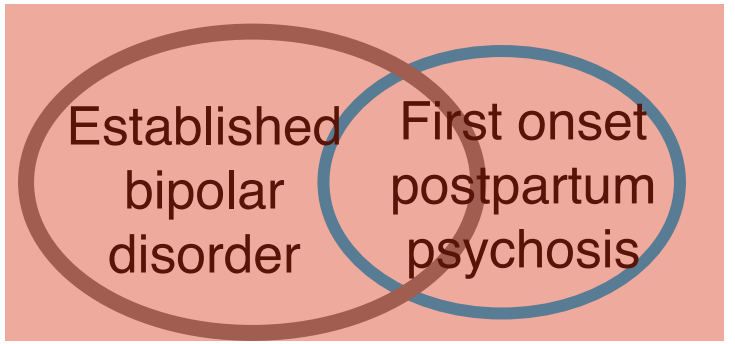


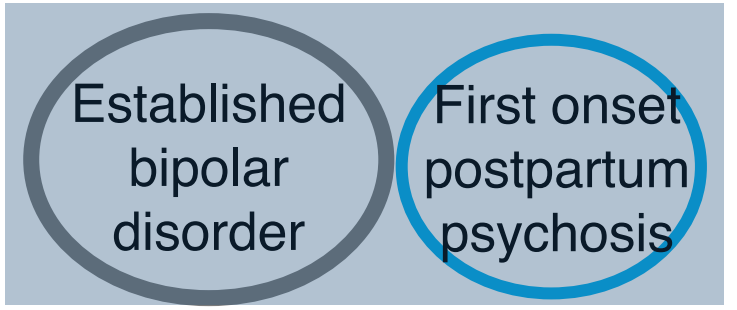


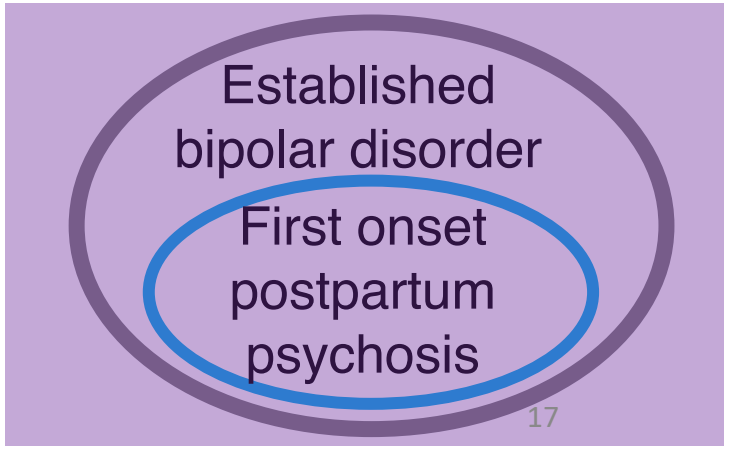


Is postpartum psychosis a disorder in its own right?

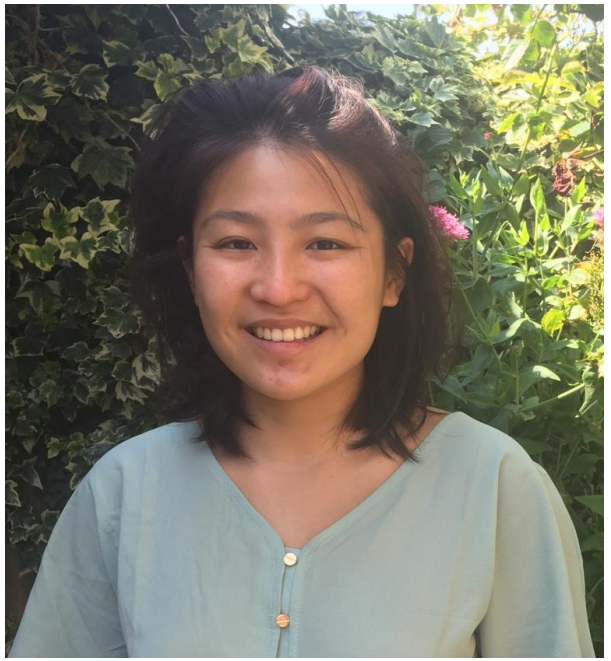
"Postpartum psychosis"





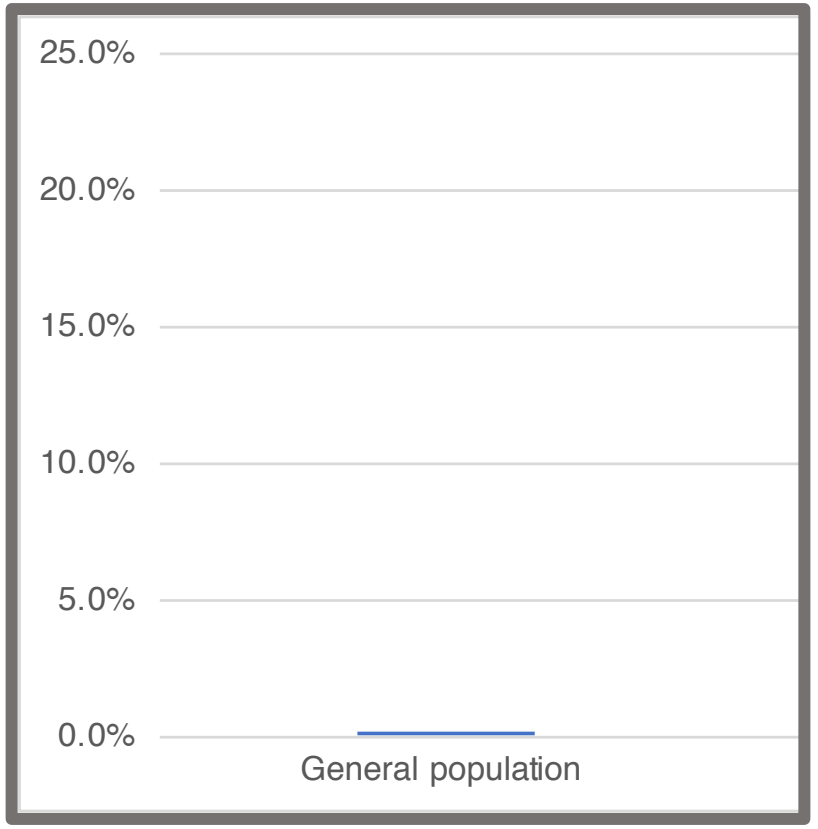


Large-scale, international, clinical-genetic study of postpartum psychosis



YangJM1@cardiff.ac.uk

Identification and clinical management of women at risk


25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
General population

Recognising women at risk

ORIGINAL ARTICLE

Perinatal Episodes Across the Mood Disorder Spectrum

Arianna Di Florio, MD; Liz Forty, PhD; Katherine Gordon-Smith, PhD; Jess Heron, PhD; Lisa Jones, PhD; Nicholas Craddock, FRCPsych, PhD; Ian Jones, MRCPsych, PhD

JAMA Psychiatry. 2013;70(2):168-175.
Published online December 17, 2012.
doi:10.1001/jamapsychiatry.2013.279

INCLUSION CRITERIA

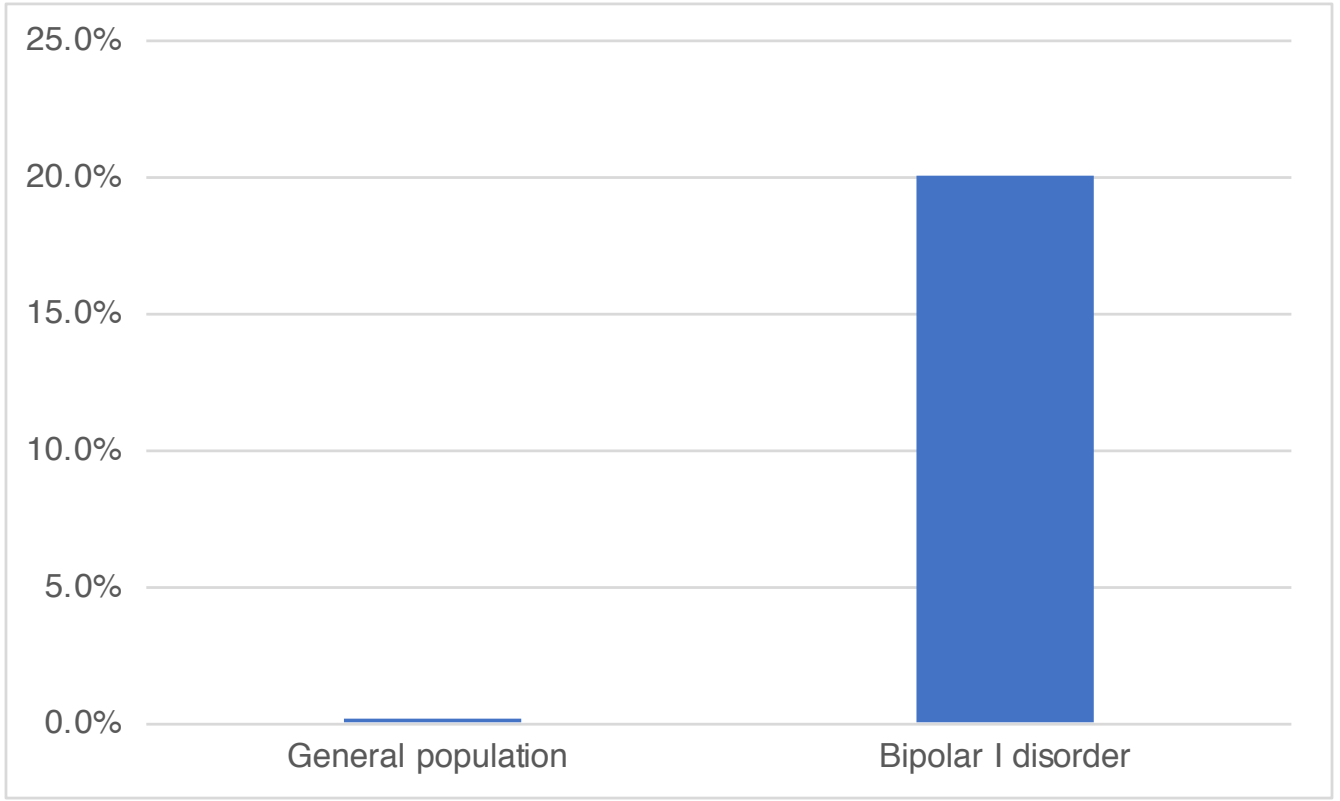
- Parous
- Primary mood disorder before 50
- Not recruited because PNE

LIFETIME DIAGNOSIS

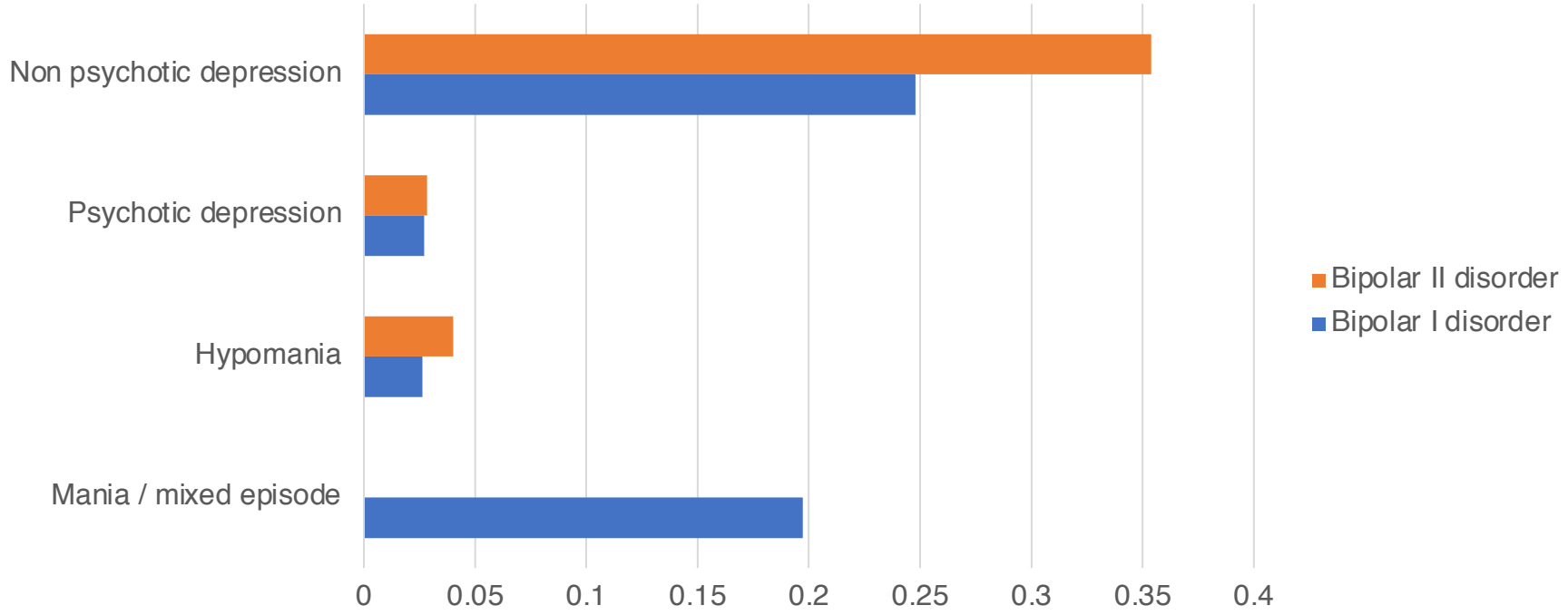
BD-I (N=980, 1,404 deliveries)

BD-II (N= 232, 424 deliveries)

Rates of postpartum psychosis

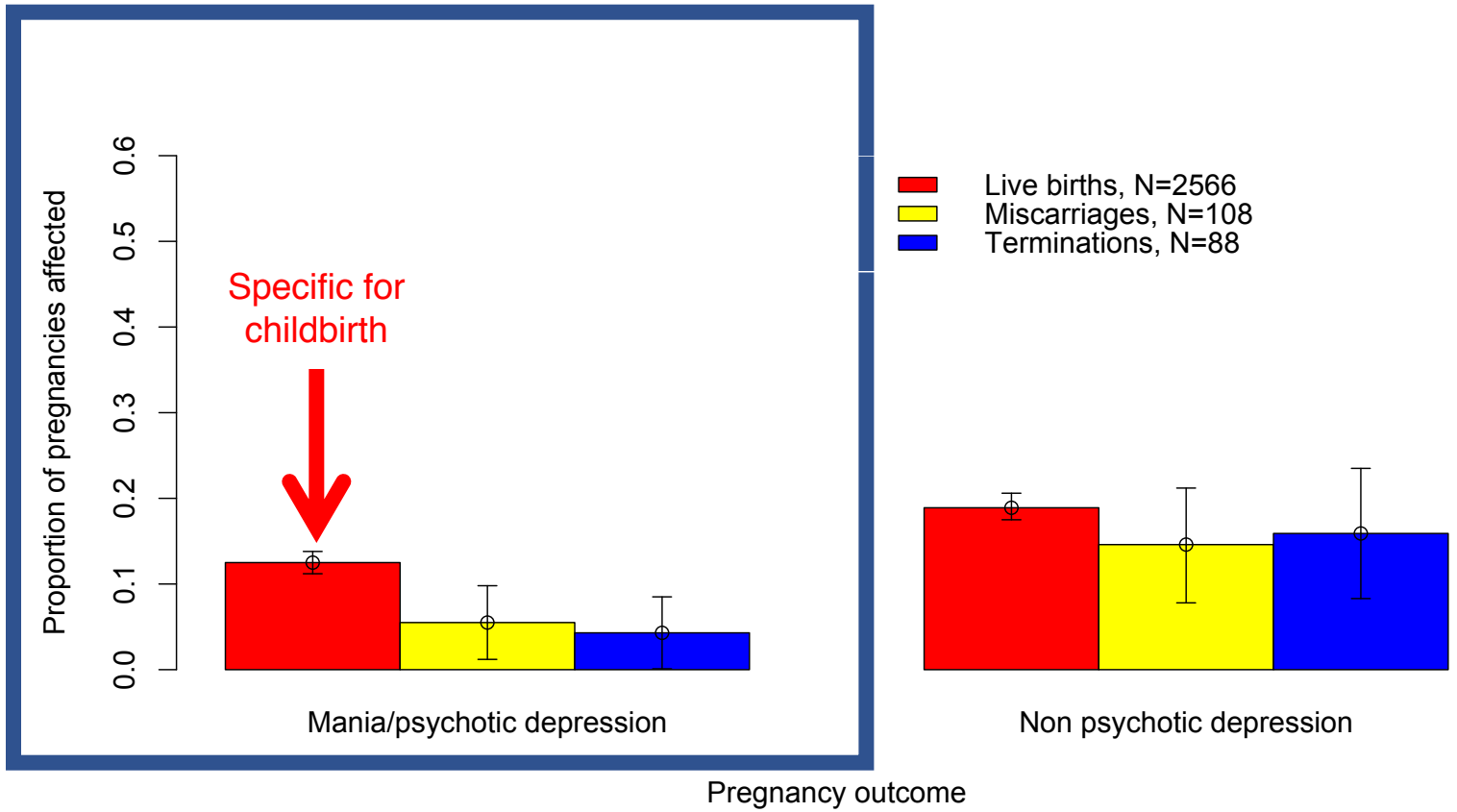


Bipolar disorder in the perinatal period



Di Florio et al, JAMA Psychiatry 2013

Specificity of childbirth trigger in bipolar disorder



Di Florio et al, Bipolar Disorders, 2014

BJPsych
The British Journal of Psychiatry (2018)
213, 542–547. doi: 10.1192/bjp.2018.92

Stratification of the risk of bipolar disorder recurrences in pregnancy and postpartum

Arianna Di Florio, Katherine Gordon-Smith, Liz Forty, Michael R. Kosorok, Christine Fraser, Amy Perry, Andrew Bethell, Nick Craddock, Lisa Jones and Ian Jones

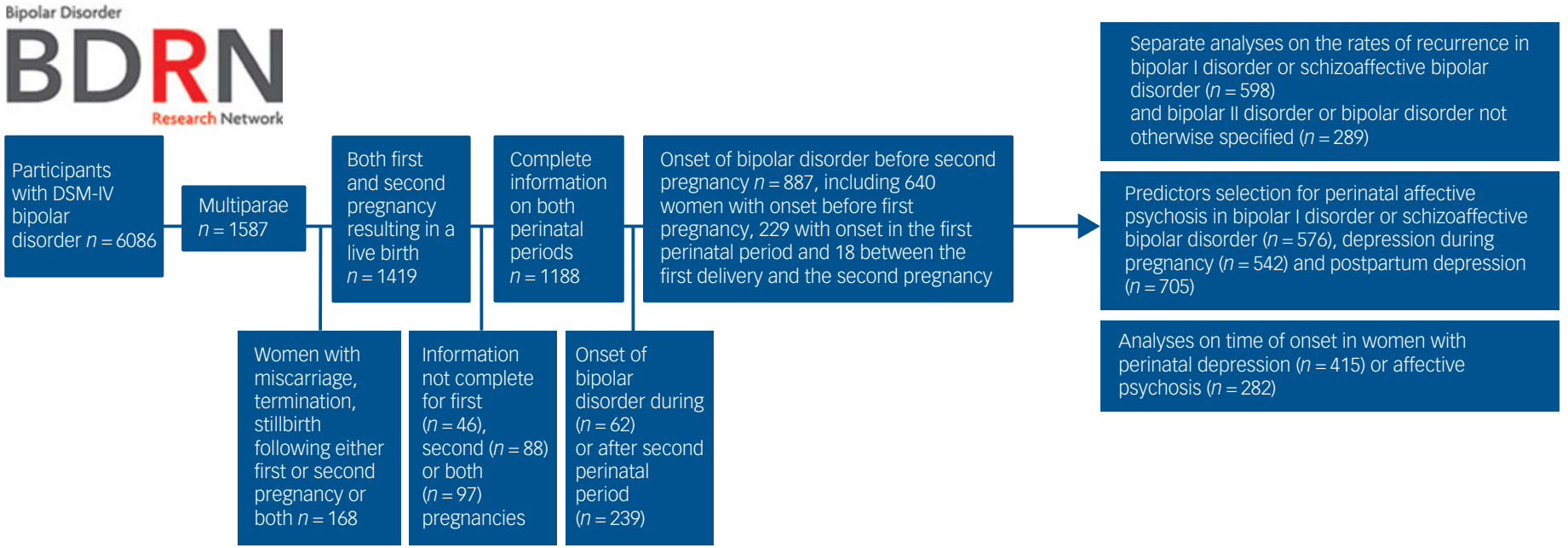
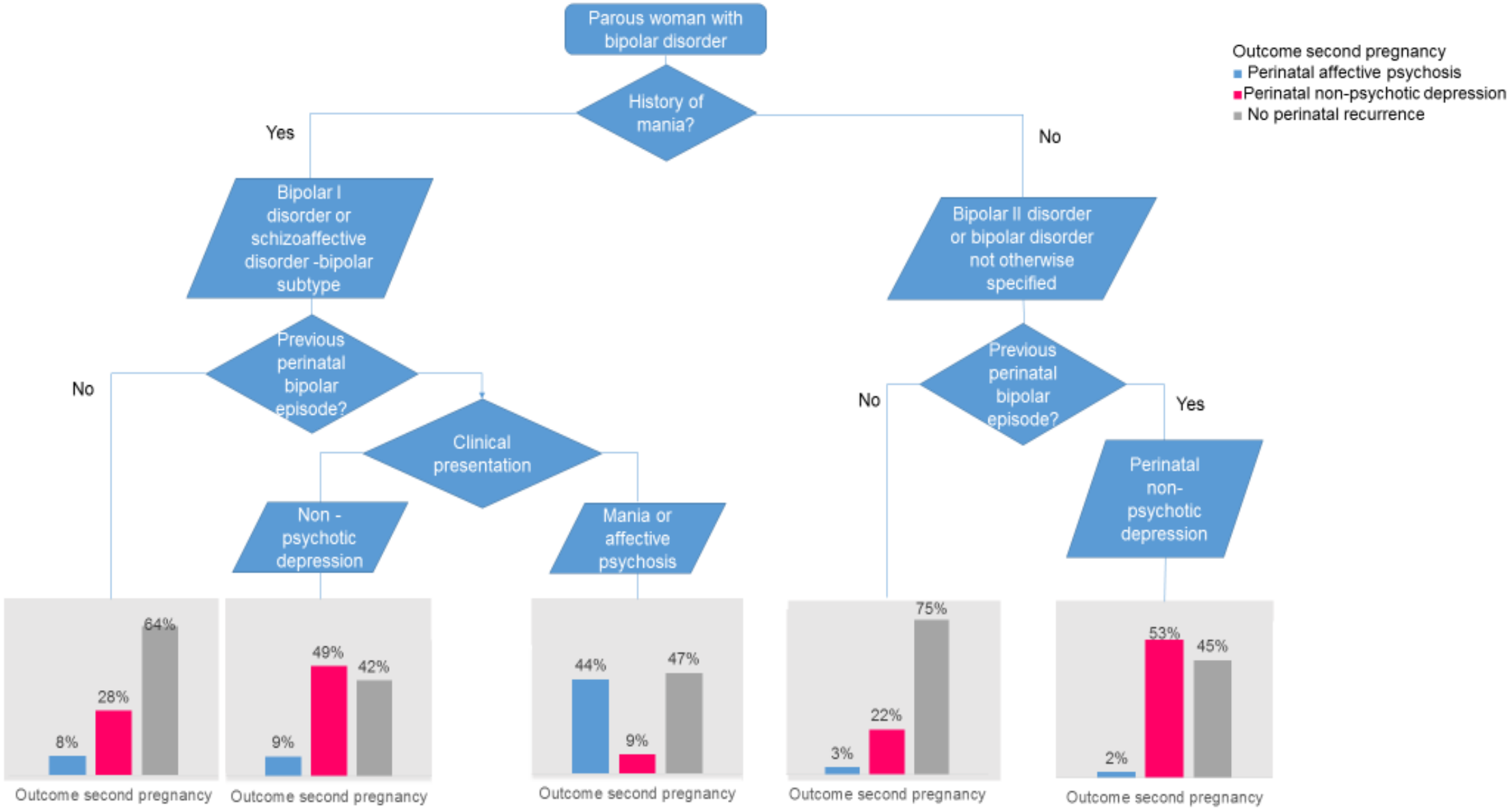


Fig. 1 Participant selection and analytic plan.



Di Florio et al, British J Psych 2018

Conclusion

- Robust evidence for association between psychosis and childbirth
  - Specific for bipolar disorder
- Only a partial biological overlap between bipolar disorder and postpartum psychosis
- Not all women with bipolar disorder have the same perinatal risk profile

Bipolar Disorder BDRN Research Network

NCMH National Centre for Mental Health

MRC Centre for Neuropsychiatric Genetics and Genomics

The Stanley Foundation

wellcome

erc European Research Council

BRAIN & BEHAVIOR RESEARCH FOUNDATION
Awarding NARSAD Grants

MRC Medical Research Council

Ymchwil Iechyd a Gofal Cymru
Health and Care Research Wales

Ariennir gan Lywodraeth Cymru
Funded by Welsh Government