Search, Selection, and Data Extraction Procedures

Literature search

A systematic electronic literature search was performed by a medical information specialist on August 26th 2013 in all large medical electronic databases: Embase, MEDLINE, Cochrane, Web-Of-Science, PsycINFO and Google Scholar. The following search terms were used: "risk", "relapse", "recurrent", "recur*", "bipolar disorder", "bipolar", "bipolar*", "manic", "mania", "pregnancy", "pregnant", "puerperium", "pregnan*" "puerper*", "puerperal disorder", "post natal", "postnatal", "postnatal care", "perinatal period", "perinatal care", "puerperal psychosis", "post partum", "postpartum", "psychosis", "puerperal psychosis", "psycho*" and "English". Exclusion search terms were: "conference", "abstract", "conference paper", "conference review", "editorial", "erratum", "case study", and "case report". On January 6th and November 11th 2014, search updates were performed to locate publications after the initial search. Furthermore, relevant textbooks and bibliographies of reviews and retrieved papers were searched to identify any additional papers.

All papers were handled and screened for duplicates with the citation manager EndNote (1). At first, papers eligible for inclusion were screened in an inter-rater session. Two reviewers (RW and AMK) independently screened all titles and abstracts for eligibility, after which full text articles were assessed. Mismatches between these reviewers were discussed with an independent psychiatrist (VB). Inter-rater agreement was calculated, by which a kappa of 0.61-0.80 reflected substantial, and a kappa of 0.81-1.00 nearly perfect, agreement (2).
When data was reported in an inconclusive format, the full text of the paper was screened for additional clarification. If necessary, authors were contacted to request additional data. If more papers published about the same cohort, the most complete/recent publication was included in the quantitative synthesis.

References

1. EndNote X5.0.1 Thomson Reuters 1988-2014.
2. Viera AJ, Garrett JM. Understanding interobserver agreement: the kappa statistic. Fam Med. 2005;37:360-363.

TABLE S1. Overview Characteristics Included Studies Qualitative Synthesis (N=48)

Study[a]	Patients included (n)	Event rate[b,c]	Outcome	Diag-nosis[d]	Study Design I[e]	Study Design II	Duration follow up in months	Inclusion criteria	Relapse criteria	Missing data reported	Medication use during pregnancy	Medication use postpartum	Cohort	Time Frame
Akdinez 2003 (1)	72	26/160	incidence	BD	R	cohort	1	DSM IV	Clinical interview	yes	n.a.	n.a.	Istanbul, TR	n.a.
Ardau 2014 (2)	12	6/12	incidence	BD I+II	R	case series	6	DSM IV	DSM IV	no	58.3% (7/12) lithium	n.a.	Cagliari, IT	1976 - 2012
Austin 1992 (3)	17	8/17	incidence	BD	R	cohort	3	RDC 1978	RDC 1978	no	41.2% (7/17) lithium	53% (9/17) lithium	Edinburgh, UK	1978 - 1988
Bagedahl 1998 (4)	2	2/4	incidence	PP	P	cohort	12	DSM IV	Hospital-ization	yes	n.a.	n.a.	Stockholm, SE	1976 - 1992
Benvenuti 1992 (5)	7	4/7	prevalence	PP	R	cohort	2	DSM III R	DSM III	yes	n.a.	n.a.	Florence, IT	1973 - 1987
Bergink BD 2012[f] (6)	41	9/41	incidence	BD	P	cohort	3	DSM IV	DSM IV	yes	75.6% (31/41) mostly lithium	88% (36/41) mostly lithium	Rotterdam, NL	2003 - 2010
Bergink PP 2012[f] (6)	29	4/29	incidence	PP	P	cohort	3	DSM IV	DSM IV	yes	0%	69% (20/29) mostly lithium	Rotterdam, NL	2003 - 2010
Bilszta 2010 (7)	23	3/23	incidence	BD	P	cohort	2 & 6	DSM IV	Clinical interview	yes	65% (15/23) various	n.a.	Melbourne, AU	n.a.
Blackmore 2006 (8)[g]	129	167/ 242	incidence	BD	R	cohort	1	DSM IV	DSM IV	yes	n.a.	n.a.	Birmingham, UK	n.a.
Blackmore 2013 (9)	57	37/67	incidence	PP	R	cohort	1	DSM IV/ICD 10	DSM IV	yes	0%	n.a.	Birmingham,UK	n.a.
Blehar 1998 (10)	139	32/139	prevalence	BD I	R	cohort	1	DSM III R	Clinical interview	yes	n.a.	n.a.	Multiple sites, US	n.a.
Cohen 1995 (11)	27	9/27	incidence	BD	R	cohort	3	DSM III R	Clinical interview	yes	n.a.	51.9% (14/27) mostly lithium	Boston, US	n.a.
Colom 2010 (12)	109	43/109	prevalence	BD	R	cohort	1	DSM IV	DSM IV	Yes	n.a.	n.a.	Barcelona, Spain	12 years
Di Florio 2013 (13)	864	786/ 1828	incidence	BD I+II	R	cohort	12	DSM IV	DSM IV	yes	n.a.	n.a.	Birmingham, UK	1991 - 2010
Di Florio 2014 (14)	1212	1052/ 2329[h]	incidence	BD I+II	R	cohort	6	DSM IV	DSM IV	yes	n.a.	n.a.	Birmingham, UK	1991 - 2010
Doyle 2012 (15)	43	20/43	incidence	BD	R	cohort	1	DSM IV	DSM IV	yes	62% (26/42) various	n.a.	Birmingham, UK	2000 - 2009
Freeman 2002 (16)	30	20/30	prevalence	BD	R	cohort	1	DSM IV	Clinical interview	no	6.7% (2/30) valproate	3.3% (1/30) unknown	Arizona, US	n.a.
Green 2008 (17)	15	5/15	incidence	BD	P	cohort	12	ICD 10	Hospital-ization	yes	n.a.	n.a.	London, UK	2002 - 2004
Grof 2000 (18)	28	7/28	prevalence	BD I	R	cohort	9	RDC 1978	RDC 1978	no	16% (4/25)[i]	n.a.	Multiple sites AU,CZ,DK,DE,SE	n.a.

(Continued)

Study[a]	Patients included (n)	Event rate[b,c]	Outcome	Diag-nosis[d]	Study Design I[e]	Study Design II	Duration follow up in months	Inclusion criteria	Relapse criteria	Missing data reported	Medication use during pregnancy	Medication use postpartum	Cohort	Time Frame
Harlow 2007(19)	786	67/786	incidence	BD	B	birth register	3	ICD 8,9,10	Hospital-ization	yes	n.a.	n.a.	Birth register, SE	1987 - 2001
Hunt 1995 (20)	36	22/79	incidence	BD	R	cohort	3	RDC 1978	RDC 1978	yes	n.a.	n.a.	London, UK	1985 - 1987
Jones 2001 (21)	152	62,86/ 152[b]	prevalence	BD	R	cohort	1 & 6	DSM IV	DSM IV	yes	n.a.	n.a.	Birmingham, UK	1991 - 2010
Kapf-hammer 2014 (22)	23	14/29	incidence	PP	R	cohort	1	DSM IV	DSM IV	yes	n.a.	n.a.	Munich, Germany	1975 - 1995
Kendell 1987 (23)	33	7/44	incidence	BD	P	cohort	3	ICD 8,9	Hospital-ization	yes	n.a.	n.a.	Edinburgh, UK	1970 - 1981
Kirpinar 1999 (24)	64	25/64	prevalence	PP	R	cohort	3	DSM IV	Clinical interview	yes	n.a.	n.a.	Erzurum, TR	1973 - 1994
Kumar 1993 (25)	26	17/26	incidence	BD	P	cohort	3 & 6	RDC 1978	RDC 1978	yes	0%	0%	London, UK	n.a.
Kumar 2003 (26)	29	12/29	incidence	BD	P	clinical trial	3	RDC 1978	RDC 1978	yes	0%	100% estrogen[j]	London, UK	n.a.
Maina 2014 (27)	276	207/276	prevalence	BD I+II	R	cohort	1	DSM IV	DSM IV	yes	0%	n.a.	Turin, IT	1995 - 2009
Marks 1992 (28)	26	17/26	incidence	BD	P	cohort	6	RDC 1978	RDC 1978	yes	0%	0%	London, UK	n.a.
McNeil 1986 (29)	18	3/18	incidence	PP	P	case control	6	RDC 1978	RDC 1978	yes	n.a.	n.a.	Southern Sweden, SE	1973 - 1977
Meakin 1995 (30)	10	3/10	incidence	PP	P	cohort	1	RDC 1978	Unknown	yes	0%	0%	Leeds, UK	n.a.
Munk-Olsen 2009 (31)	208	37,46, 57/ 208[b]	incidence	BD	B	birth register	1,3, & 12	ICD 8, 10	Hospital-ization	no	n.a.	n.a.	Birth register, DK	1973 - 2005
Pfuhlmann 1999 (32)	4	2/4	incidence	BD	R	cohort	6	ICD 10	Clinical interview	no	n.a.	n.a.	Wurzburg, DE	1981 - 1990
Platz 1988 (33)	n.a.	2/11	incidence	BD	P	cohort	3	RDC 1978	Hospital-ization	yes	n.a.	n.a.	Edinburgh, UK	1971 - 1977
Robertson 2005 (34)	54	31,36/ 54[c,h]	incidence	BD	R	cohort	1, 6	DSM IV	DSM IV	yes	n.a.	n.a.	Birmingham, UK	n.a.
Rohde 1993 (35)	31	8/31	prevalence	PP	P	cohort	1	DSM III, DSM III R	Clinical interview	yes	n.a.	n.a.	Cologne and Bonn, DE	1950 - 1979
Schopf 1994 (36)	42	17/42	prevalence	PP	R	cohort	3	DSM III R	Clinical interview	no	n.a.	n.a.	Lausanne/ Zurich, CH	1949 - 1990
Sharma 2013 (37)	37	26/37	incidence	BD II	P	cohort	12	DSM IV	DSM IV	yes	46% (17/37) various[i]	86% (32/37) various[i]	Ontario, CA	n.a.
Sharma 2006 (38)	25	10/25	incidence	BD	P	clinical trial	1	DSM IV	DSM IV	yes	n.a.	68% (17/25) olanzapine	Ontario, CA	n.a.

(Continued)

Study[a]	Patients included (n)	Event rate[b,c]	Outcome	Diag-nosis[d]	Study Design I[e]	Study Design II	Duration follow up in months	Inclusion criteria	Relapse criteria	Missing data reported	Medication use during pregnancy	Medication use postpartum	Cohort	Time Frame
Sichel 1995 (39)	7	1/7	incidence	PP	P	cohort	1,3, & 12	DSM III R	DSM III	yes	0%	100% estrogen[j]	Boston, USA	n.a.
Stewart 1991 (40)	21	3/21	Incidence	PP	P	clinical trial	6	RDC 1978	Unknown	no	0% (0/21) lithium[k]	100% lithium	Toronto, CA Rotterdam, NL Edinburgh, UK	n.a.
Terp 1999 (41)	217	49/266	incidence	PP	B	birth register	3	ICD 8	Hospital-ization	no	n.a.	n.a.	Birth register, DK	1973 - 1993
Van Gent 1992 (42)	11	6,10/16[b]	incidence	BD	P	cohort	3 & 12	DSM III	Unknown	yes	n.a.	69% (11/16) mostly lithium	Utrecht, NL	1982 - 1989
Videbech 1995 (43)	16	4/16	prevalence	PP	B	birth register	12	ICD 8	Hospital-ization	yes	n.a.	n.a.	Birth register, DK	1973 - 1980
Viguera 2011 (44)	621	403/1120	incidence	BD I+II	R	cohort	6	DSM IV	DSM IV	no	n.a.	n.a.	Boston, VS Sardinia/Rome, IT	1980 - 2010
Viguera 2000 (45)	20	14/20	incidence	BD	R	cohort	6	DSM IV	DSM IV	no	45% (9/20) lithium	n.a.	Boston, VS Sardinia, IT	n.a.
Wieck 1991 (46)	15	8/15	incidence	BD	P	cohort	3	RDC 1978	RDC 1978	yes	n.a.	n.a.	London, UK	n.a.
Wieck 1989 (47)	15	8/15	incidence	BD	P	cohort	3	RDC 1978	RDC 1978	yes	n.a.	n.a.	London, UK	n.a.
Wisner 2004 (48)	26	18/26	incidence	BD	P	clinical trial	5	DSM IV	DSM IV	yes	0%	58% (15/26) valproate	Pittsburgh, VS	1996-1997

[a] Studies included in the quantitative meta-analysis are shown in bold.

[b] In case studies included more deliveries than patients the event rates are shown underlined.

[c] In case more event rates per study are shown, studies included more than one postpartum follow-up time points.

[d] BD = bipolar disorder; PP = history of postpartum psychosis

[e] R= retrospective; P = prospective; B= birth register study

[f] Study shown twice (BD and PP patient sample).

[g] Sample selected on a history of postpartum relapse (study not included in quantitative synthesis).

[h] In a small subset of patients the onset (pregnancy or postpartum) of relapse episodes was unknown (study not included in quantitative synthesis).

[i] Data on medication was not stratified for relapse. Therefore, these studies were not included in the pharmacotherapy analyses.

[j] Since estrogen is not commonly used as prophylactic medication, these studies were not included in the pharmacotherapy analyses.

[k] In 5 patients prophylactic therapy was started at the end of the third trimester.

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FIGURE S1. Funnel Plot of Standard Error by Logit Event Rate in Quantitative Synthesis