Appendix D. Study Characteristics

Table D1. Study characteristics

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Alacqua et al.,	Recruitment dates:	Enrolled: 73	Treatment duration: 3 mo	Benefits: NR	Adverse events
2008 ⁹⁶	Jan 2002 to Dec 2003	Analyzed: 73	Run-in phase: No		occurred frequently
		Completed: 50	Run-in phase duration: NR	Harms: Behavioral	during first 3 months
Country: Italy	Study design:			issues, dyskinesia,	of treatment with
	Retrospective cohort	GROUP 1	Permitted drugs: NR	dystonia,	atypical
Condition		N: 2		dermatologic AE, liver	antipsychotics.
category: Mixed conditions (ADHD,	Diagnostic criteria: DSM-IV	Age, mean±SD (range): 15.5±0.7	Prohibited drugs: NR	function, hepatic volume, prolactin,	
ASD,		Males %: 50	GROUP 1	prolactin-related AE,	
schizophrenia-	Setting:	Caucasian %: NR	Drug name: Clozapine	sedation, sleepness,	
related, tics)	Outpatient/community	Diagnostic breakdown	Dosing variability: variable	total AE, weight	
, ,	1	(n): psychosis (1),	Target dose (mg/day): NR	change	
Funding: NR	Inclusion criteria: (1)	schizophrenia (1)	Daily dose (mg/day), mean±SD	5	
•	≤18 yr, (2) received an	Treatment naïve (n): all	(range): 150±70.1		
Newcastle-Ottawa	incident treatment with	Inpatients (n): NR	Concurrent treatments: NR		
Scale: 6/8 stars	atypical antipsychotics	First episode psychosis			
	or SSRIs during the	(n): NR	GROUP 2		
	study period	Comorbidities: NR	Drug name: Olanzapine		
			Dosing variability: variable		
	Exclusion criteria:	GROUP 2	Target dose (mg/day): NR		
	NR	N: 24	Daily dose (mg/day), mean±SD		
		Age, mean±SD (range):	(range): 7.1±4.4		
		14.7±2.3 Males %: 42	Concurrent treatments: NR		
		Caucasian %: NR	GROUP 3		
		Diagnostic breakdown	Drug name: Quetiapine		
		(n): affective disorder (2),	Dosing variability: variable		
		anxiety disease (4),	Target dose (mg/day): NR		
		autism (1), CD (1), MR	Daily dose (mg/day), mean±SD		
		(3), personality disorder	(range): 375±318.2		
		(2), psychosis (9),	Concurrent treatments: NR		
		schizophrenia (2)			
		Treatment naïve (n): all	GROUP 4		
		Inpatients (n): NR	Drug name: Risperidone		
		First episode psychosis	Dosing variability: variable		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		(n): NR	Target dose (mg/day): NR		
		Comorbidities: NR	Daily dose (mg/day), mean±SD (range): 2±1.3		
		GROUP 3	Concurrent treatments: NR		
		N: 2			
		Age, mean±SD (range):			
		16.5±1.5			
		Males %: 100 Caucasian %: NR			
		Diagnostic breakdown			
		(n): psychosis (2)			
		Treatment naïve (n): all			
		Inpatients (n): NR First episode psychosis			
		(n): NR			
		Comorbidities: NR			
		GROUP 4			
		N: 45			
		Age, mean±SD (range): 13±3.9			
		Males %: 80			
		Caucasian %: NR			
		Diagnostic breakdown			
		(n): ADHD (1), anxiety			
		disease (2), autism (14), CD (7), conversion			
		disorder (2), MR (8),			
		psychosis (7),			
		schizophrenia (2), tic			
		disorder (2)			
		Treatment naïve (n): all Inpatients (n): NR			
		First episode psychosis			
		(n): NR			
*		Comorbidities: NR			
man et al., 2014 ⁴	Recruitment dates:	Enrolled: 168	Treatment duration: 6 wk	Benefits: NCBRF,	Risperidone
ountry: USA	August 2008 – November 2012	Analyzed: 168 Completed: 137	Run-in phase: Yes Run-in phase duration: 2 wk most	ABS, CGI-I, CGI-S, response	provided moderate but variable
Gana y. 00/(drugs, 4 wk antipsychotics and	10000100	improvement in
ondition	Study design: RCT	GROUP 1	fluoxetine	Harms: metabolic	aggressive and
tegory: ADHD	(parallel)	N: 84		effects, prolactin	other seriously

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Funding: Non-industry	Setting: NR	Age, mean±SD (range): 9.03±2.05 yr Males %: 77.4%	Permitted drugs: methylphenidate Prohibited drugs: NR	effects, sedation and sleep issues, GI, headache	disruptive child behaviors when added to PT and
Non modely	Diagnostic criteria:	Caucasian %: 57.1%	rombiled drugs. With	neddaene	optimized stimulant
Risk of bias:	DSM-IV	Diagnostic breakdown	GROUP 1		treatment.
Medium		(n): ADHD (84)	Drug name: Risperidone		
(subjective),	Inclusion criteria: 6-	Treatment naïve (n): NR	Dosing variability: Variable		
Medium (objective)	12 yr, DSM-IV	Inpatients (n): NR	Target dose (mg/day): NR		
	diagnosis of DBD (CD	First episode psychosis	Daily dose (mg/day), mean±SD		
	or ODD) or ADHD,	(n): NR	(range): 1.7±0.75 mg/day		
	serious physical	Comorbidities (n): CD	Concurrent treatments:		
	aggression (Overt	(22), ODD (62)	Methylphenidate, parent training		
	Aggression Scale – M	GROUP 2	(PT)		
	≥3), evidence of seriously disruptive	N: 84	GROUP 2		
	behavior (parent rating	Age, mean±SD (range):	Drug name: Placebo		
	NCBRF D-Total \geq 27,	8.75±1.98 yr	Dosing variability: Variable		
	CGI-S \geq 4 by blinded	Males %: 76.2%	Target dose (mg/day): NR		
	clinician	Caucasian %: 48.8%	Daily dose (mg/day), mean±SD		
	Similari	Diagnostic breakdown	(range): 1.9±0.72 mg/day		
	Exclusion criteria: IQ	(n): ADHD (84)	Concurrent treatments:		
	< 71, pregnancy,	Treatment naïve (n): NR	Methylphenidate, parent training		
	history of seizure	Inpatients (n): NR	(PT)		
	disorder or	First episode psychosis			
	neurological or medical	(n): NR			
	disorder, abnormal	Comorbidities (n): CD			
	liver function, PDD,	(22), ODD (62)			
	schizophrenia or other				
	psychotic disorders,				
	ED,				
	hypomanic/biphasic				
	score ≥ 36 on GBI				
	(mood disorder),				
	current or previous				
	major depressive disorder or diagnosis				
	of bipolar disorder,				
	current use of				
	psychotropic				
	medications where				
	discontinuation would				
	be a significant risk,				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	active substance use disorder, current child				
	abuse or neglect,				
	history of suicide				
	attempt (past year) or				
	current suicidal				
	ideation, family history				
	type 2 diabetes in ≥ 2				
A () 0000 ³	first-degree relatives	Francilla de 40	The star and share the set of such	Demofiles ADO	D : :
Aman et al., 2009 ³	Recruitment dates:	Enrolled: 16	Treatment duration: 4 wk	Benefits: ABC,	Risperidone may
Country: USA	NR	Analyzed: 15 Completed: NR	Run-in phase: Yes Run-in phase duration: 1 wk		have a beneficial
Country. USA	Study design: RCT	Completed. NR	Run-in phase duration. Twk	Cognitive (MTS, STRM, CPT, GHT)	effect on efficiency or responding,
Condition	(crossover)	GROUP 1	Permitted drugs: clonidine, lithium	STRIM, CFT, GHT)	activity level, static
category: ADHD	(CIUSSOVEI)	N: 16 (crossover)	Fernitied drugs. cionidine, italiani	Harms: Dyskinesia,	tremor, and aspect
category. ADITD	Diagnostic criteria:	Age, mean±SD (range):	Prohibited drugs: NR	SBP, DBP, pulse	of behavior.
Funding: NR	DSM-IV, IQ test	8.56±2.6 yr	rombled drugs. Nix		of benavior.
i anangi i a	(Stanford-Binet,	Males %: 87.5%	GROUP 1		
Risk of bias:	Weschsler Intelligence,	Caucasian %: 81.2%	Drug name: Risperidone		
Medium	Kaufman Brief)	Diagnostic breakdown	Dosing variability: variable		
(subjective),		(n): ADHD (1), ADHD +	Target dose (mg/day): NR		
Medium (objective)	Setting: Inpatient and	CD (2), ADHD + ODD (6),	Daily dose (mg/day), mean±SD		
	outpatient	CD (1), ODD (3), ASD (3)	(range): 1.65±1.3 (0.4–5)		
		Treatment naïve (n): NR	Concurrent treatments:		
	Inclusion criteria: (1)	Inpatients (n): NR	psychostimulants (5)		
	4–14 yr, (2) IQ ≤84, (3)	First episode psychosis			
	ODD or CD, (4) dx of	(n): NR	GROUP 2		
	austistic or PDD NOS,	Comorbidities (n):	Drug name: Placebo		
	(5) availability of a	Borderline intellectual	Dosing variability: variable		
	reliable informant, (6)	disability (10), mild	Target dose (mg/day): NR		
	good physical health	intellectual disability (4), moderate intellectual	Daily dose (mg/day), mean±SD		
	Exclusion criteria: (1)		(range): NR Concurrent treatments: NR		
	presence of psychosis,	disability (1)	concurrent treatments. NR		
	(2) history of NMS, (3)	GROUP 2			
	history of severe drug	N: 16 (crossover)			
	allergy/hypersensitivity,	Age, mean±SD (range):			
	(4) medical disease,	See group 1			
	(5) pregnancy	Males %: See group 1			
	(-,	Caucasian %: See group			
		1			
		Diagnostic breakdown			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		(n): See group 1 Treatment naïve (n): NR Inpatients (n): NR First episode psychosis			
		(n): NR			
		Comorbidities (n): See			
		group 1			
Aman et al., 2004	Study design: Observational (pooled	Enrolled: NA Analyzed: 155	GROUP 1 Drug name: Risperidone (only)	Benefits: NCBRF, ABC	Risperidone was a safe and effective
(see Aman 2002,	analysis)	Completed: NA	Dosing variability: Variable	//bo	treatment with or
Snyder 2002)			Target dose (mg/day): 0.06	Harms: metabolic	without stimulant
, , , , , , , , , , , , , , , , , , ,		GROUP 1	mg/kg/day	effects, somnolence,	added, for DBD and
Country: Canada,		N: 43	Daily dose (mg/day), mean±SD	headache, infections	comorbid ADHD in
South Africa, USA		Age, mean±SD (range):	(range): 1.11 mg/day		children.
0		8.6±2.1 yr	Concurrent treatments: See Aman		
		Males %: 81.4% Caucasian %: 55.8%	2002 and Snyder 2002		
category: ADHD		Diagnostic breakdown	GROUP 2		
Funding: NR		(n): CD, ODD, or DBD-	Drug name: Risperidone +		
i unungi i u		NOS with ADHD (43)	stimulant		
Newcastle-Ottawa		Treatment naïve (n): NR	Dosing variability: Variable		
Scale: 7/8 stars		Inpatients (n): NR	Target dose (mg/day): NR		
		First episode psychosis	Daily dose (mg/day), mean±SD		
		(n): NR	(range): 1.07 mg/day		
		Comorbidities: All have	Concurrent treatments: See Aman		
		ADHD	2002 and Snyder 2002 -		
		GROUP 2	psychostimulants		
		N: 35	GROUP 3		
		Age, mean±SD (range):	Drug name: Placebo (only)		
		9.0±1.7 yr	Dosing variability: Variable		
		Males %: 85.7%	Target dose (mg/day): NR		
		Caucasian %: 65.7%	Daily dose (mg/day), mean±SD		
		Diagnostic breakdown	(range): NR		
		(n): CD, ODD, or DBD-	Concurrent treatments: See Aman		
		NOS with ADHD (35) Treatment naïve (n): NR	2002 and Snyder 2002		
		Inpatients (n): NR	GROUP 4		
		First episode psychosis	Drug name: Placebo + stimulant		
		(n): NR	Dosing variability: Variable		
		Comorbidities: All have	Target dose (mg/day): NR		
		ADHD	Daily dose (mg/day), mean±SD		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		GROUP 3 N: 39 Age, mean±SD (range): 8.3±2.2 yr Males %: 74.4% Caucasian %: 56.4% Diagnostic breakdown (n): CD, ODD, or DBD- NOS with ADHD (39) Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: All have ADHD GROUP 4 N: 38 Age, mean±SD (range): 8.9±2.1 yr Males %: 92.1% Caucasian %: 73.7% Diagnostic breakdown (n): CD, ODD, or DBD- NOS with ADHD (38) Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: All have ADHD	(range): NR Concurrent treatments: See Aman 2002 and Snyder 2002 - psychostimulants		
Aman et al., 2002 ² Country: USA	Recruitment dates:	Enrolled: 119 Analyzed: 118 Completed: 118	Treatment duration: 6 wk Run-in phase: Yes Run-in phase duration: 1 wk	Benefits: ABC, BPI, CGI-I, NCBRF, VAS- MS	Risperidone was well tolerated and effective in children
Condition category: ADHD	Study design: RCT (parallel) Setting: NR	GROUP 1 N: NR Age, mean±SD (range):	Permitted drugs: antihistamines, chloral hydrate, medication for EPS, melatonin, psychostimulants (dose	Medication adherence, response (CGI)	with disturbed behaviors and subaverage intelligence.
Funding: Industry	Diagnostic criteria:	8.7±2.1 yr Males %: 85	stable for ≥30 day before study)	Harms: ECG changes, EPS,	

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Risk of bias: High subjective), High objective)	DSM-IV, NCBRF Inclusion criteria: (1) total rating of \geq 24 on the conduct problem subscale of the NCBRF, (2) dx of CD, ODD, or DBD NOS, (3) dx of subaverage IQ (\geq 36 and \leq 84) and a VABS score \leq 84, (4) patients with ADHD eligible if meeting all other criteria, (5) healthy, (6) 5–12 yr, (7) symptoms sufficiently severe for antipsychotic treatment, (8) a responsible person to accompany patient to study visits, provide reliable assessments, dispense study medication Exclusion criteria: (1) dx of PDD, schizophrenia, other psychotic disorders, (2) head injury as a cause of intellectual disability, (3) seizure disorder/ neuroleptics, (4) known hypersensitivity to risperidone or neuroleptics, (5) history of tardive dyskinesia or NMS, (6) serious or progressive illnesses, (7) presence of HIV, (8) use of an	Caucasian %: 51 Diagnostic breakdown (n): CD (9), CD + ADHD (12), DBD (1) DBD + ADHD (4), ODD (12), ODD+ ADHD (17) Treatment naïve (n): 55 Inpatients (n): NR First episode psychosis (n): NR Comorbidities: ADHD (33), MR (borderline (32), mild (16), moderate (7)) GROUP 2 N: NR Age, mean±SD (range): 8.1±2.3 yr Males %: 79 Caucasian %: 62 Diagnostic breakdown (n): CD (12), CD + ADHD (14), DBD (1) DBD + ADHD (2), ODD (13), ODD + ADHD (21) Treatment naïve (n): 63 Inpatients (n): NR First episode psychosis (n): NR Comorbidities: ADHD (37), MR (borderline (28), mild (22), moderate (13))	Prohibited drugs: anticonvulsants, antidepressants, antipsychotics, carbamazepine, cholinesterase inhibitors, lithium, medications for sleep/anxiety, valproic acid GROUP 1 Drug name: Risperidone Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 1.2±0.6 Concurrent treatments: all groups: methylphenidate hydrochloride (35) GROUP 2 Drug name: Placebo Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: see group 1	prolactin, prolactin- related AE, SAE, sedation, total AE, WAE, weight change	

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	investigational drug within the previous 30 day, (9) previously received risperidone, (10) lab values outside of normal range unless not clinically relevant, (11) females of childbearing age, sexually active and not using birth control, (12) patients whose NCBRF conduct problem subscale score was reduced to <24 in response to a 1 wk placebo treatment before the study				
Aman et al., 1991 ¹	Recruitment dates:	Enrolled: 30 Analyzed: 30	Treatment duration: 9 wk (3 wk per treatment)	Benefits: CTRS, RBPC, DCB, RLRS	Clinical response to thioridazine was
Country: New Zealand	Study design: RCT	Completed: 30	Run-in phase: Yes Run-in phase duration: NR	Harms: HR, BP,	substantially less than the response to
Condition category: ADHD	(crossover) Setting: Outpatient	All participants N: 30 Age, mean±SD (range):	Permitted drugs: epilepsy drugs (phenytoin, carbamazepine,	Weight, cognition	methylphenidate, with significant improvements
Funding: Non- industry	Diagnostic criteria: DISC-P, DSM-III	10.1 (4.1-16.5) yr Males %: 83% Caucasian %: 70%	phenobarbital, sodium valproate) Prohibited drugs: All psychotropics		confined to conduct and hyperactivity problems on teacher
Risk of bias: Medium (subjective), Medium (objective)	Inclusion criteria: Met criteria for ADD or CD, subnormal IQ (<76), attending special classes or special schools for mental retardation or adjustment classes for youngest children	Diagnostic breakdown (n): ADHD (24), ADD (4), ADD Residual type (1), CD (3) Treatment naïve (n): NR Inpatients (n): 0 First episode psychosis (n): NR Comorbidities (n): Significantly subnormal IQ (27), PDD (1)	GROUP 1 Drug name: Thioridazine Dosing variability: Fixed Target dose (mg/day): 1.75 mg/kg/day Daily dose (mg/day), mean±SD (range): 1.75 mg/kg/day in 2 daily doses Concurrent treatments: Phenytoin + carbamazepine (2), Phenobarbital		ratings.
	Exclusion criteria: NR	Subjects assigned to three	+		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		orders of drugs: Thioridazine, methylphenidate, placebo	GROUP 2 Drug name: Placebo Dosing variability: Fixed Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 2 identical placebo capsules per day		
			Concurrent treatments: See group		
Anderson et al.,	Recruitment dates:	Enrolled: 45	Treatment duration: 14 wk	Benefits: CPRS,	Haloperidol did not
1989 ⁵	NR	Analyzed: 42 Completed: 42	Run–in phase: Yes Run–in phase duration: NR	CGI-I, CGI-S, CGI- Efficacy, Conners	have generalized facilitating effects on
Country: USA	Study design: RCT			PTQ, medication	discrimination
Condition	(crossover)	GROUP 1 N: 14	Permitted drugs: NR	adherence	learning. However, it
category: ASD	Setting: NR	Age, mean±SD (range): see below	Prohibited drugs: RN	Harms: sedation, acute dystonic	is important that haloperidol administration did
Funding: Non-	Diagnostic criteria:	Males %: see below	GROUP 1	reaction	not have an adverse
Industry	DSM-III	Caucasian %: NR Diagnostic breakdown	Drug name: Haloperidol, Placebo, Placebo		effect on learning during the 4-wk
Risk of bias: High	Inclusion criteria: (1)	(n): autistic disorder (all)	Dosing variability: variable		period, and this itself
(subjective),	Dx of infantile autism	Treatment naïve (n): NR	Target dose (mg/day): 4.0		is important
Medium (objective)	using DSM III, made	Inpatients (n): 14	Daily dose (mg/day), mean±SD		information
	independently by three child psychiatrists	First episode psychosis (n): NR Comorbidities: see	(range): 0.84±0.57 Concurrent treatments: NR		regarding a population where the majority is of
	Exclusion criteria: (1)	below	GROUP 2		subnormal
	Patients with history of		Drug name: Placebo, Haloperidol,		intellectual
	seizure disorder, gross	GROUP 2	Placebo		functioning, having
	neurological deficit,	N: 14	Dosing variability: variable		severe learning
	endocrine or	Age, mean±SD (range):	Target dose (mg/day): 4.0		difficulties.
	systematic disease, or	see below	Daily dose (mg/day), mean±SD		
	those with an	Males %: see below	(range): 0.84±0.57		
	identifiable cause for	Caucasian %: NR Diagnostic breakdown	Concurrent treatments: NR		
	autism, (2) patients rated as hypoactive	(n): autistic disorder (all)	GROUP 3		
	and anergic on	Treatment naïve (n): NR	Drug name: Placebo, Placebo,		
	baseline	Inpatients (n): 14	Haloperidol		
		First episode psychosis	Dosing variability: variable		
		(n): NR	Target dose (mg/day): 4.0		
		Comorbidities: see	Daily dose (mg/day), mean±SD		
		below	(range): 0.84±0.57		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
			Concurrent treatments: NR		
		GROUP 3			
		N: 14			
		Age, mean±SD (range):			
		see below			
		Males %: see below			
		Caucasian %: NR			
		Diagnostic breakdown			
		(n): autistic disorder (all)			
		Treatment naïve (n): NR Inpatients (n): 14			
		First episode			
		psychosis:NR			
		Comorbidities: NR			
		First episode psychosis			
		(n): NA			
		Comorbidities: see			
		below			
		Overall age, mean±SD			
		(range): 4.49±1.16 yr			
		Overall males %: 77.8			
		Overall comorbidities:			
		mild/low level retardation			
		(42), of these, profoundly			
A 1 0044	Descusitors and data as	or severely retarded (29)	Transfer and demotions 0 and	Dama Gita , NIA	<u></u>
Arango et al., 2014	Recruitment dates:	Enrolled: 303	Treatment duration: 6 mo	Benefits: NA	Close screening and monitoring of cadio-
	May 2005 to Feb 2009	Analyzed: 279 Completed: 165 (at 6mo)	Run-in phase: NR Run-in phase duration: NR	Harms: Weight (BMI,	metabolic side
Country: Spain	Study design:	completed. 165 (at 6110)	Run-in phase duration. NR	BMI-z), lipid values,	effects (CSE) is
Country. Span	Prospective	GROUP 1	Permitted drugs: NR	fasting glucose,	imperative, at least
Condition	Tiospective	N: 157		insulin, blood	during the initial
category: Mixed	Setting:	Age, mean±SD (range):	Prohibited drugs: NR	pressure (systolic/	months of treatment,
conditions	Inpatient/outpatient	14.0±3.3 yr		diastolic)	and suggest that
		Males %: 64.3	GROUP 1		there are differences
Funding: Non-	Diagnostic criteria:	Caucasian %: 84.7	Drug name: Risperidone		in CSE risk and
industry	DSM-IV	Diagnostic breakdown	Dosing variability: NR		temporal pattern
- • •		(n): Schizophrenia	Target dose (mg/day): NR		with olanzapine,
Newcastle-Ottawa	Inclusion criteria: (1)	spectrum (48), mood	Daily dose (mg/day), mean±SD		risperidone, and
Scale: 5/8 stars	4-7 yr, (2) ≤30 days of	spectrum disorders (34),	(range): NR		quetiapine.
	lifetime exposure to	behavioral disorders (42),	Concurrent treatments:		
	SGAs, (3) met DSM-IV	other diagnosis (29)	Antidepressants (14),		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	psychiatric diagnosis	Treatment naïve (n): 80	benzodiazepines (40), mood		
	other than a primary	Inpatients (n): see below	stabilizers (19), stimulants (1)		
	eating disorder	First episode psychosis			
		(n): NR	GROUP 2		
	Exclusion criteria:	Comorbidities: NR	Drug name: Olanzapine		
	NR		Dosing variability: NR		
		GROUP 2	Target dose (mg/day): NR		
		N: 44	Daily dose (mg/day), mean±SD		
		Age, mean±SD (range):	(range): NR		
		15.4±1.8 yr	Concurrent treatments:		
		Males %: 63.6	Antidepressants (14),		
		Caucasian %: 93.2	benzodiazepines (18), mood		
		Diagnostic breakdown	stabilizers (7), stimulants (0)		
		(n): Schizophrenia			
		spectrum (15), mood	GROUP 3		
		spectrum disorders (17),	Drug name: Quetiapine Dosing variability: NR		
		behavioral disorders (5),	Target dose (mg/day): NR		
		other diagnosis (6) Treatment naïve (n): 14	Daily dose (mg/day), mean±SD		
		Inpatients (n): see below	(range): NR		
		First episode psychosis	Concurrent treatments:		
		(n): NR	Antidepressants (11),		
		Comorbidities: NR	benzodiazepines (12), mood		
		Comorbianco. Mix	stabilizers (7), stimulants (0)		
		GROUP 3			
		N: 47			
		Age, mean±SD (range):			
		15.7±1.6 yr			
		Males %: 53.2			
		Caucasian %: 89.4			
		Diagnostic breakdown			
		(n): Schizophrenia			
		spectrum (21), mood			
		spectrum disorders (21),			
		behavioral disorders (0),			
		other diagnosis (3)			
		Treatment naïve (n): 24			
		Inpatients (n): see below			
		First episode psychosis			
		(n): NR			
		Comorbidities: NR			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Overall inpatients (n): 200			
Arango et al., 2009	Recruitment dates:	Enrolled: 50	Treatment duration: 6 mo	Benefits: CGAS,	Psychotic symptoms
6	NR	Analyzed: 49 Completed: 32	Run-in phase: Yes Run-in phase duration: 3–5 day	CGI-S, PANSS, SDQ, YMRS,	in adolescents were reduced with both
Country: Spain	Study design: RCT	•		Cognitive function,	olanzapine and
	(parallel)	GROUP 1	Permitted drugs: adjunctive	medication	quetiapine, but
Condition		N: 26	medications	adherence	cognitive measures
category:	Setting: Inpatient	Age, mean±SD (range):			were not improved.
Schizophrenia and		15.7±1.4	Prohibited drugs: antipsychotics	Harms: UKU, BAS,	Significantly more
related	Diagnostic criteria:	Males %: 76		SAS, Akathisia,	weight gain was
-	DSM-IV, K-SADS-PL	Caucasian %: 76	GROUP 1	behavioral issues,	observed in patients
Funding: Industry,		Diagnostic breakdown	Drug name: Olanzapine	BMI, constipation,	treated with
Academic	Inclusion criteria: (1)	(n): bipolar disorder (5),	Dosing variability: variable	hypokinesia,	olanzapine.
Diak of bigg, Lligh	adolescents admitted	other psychoses (12:	Target dose (mg/day): NR	orthostatic dizziness	
Risk of bias: High	to the hospital with	major depressive episode	Daily dose (mg/day), mean±SD	prolactin-related AE,	
(subjective), High (objective)	psychosis (schizophrenia or any	with psychotic features (3), psychosis NOS (4),	(range): 9.7±6.6 Concurrent treatments:	SAE, sedation, tachycardia, total AE,	
(objective)	other psychotic	(3), psychosis NOS (4), schizoaffective disorder	anticholinergics (8), antidepressants	weight change	
	disorder (DSM-IV))	(3), schizophreniform	(10), antiepileptics (7),	weight change	
		disorder (2)),	benzodiazepines (17), β-blockers		
	Exclusion criteria: (1)	schizophrenia (9)	(1), lithium (2)		
	psychotic symptoms	Treatment naïve (n): 10	(1); italiani (2)		
	appearing to result	Inpatients (n): all	GROUP 2		
	from acute intoxication	First episode psychosis	Drug name: Quetiapine		
	or withdrawal (if	(n): all	Dosing variability: variable		
	psychotic symptoms	Comorbidities: psychosis	Target dose (mg/day): NR		
	did not persist after 14	(all)	Daily dose (mg/day), mean±SD		
	day of a negative urine		(range): 532.8±459.6		
	drug screening), (2)	GROUP 2	Concurrent treatments:		
	DSM-IV criteria for any	N: 24	analgesics (2), anticholinergics (3),		
	substance abuse, MR,	Age, mean±SD (range):	antidepressants (8), antiepileptics		
	or PDD, (3) organic	16.3±1.1	(7), benzodiazepines (14), β -		
	CNS disorder, (4)	Males %: 79.2	blockers (2), cough medications (1),		
	history of TBI with loss	Caucasian %: 87.5	iron compouNRs (1), lithium (6),		
	of consciousness, (5) IQ <70 and a clinical	Diagnostic breakdown	NSAIDs (1)		
	criterion of impaired	(n): bipolar disorder (8), other psychoses (8; major			
	functioning prior to the	depressive episode with			
	onset of the disorder,	psychotic features (2),			
	(6) pregnant or breast	psychosis NOS (2),			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	feeding, (7) taking olanzapine or quetiapine before enrolment	schizoaffective disorder (2), schizophreniform disorder (2)), schizophrenia (8) Treatment naïve (n): 15 Inpatients (n): all First episode psychosis (n): all Comorbidities: psychosis			
		(all)			
Armenteros et al., 2007 ⁷	Recruitment dates: NR	Enrolled: 25 Analyzed: 25 Completed: 23	Treatment duration: 4 wk Run-in phase: No Run-in phase duration: NR	Benefits: CGI-I, CGI- S Medication	Compared to placebo, risperidone was modestly
Country: USA	Study design: RCT (parallel)	GROUP 1	Permitted drugs: current	adherence, response (CAS-P, CAS-T, CGI-	effective in combination with
Condition	(parallol)	N: 12	psychostimulants		psychostimulants for
category: ADHD	Setting:	Age, mean±SD (range):		.,	treatment-resistant
J	Outpatient/community	7.3±3.7	Prohibited drugs: all medications	Harms: Behavioral	agression in ADHD.
Funding: Industry	. ,	Males %: 83.3	other than current psychostimulants	issues, BMI,	0
	Diagnostic criteria:	Caucasian %: 50		somnolence, total AE,	
Risk of bias: Medium	DSM-IV, C-DISC 4	Diagnostic breakdown (n): ADHD + aggressive	GROUP 1 Drug name: Risperidone	WAE, weight change	
subjective),	Inclusion criteria: (1)	behavior (12)	Dosing variability: variable		
Medium (objective)	7–12 yr, (2) constant	Treatment naïve (n): 0	Target dose (mg/day): NR		
	dose of stimulant	Inpatients (n): NR	Daily dose (mg/day), mean±SD		
	medication in the past	First episode psychosis	(range): 1.1±0.6 mg/day		
	3 wk, (3) 3 acts of	(n): NR	Concurrent treatments: all groups:		
	aggression in the past wk, 2 of which had to	Comorbidities: MR (0), ODD (13), conduct	methylphenidate (15), mixed salts amphetamine (10)		
	be acts of physical aggression against	disorder (6), GAD (1), separation anxiety	GROUP 2		
	other people, objects,	disorder (3)	Drug name: Placebo		
	or self, (4) Aggression		Dosing variability: variable		
	Questionnaire	GROUP 2	Target dose (mg/day): NR		
	Predatory-Affective	N: 13	Daily dose (mg/day), mean±SD		
	index score ≤0, (5)	Age, mean±SD (range):	(range): 1±0.5 mg/day		
	CGI-S ≥4, (6) Full	8.8±3.1	Concurrent treatments: see group		
	Scale IQ ≥75, (7)	Males %: 92.3	1		
	normal results at	Caucasian %: 46			
	screening from	Diagnostic breakdown			
	physical examination	(n): ADHD + aggressive			
	and laboratory tests	behavior (13)			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	Exclusion criteria: (1) substance use disorder, (2) unstable medical or neurological illness, (3) history of intolerance or failure to respond to an adequate trial of risperidone, (4) suicidal or homicidal	Treatment naïve (n): 0 Inpatients (n): NR First episode psychosis (n): NR Comorbidities: see group1			
Bastiaens et al.,	Recruitment dates:	Enrolled: 46	Treatment duration: 8.7 wk	Benefits: NA	The two medications
2009 ⁹⁹	Dec 2004 to Sep 2005	Analyzed: 34	Run-in phase: No		appeared to be
		Completed: 34	Run-in phase duration: NR	Harms: Behavioral	tolerated well: the
Country: USA	Study design:			issues, EPS,	most common
A 11/1	Retrospective cohort	GROUP 1	Permitted drugs: stable doses of	sedation, WAE,	reported side effect
Condition		N: 24	concomitant medications	weight change	was sedation.
category: Mixed	Setting:	Age, mean±SD (range):			Excessive sedation
conditions (BP,	Outpatient/community	11.7±2.4	Prohibited drugs: NR		was responsible for
Schizophrenia,		Males %: 83			all documented
MDD, ASD)	Diagnostic criteria:	Caucasian %: NR	GROUP 1		disruptions in
Funding, lateraal	DSM-IV, Mini	Diagnostic breakdown	Drug name: Aripiprazole Dosing variability: variable		treatment.
Funding: Internal	International Neuropsychiatric	(n): bipolar disorder (6), CD (8), depressive	Target dose (mg/day): NR		Ziprasidone resulted in three times more
funding	Interview for Children	disorder (0), mood	Daily dose (mg/day), mean±SD		frequent
Newcastle-Ottawa	and Adolescents.	disorder NOS (6), PDD	(range): 4.5±2.3		discontinuations,
Scale: 6/8 stars	Child/Adolescent	(0), psychotic disorder (4)	Concurrent treatments:		compared to
	Symptom Inventory	Treatment naïve (n): 18 Inpatients (n): NR	atomoxetine (8), stimulants (2)		Aripiprazole.
	Inclusion criteria: (1)	First episode psychosis	GROUP 2		
	6–18 yr, (2) clinically	(n): NR	Drug name: Ziprasidone		
	significant aggressive		Dosing variability: variable		
	behavior	GROUP 2	Target dose (mg/day): NR		
		N: 22	Daily dose (mg/day), mean±SD		
	Exclusion criteria:	Age, mean±SD (range):	(range): 42.9±18		
	NR	12.1±2.9	Concurrent treatments:		
		Males %: 91	atomoxetine (6), stimulants (8)		
		Caucasian %: NR			
		Diagnostic breakdown			
		(n): bipolar disorder (6),			
		CD (6), depressive			
		disorder (6), mood			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		disorder NOS (2), PDD (2), psychotic disorder (0) Treatment naïve (n): 16 Inpatients (n): NR First episode psychosis (n): NR			
Berger et al., 2008	Recruitment dates: July 2003 to Jan 2006	Enrolled: 141 Analyzed: 126 Completed: 126	Treatment duration: 4 wk Run-in phase: No Run-in phase duration: NR	Benefits: BPRS, CGI-S, GAF, SANS, SOFAS, YMRS,	Quetiapine was safe and well-tolerated in acutely ill drug naïve
Country: Australia	Study design: RCT (parallel)	GROUP 1	Permitted drugs: anticholinergics,	health care system utilization, legal	first-episode psychosis patients.
Condition	(parallel)	N: 69	benzodiazepines, sertraline (50–200	interaction.	poyonoolo padonto.
category: Schizophrenia and	Setting: Inpatient and outpatient	Age, mean±SD (range): 19.7±2.6 (15–24)	mg/day), zopiclone, zolpidem	medication adherence, response,	
related	Diagnostic criteria:	Males %: 71 Caucasian %: NR	Prohibited drugs: antipsychotics	suicide	
Funding: Industry, Academic	DSM-IV, SCID-I/P	Treatment naïve (n): 22 Inpatients (n): NR	GROUP 1 Drug name: Quetiapine (low)	Harms: UKU, Blood pressure, EPS,	
	Inclusion criteria: (1)	First episode psychosis	Dosing variability: fixed	sedation, sexual	
Risk of bias: Low (subjective), Low (objective)	15–25 yr, (2) first episode psychosis, (3) ≥1 of the following symptoms, present	(n): all Comorbidities: MR (0), psychosis (all), SA (28)	Target dose (mg/day): 200 Daily dose (mg/day), mean±SD (range): 200 Concurrent treatments: NR	dysfunction, somnolence, WAE, weight change	
	daily for ≥1 wk	GROUP 2			
	according to BPRS: somatic concerns,	N: 72	GROUP 2 Drug name: Quetiapine (high)		
	guilt, suspiciousness,	Age, mean±SD (range): 19±2.9 (15–24)	Dosing variability: fixed		
	hallucinations, unusual thought content, bizarre behavior,	Males %: 64.1 Caucasian %: NR Treatment naïve (n): 25	Target dose (mg/day): 400 Daily dose (mg/day), mean±SD (range): 400		
	and/or conceptual disorganization	Inpatients (n): NR First episode psychosis (n): all	Concurrent treatments: NR		
	Exclusion criteria: (1) previous treatment with	Comorbidities: MR (0), psychosis (all), SA (30)			
	antipsychotic medication (>1 wk), (2)				
	presence of concurrent manic syndrome, MR				
	(IQ<70), organic disorders presenting				
	with a psychotic				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	syndrome, epilepsy,				
	(3) clinically significant				
	physical illness, (4)				
	history of brain surgery				
	or brain infarct, (5)				
	concomitant				
	medications that				
	prolong the QT				
	interval, (6) 20%				
	deviation from normal-				
	range laboratory				
	values at baseline, (7)				
	participation in any				
	other studies involving				
	investigational or				
	marketed products				
	concomitantly or within				
	30 days (8) having				
	donated blood or blood				
	products within the				
	past 4 wk, (9) pregnant				
	or lactating women, or				
	women of childbearing				
	potential not using an				
	acceptable method of				
	contraception		-	B (1/2 DDD0	<u></u>
Biederman et al.,	Recruitment dates:	Enrolled: 31	Treatment duration: 8 wk	Benefits: BPRS,	Rispiradone and
2005 ⁹	NR	Analyzed: 31	Run-in phase: No	CDRS, YMRS,	olanzapine showed
		Completed: 24	Run-in phase duration: NR	Response	reduction of
Country: USA	Study design: RCT				symptoms of mania
	(parallel)	GROUP 1	Permitted drugs: benztropine	Harms: Behavioral	in preschool children
Condition		N: 15	mesylate (max 2 mg/day),	issues, blood	with bipolar disorder.
category: Bipolar	Setting:	Age, mean±SD (range):	lorazepam (≤2 mg/day)	pressure,	
(manic, hypomanic,	Outpatient/community	5.0±0.8		cardiovascular AE,	
mixed)		Males %: 67	Prohibited drugs: antidepressants,	dermatologic AE,	
	Diagnostic criteria:	Caucasian %: 100	antimanic or mood-stabilizing	glucose, lipid profile,	
Funding:	DSM-IV, K-SADS	Diagnostic breakdown	medications	neurologic AE,	
Government,		(n): major depression		prolactin, pulse,	
Academic	Inclusion criteria: (1)	(11), mania (all)	GROUP 1	sedation, weight	
	4–6 yr, (2) DSM-IV	Treatment naïve (n): NR	Drug name: Olanzapine	change	
Risk of bias: High	bipolar I or II disorder	Inpatients (n): 0	Dosing variability: variable		
(subjective), High	or bipolar disorder	First episode psychosis	Target dose (mg/day): NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
(objective)	NOS with current	(n): NR	Daily dose (mg/day), mean±SD		
	manic, hypomanic , or	Comorbidities: ADHD	(range): 6.3±2.3 (1.3–10)		
	mixed symptoms (with	(15), DBD (8)	Concurrent treatments: all groups:		
	or without psychotic		benztropine (1), lorazepam (1)		
	features), (3) YMRS	GROUP 2			
	score >15	N: 16	GROUP 2		
		Age, mean±SD (range):	Drug name: Risperidone		
	Exclusion criteria: (1)	5.3±0.8	Dosing variability: variable		
	any serious, unstable	Males %: 75	Target dose (mg/day): NR		
	medical illness, (2)	Caucasian %: 94	Daily dose (mg/day), mean±SD		
	history of treatment	Diagnostic breakdown	(range): 1.4±0.5 (0.3–2.0)		
	with both study	(n): major Depression	Concurrent treatments: see group		
	medications	(11), mania (all)	1		
		Treatment naïve (n): NR			
		Inpatients (n): 0			
		First episode psychosis			
		(n): NR Comorbidities: ADHD			
		• • • • • • • • • • • • • • • • • • • •			
		(14), DBD (5)			
Bobo et al., 2013	Recruitment dates:	Enrolled: NA	Treatment duration: ≥1 yr	Benefits: NA	In the study cohort
100	Jan 1996 to Dec 2007	Analyzed: 43287	Run-in phase: Yes		(6 to24 yr), those
		Completed: 43287	Run-in phase duration: 365 d	Harms: Type 2	recently initiating an
Country: USA	Study design:			diabetes mellitus	antipsychotic
	Retrospective	GROUP 1	Permitted drugs: NR		medication had a 3-
Condition		N: 28858			fold greater risk of
category: Mixed	Setting: NR	Age, mean±SD (range):	Prohibited drugs: NR		newly diagnosed
conditions		14.5 yr			type 2 diabetes than
	Diagnostic criteria:	Males %: 56.0	GROUP 1		did propensity
Funding: Non-	NR	Caucasian %: 72.8	Drug name: Antipsychotic users		score-matched
industry		Diagnostic breakdown	Dosing variability: NR		controls. Risk was
	Inclusion criteria: (1)	(n): BP (5281),	Target dose (mg/day): NR		elevated during the
Newcastle-	adequate enrollment	depression (5569), other	Daily dose (mg/day), mean±SD		first year of
Ottawa Scale: 8/8	and health care	mood disorder (9609),	(range): [starting dose, median(IQ		antipsychotic use,
stars	utilization in the past	ADHD (11225), CD	range)] 67(33-100)mg of		increased with
	year to ensure	(7301), anxiety (5944),	chlorpromazine equivalents		increasing
	availability of data for	alcohol use (894), other	Concurrent treatments: Li (1212),		cumulative dose,
	study variables, (2) no	substance use (2568)	valproate (2741), lamotrigine,		and was
	evidence of life-	Treatment naïve (n): 0	carbamazepine, oxcarbazepine		present for children
	threatening illness or	Inpatients (n): 4184	(2539), other mood stabilizer (519),		<18 yr.
	institutional residence,	First episode psychosis	SSRI (13563), heterocyclic		
	(3) no evidence of	(n): NR	antidepressant (4299),		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	diabetes, (4) no	Comorbidities:	psychostimulant (9840), α-agonist		
	evidence of pregnancy	Menstruation absent or	(4213), benzodiazepine (3578)		
	(gestational diabetes	infrequent (1096),			
	might be	menstruation disorder	GROUP 2		
	misdiagnosed) or	(1414), diagnosed obesity	Drug name: Controls		
	polycystic	(1096), metabolic disorder	Dosing variability: NR		
	ovarian syndrome	(606), blood chemistry	Target dose (mg/day): NR		
	(treated with oral	panel with glucose (6608),	Daily dose (mg/day), mean±SD		
	hypoglycemics), (5)	hypertension (750), other	(range): NR		
	cohort members could	diagnosed cardiovascular	Concurrent treatments: Li (591),		
	not have been in the	disease (1298)	valproate (1341), lamotrigine,		
	hospital in the	GROUP 2	carbamazepine, oxcarbazepine		
	past month because	N: 14429	(1298), other mood stabilizer (259),		
	changes in the medication regimen	-	SSRI (6723), heterocyclic		
	cannot be identified	Age, mean±SD (range): 14.5 yr	antidepressant (2063), psychostimulant (4862), α-agonist		
	until up to 30 days	Males %: 55.9	(2048), benzodiazepine (1818)		
	following hospital	Caucasian %: 73.5	(2046), benzodiazepine (1616)		
	discharge, (6) could	Diagnostic breakdown			
	have non-	(n): BP (2654),			
	qualifying use of	depression (2813), other			
	antipsychotics in the	mood disorder (4689),			
	90 days preceding the	ADHD (5526), CD (3592),			
	qualifying prescription	anxiety (2871), alcohol			
	but had to have a prior	use (476), other			
	period of 365 days free	substance use (1341)			
	of antipsychotic use,	Treatment naïve (n): NR			
	(7) cohort was	Inpatients (n): 1991			
	restricted to recent	First episode psychosis			
	users to include cases	(n): NR			
	of diabetes that	Comorbidities:			
	occurred early in	Menstruation absent or			
	therapy and to ensure	infrequent (533),			
	that baseline	menstruation disorder			
	covariateswere	(72), diagnosed obesity			
	unaffected by chronic	(562), metabolic disorder			
	antipsychotic effects	(303), blood chemistry			
		panel with glucose (3246),			
	Exclusion criteria: (1)	hypertension (360), other			
	patientswithdiagnosed	diagnosed cardiovascular			
	conditions for which	disease (606)			
	antipsychotics				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	generally are the only				
	recommended treat-				
	ment (eg.				
	schizophrenia or				
	related psychoses, or-				
	ganic psychoses,				
	autism, mental				
	retardation, Tourette				
	syndrome, or other tic				
	disorders), (2) patients				
	prescribed clozapine or long-acting injectable				
	preparations, usually				
	indicators of				
	schizophrenia or				
	related psychoses, as				
	well as those with				
	parenterally				
	administered drugs,				
	typically given for				
	transient agitation.				
Bruggeman et al.,	Recruitment dates:	Enrolled: 50	Treatment duration: 2.8 mo	Benefits: NR	Risperidone and
2001 10	NR	Analyzed: 50	Run-in phase: Yes		pimozide were
		Completed: 41	Run-in phase duration: 2–5 wk	Harms: Weight	efficacious and well
Country: Belgium,	Study design: RCT				tolerated in patients
Netherlands, South	(parallel)	GROUP 1	Permitted drugs: antiparkinsonian		with Tourette
Africa		N: 24	medication and benzodiazepines		syndrome, but
• ···	Setting:	Age, mean±SD (range):	(discontinued during washout		risperidone had a
Condition	Outpatient/community	NR (11–45)	period, limited during treatment)		more favorable
category: Tic		Males %: 87.5			efficacy and
disorders	Diagnostic criteria:	Caucasian %: NR	Prohibited drugs: antiparkinsonian		tolerability profile.
	DSM-III-TR	Diagnostic breakdown	medication and benzodiazepines		
Funding: Industry	Inclusion criteria: (1)	(n): Tourette syndrome	(discontinued during washout		
Risk of bias: NA	10–65 yr, (2) primary	(24) Treatment naïve (n): NR	period, limited during treatment), psychotropics (within 2 wk prior to		
(subjective),	dx of Tourette	Inpatients (n): 0	and during study)		
Medium (objective)	syndrome (DSM-III-R),	First episode psychosis	and during study		
	$(3) \ge 3$ on TSSS and	(n): NR	GROUP 1		
	CGI-S	Comorbidities: ADHD	Drug name: Pimozide		
		(1), GAD (2), OCD (14)	Dosing variability: variable		
	Exclusion criteria:		Target dose (mg/day): NR		
	NR	GROUP 2	Daily dose (mg/day), mean±SD		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		N: 26 Age, mean±SD (range): NR (11–50)	(range): 2. 9 (1–6) Concurrent treatments: NR		
		Males %: 88.5 Caucasian %: NR Diagnostic breakdown (n): Tourette syndrome	GROUP 2 Drug name: Risperidone Dosing variability: variable Target dose (mg/day): NR		
		(26) Treatment naïve (n): NR Inpatients (n): 0 First episode psychosis (n): NR Comorbidities: ADHD	Daily dose (mg/day), mean±SD (range): 3.8 (0.5–6) Concurrent treatments: NR		
Duckehours et al	Recruitment dates:	(1), GAD (1), OCD (9) Enrolled: 30	Treatment duration: 8-9 wks	Benefits: BPRS	Dath nationta
Buchsbaum et al., 2007 ¹¹	NR	Analyzed: 22	Run-in phase: NR	Denenis. DFRS	Both patients treated with
2001		Completed: 22	Run-in phase duration: NR	Harms: NR	olanzapine and
Country: USA	Study design: RCT		•		haloperidol
-	(parallel)	GROUP 1	Permitted drugs: NR		improved
Condition		N: 10			significantly from
category: Schizophrenia and	Setting: Outpatient	Age, mean±SD (range): both groups: 16.2±2.0	Prohibited drugs: NR		baseline to week 8 on the BPRS
related	Diagnostic criteria: DSM-IV using CASH	Males %: both groups: 52 Caucasian %: NR	GROUP 1 Drug name: Haloperidol		(positive, negative, and total symptom
Funding: Industry, government	(at least Psychosis NOS)	Treatment naïve (n): 10 Inpatients (n): NR First episode psychosis	Dosing variability: variable Target dose (mg/day): up to 20mg/day		scores).
Risk of bias:	Inclusion criteria: (1) 13-21 yr, (2) never	(n): NR	Daily dose (mg/day), mean±SD (range): NR		
Medium (subjective), NA	previously medicated	GROUP 2 N: 12	Concurrent treatments: NR		
(objective)	Exclusion criteria:	Age, mean±SD (range):	GROUP 2		
	NR	see group 1 Males %: see group 1	Drug name: Olanzapine Dosing variability: variable		
		Caucasian %: NR Treatment naïve (n): 12	Target dose (mg/day): up to 20mg/day		
		Inpatients (n): NR	Daily dose (mg/day), mean±SD		
		First episode psychosis (n): NR	(range): NR Concurrent treatments: NR		
Buitelaar et al.,	Recruitment dates:	Enrolled: 38	Treatment duration: 6 wk	Benefits: ABC, CGI-	Risperidone may be
2001 12	NR	Analyzed: 38	Run-in phase: Yes	S, OAS-M	effective for severe

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
_		Completed: 35	Run-in phase duration: 2 wk	Medication	aggression in
Country:	Study design: RCT			adherence	adolescents with
Netherlands	(parallel)	GROUP 1	Permitted drugs: biperidine,		disruptive behavior
•		N : 19	medication for somatic illness,	Harms: Akathisia,	disorders and
Condition	Setting: Inpatient	Age, mean±SD (range):	oxazepam	dyskinesia, dystonia,	subaverage
category: ADHD	.	14.0±1.5 (11–18)	 	ECG changes,	intelligence.
_	Diagnostic criteria:	Males %: 89.5	Prohibited drugs: psychotropics	fatigue, oculogyric	
Funding: Industry	DSM-IV	Caucasian %: NR		crisis, parkinsonism,	
-		Diagnostic breakdown	GROUP 1	prolactin, prolactin-	
Risk of bias:	Inclusion criteria: (1)	(n): CD (14), DBD NOS	Drug name: Risperidone	related AE, SAE,	
Medium	overt aggressive	(1), ODD (4)	Dosing variability: variable	somnolence, total AE,	
(subjective),	behavior persisted	Treatment naïve (n): 13	Target dose (mg/day): NR	weight change,	
Medium (objective)	during hospitalization	Inpatients (n): NR	Daily dose (mg/day), mean±SD	ESRS	
	(modified OAS score	First episode psychosis	(range): 2.9 (1.5–4)		
	≥1), (2) failure to	(n): NR	Concurrent treatments: NR		
	respond to behavioral	Comorbidities: ADHD			
	treatment approaches,	(14), MR (6)	GROUP 2		
	(3) clinical indication		Drug name: Placebo		
	for drug treatment, (4)	GROUP 2	Dosing variability: variable		
	12–18 yr, (5) principal	N : 19	Target dose (mg/day): NR		
	dx of CD, ODD, or	Age, mean±SD (range):	Daily dose (mg/day), mean±SD		
	ADHD according to	13.7±2 (11–18)	(range): NR		
	DSM-IV, (6) full-scale	Males %: 84.2	Concurrent treatments: NR		
	IQ 60–90 (WISC-R)	Caucasian %: NR			
		Diagnostic breakdown			
	Exclusion criteria: (1)	(n): CD (16), DBD NOS			
	neurologic, cardiac,	(1), ODD (2)			
	pulmonary, or hepatic	Treatment naïve (n): 13			
	diseases, (2) primary	Inpatients (n): NR			
	mood disorders,	First episode psychosis			
	schizophrenia or other	(n): NR			
	active psychosis, or	Comorbidities: ADHD			
	suicidality, (3)	(12), anxiety disorder (3),			
	comorbid substance	MR (8)			
	abuse disorder (DSM-				
	IV), (4) pregnant or use				
	of inadequate				
	contraception, (5)				
	major change in				
	treatment strategy				
	expected, (6) not				
	feasible to discontinue				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	current psychotropic medication				
Calarge et al., 2014 ¹⁰¹	Recruitment dates:	Enrolled: 108	Treatment duration: 6 mo,	Benefits: NA	Discontinuation of
2014 ¹⁰¹	NR	Analyzed: 101	followed-up after 1.5 yr		risperidone is
		Completed: 101	Run-in phase: NR	Harms: Weight (BMI-	associated with
Country: USA	Study design:		Run-in phase duration: NR	z), lipid values,	largely spontaneous
	Prospective	GROUP 1		glucose, insulin,	resolution of the
Condition	·	N: 74	Permitted drugs: NR	blood pressure	excessive weight
category: Mixed	Setting: NR	Age, mean±SD (range):	-	(systolic/ diastolic),	and a favorable
	e e	13.3±2.7 yr	Prohibited drugs: NR	prolactin	change in
Funding: Non-	Diagnostic criteria:	Males %: 95	5		cardiometabolic
industry	DSM-IV-TR, DISC-IV	Caucasian %: 80	GROUP 1		parameters.
	- ,	Diagnostic breakdown	Drug name: Risperidone Continued		
Newcastle-Ottawa	Inclusion criteria: (1)	(n): DBD (68), ADHD (65),	Dosing variability: NR		
Scale: 5/8 stars	7-7 yr, (2) treated with	anxiety disorder (23),	Target dose (mg/day): NR		
	risperidone ≥ 6 mo,	depressive disorder (3),	Daily dose (mg/day), mean±SD		
	irrespective of primary	ASD (12), tic disorder (17)	(range): (mg/kg/d) 0.03±0.02		
	diagnosis	Treatment naïve (n): 0	Concurrent treatments:		
	alagheele	Inpatients (n): NR	Psychostimulants (59), α_2 -agonists		
	Exclusion criteria: (1)	First episode psychosis	(25), antidepressants (43), mood		
	Participants with	(n): NR	stabilizers (6)		
	neurological or medical	Comorbidities: NR			
	conditions that could		GROUP 2		
	confound the	GROUP 2	Drug name: SGA Continued		
	cardiometabolic	N: 9	Dosing variability: NR		
	assessments (e.g.,	Age, mean±SD (range):	Target dose (mg/day): NR		
	seizure disorder,	12.3±2.6 yr	Daily dose (mg/day), mean±SD		
	hypothyroidism,	Males %: 89	(range): NR		
	dyslipidemia,	Caucasian %: 67	Concurrent treatments:		
	diabetes), (2) pregnant	Diagnostic breakdown	Psychostimulants (5), α_2 -agonists		
	females, (3) those	(n): DBD (7), ADHD (7),	(6), antidepressants (8), mood		
	receiving hormonal	anxiety disorder (3),	stabilizers (0)		
	contraception	depressive disorder (0),	Stabilizers (0)		
	contraception	ASD (2), tic disorder (3)			
		Treatment naïve (n): 0	GROUP 3		
		Inpatients (n): NR First episode psychosis	Drug name: SGA Discontinued Dosing variability: NR		
		(n): NR Comorbidities: NR	Target dose (mg/day): NR		
		Comordiaities: NR	Daily dose (mg/day), mean±SD		
			(range): NR		
		GROUP 3	Concurrent treatments:		
		N: 18	Psychostimulants (11), α_2 -agonists		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Age, mean±SD (range):	(5), antidepressants (20), mood		
		13.1±2.3 yr	stabilizers (2)		
		Males %: 89			
		Caucasian %: 94			
		Diagnostic breakdown			
		(n): DBD (14), ADHD (17),			
		anxiety disorder (5),			
		depressive disorder (2),			
		ASD (5), tic disorder (5)			
		Treatment naïve (n): 0			
		Inpatients (n): NR			
		First episode psychosis			
		(n): NR			
		Comorbidities: NR			
Castro-Fornieles et	Recruitment dates:	Enrolled: 110	Treatment duration: 24 mo	Benefits: PANSS,	Using the baseline
al., 2008 ¹⁰²	NR	Analyzed: 60 (only those	Run-in phase: NR	CGI, GAF	score as covariate,
		remaining on same	Run-in phase duration: NR		there were no
Country: Spain	Study design:	medication)		Harms: Weight, BMI,	statistically
	Prospective cohort	Completed: 60	Permitted drugs: NR	UKU, neurological	significant
Condition				AEs	differences betweer
category:	Setting: Inpatient	All patients: 15.5±1.8;	Prohibited drugs: NR		the three
Schizophrenia and	(84% at recruitment)	Males 67%; White: 86%;			antipsychotics in the
related	and outpatient	49% drug naive	GROUP 1		improvement
			Drug name: Risperidone		achieved on any
Funding:	Diagnostic criteria:		Dosing variability: variable		scale. Clinicians
Government	DSM-IV	GROUP 1	Target dose (mg/day): NR		seem to prefer
		N: 31	Daily dose (mg/day), mean±SD		quetiapine or
Newcastle-Ottawa	Inclusion criteria: (1)	Age, mean±SD (range):	(range): 2.8±1.2mg/day		olanzapine to
Scale: 6/8 stars	7 to 17 yr, (2)	15.1±2.1	Concurrent treatments: NR		risperidone when
	psychotic episode less	Males %: 68			there are marked
	than 6 mo duration	Caucasian %: NR	GROUP 2		affective symptoms
		Treatment naïve (n): NR	Drug name: Quetiapine		
	Exclusion criteria: (1)	Inpatients (n): NR	Dosing variability: variable		
	ASD, PTSD, SUD and	First episode psychosis	Target dose (mg/day): NR		
	other Axis I associated	(n): 31	Daily dose (mg/day), mean±SD (range): 626.8±526 mg/day		
with psychosis, (2) MI and PDD		GROUP 2	Concurrent treatments: NR		
		GROUP 2 N : 15	Concurrent treatments: NR		
		Age, mean±SD (range):	GROUP 3		
		16.4±1.1	Drug name: Olanzapine		
		Males %: 67	Dosing variability: variable		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Caucasian %: NR Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): 15	Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 11.7±7.0 mg/day Concurrent treatments: NR		
		GROUP 3 N: 14 Age, mean±SD (range): 15.7±1.2 Males %: 71 Caucasian %: NR Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): 14			
Cianchetti et al., 2011 ¹⁰³	Recruitment dates: 1990 to 2005	Enrolled: 58 Analyzed: 47 Completed: 47	Treatment duration: see below: 3 to 11 yrs Run-in phase:	Benefits: PANSS, CGI-I, CGI-EI, C- GAS, response	In the long-term, clozapine is more effective than
Country: Italy	Study design: Cohort	Whole cohort:	Run-in phase duration:	Harms: EPS, weight,	haloperidol, risperidone and
Condition	study	Age: 15.5 (range 10-17)	Permitted drugs: mood stabilizers,	ECG, glucose, liver	olanzapine. Despite
category: Schizophrenia and	Setting: Inpatient (at recruitment) and	Males: 45% Caucasian: 100%	anti-EPS (for haloperidol and high dose risperidone)	function tests, discontinuations,	a relevant incidenc of adverse effects.
related	outpatient		Prohibited drugs: NR	neutropenia, suicide	clozapine seems to
Funding: NR	Diagnostic criteria:		Fromblied drugs. NR		have unique effectiveness in
-	DSM-IV		All patients treated per protocol, with		treating children an
Newcastle-Ottawa			analysis based on drugs used		adolescents with
Scale: 5/8 stars	Inclusion criteria: schizophrenia or		(haloperidol, risperidone, olanzapine, clozapine, clozapine, guetiapine,		early-onset schizophrenic
	schizoaffective		aripiprazole; latter two had too few		disorders.
	disorder		patients to compare)		
	Exclusion criteria: (1)		Haloperidol: (29) mean months		
	concomitant axis I		treatment 9.4±14.3 Pisporidopo: (22) moon months of		
disorder, (2) IQ less than 70, (3)	than 70, (2) IQ less		Risperidone: (33) mean months of treatment 19.6±17.9		
	neurological disorders		Olanzapine: (12) mean months of		
	and previous		treatment 11.7±9.2		
	commotive head		Clozapine: (28) mean months of		
	trauma		treatment 31.5±916.3		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Connor et al., 2008	Recruitment dates:	Enrolled: 19	Treatment duration: 6 wk	Benefits: CGI-I, CGI-	Quetiapine may be
13	Nov 2003 to May 2005	Analyzed: 19	Run-in phase: Yes	S, Conner PRS, OAS	efficacious in the
		Completed: 11	Run-in phase duration: 1–4 wk	Quality of life (Q-LES-	treatment of CD, but
Country: USA	Study design: RCT			Q), school	further research is
	(parallel)	GROUP 1	Permitted drugs: benztropine	attendance	required.
Condition		N: 9			
category: ADHD	Setting:	Age, mean±SD (range):	Prohibited drugs: psychotropics,	Harms: Akathisia,	
	Outpatient/community	13.1±1.2 yr	rescue medications for aggression	Behavioral issues,	
Funding: Industry		Males %: 78%		ECG changes, EPS,	
	Diagnostic criteria:	Caucasian %: 78%	GROUP 1	prolactin, pulse, SAE,	
Risk of bias: High	K-SADS-E	Diagnostic breakdown:	Drug name: Quetiapine	sedation, severity of	
(subjective), High		CD with moderate to	Dosing variability: variable	AE, WAE, weight	
(objective)	Inclusion criteria: (1)	severe aggression (9)	Target dose (mg/day): 200	change, AIMS	
	12–17 yr, (2) primary	Treatment naïve (n): 2	Daily dose (mg/day), mean±SD		
	psychiatric dx of CD,	Inpatients (n): NR	(range): 294±78 (200–600)		
	(3) moderate to severe	First episode psychosis	Concurrent treatments:		
	aggression (OAS score	(n): NR	benztropine (0)		
	≥25), (4) at least	Comorbidities: ADHD			
	moderate severity of	(8), DBD (8), depression	GROUP 2		
	symptoms (CGI-S	(1), dysthymia (2), GAD	Drug name: Placebo		
	score ≥4)	(3), MR (0), OCD (2),	Dosing variability: variable		
		panic disorder (1),	Target dose (mg/day): 200		
	Exclusion criteria: (1)	psychosis (0), PTSD (2),	Daily dose (mg/day), mean±SD		
	comorbid	SA (1), separation anxiety	(range): 530±245		
	schizophrenia,	(2), social phobia (2)	Concurrent treatments:		
	schizoaffective		benztropine (0)		
	disorder, psychotic	GROUP 2			
	disorder NOS, bipolar	N : 10			
	disorder, psychotic	Age, mean±SD (range):			
	depression, or bipolar	15±1.4 yr			
	disorder NOS, (2)	Males %: 70%			
	alcohol or substance	Caucasian %: 70%			
	abuse or dependence	Diagnostic breakdown:			
	within 3 mo, (3)	CD with moderate to			
	significantly	severe aggression (10) Treatment naïve (n): 1			
	subaverage IQ, (4) current or past history	Inpatients (n): NR			
	of leticular abnormality	First episode psychosis			
	or juvenile cataracts,	(n): NR			
	(5) seizure disorder,	Comorbidities: ADHD			
	(6) concurrent	(7), DBD (10), depression			
	administration of any	(3), dysthymia (3), GAD			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	psychoactive medication, (7) pregnant or lactating females, (8) women of childbearing potential not using a medically accepted means of birth control, (9) unstable medical disease	(0), MR (0), OCD (1), panic disorder (0), psychosis (0), PTSD (1) SA (5), separation anxiety (1), social phobia (1)			
Conus et al., 2015	Recruitment dates: October 2001 and February 2006	Enrolled: 98 Analyzed: 83 Completed: 74	Treatment duration: 8 wks Run-in phase: Yes Run-in phase duration: 24 hours	Benefits: response, remission and symptomatic recovery	Olanzapine and chlorpromazine have a similar safet
Country: Australia	Study design: RCT	GROUP 1	Permitted drugs: Benzodiazepines	symptomatic receivery	profile in a uniquely representative
Condition category: Bipolar	(parallel) Setting: Inpatient and	N: 41 Age, mean±SD (range): 22.0±3.0	and anticholinergics Prohibited drugs:	Harms: weight, extrapyramidal side effects, neutropenia,	cohort of patients with first episode psychotic mania.
Funding: Industry	outpatient	Males %: 63.9 Caucasian %: NR	GROUP 1	sedation	psycholic mania.
Risk of bias: High (subjective), High (objective)	Diagnostic criteria: DSM-IV	Treatment naïve (n): NR Inpatients (n): 30 First episode psychosis	Drug name: Chlorpromazine Dosing variability: variable Target dose (mg/day): NR		
(00)00000)	Inclusion criteria: (1) participants (males and females aged 15 to 28)	(n): all GROUP 2	Daily dose (mg/day), mean±SD (range): 185.9±126.7 Concurrent treatments: Lithium		
	met DSM-IV criteria for a first manic or mixed	N: 42 Age, mean±SD (range):	GROUP 2		
	episode with psychotic features within bipolar 1 or schizoaffective disorder, and had baseline Yound Mania Rating Scale (YMRS)	Age, mean±SD (range). 21.1±2.7 Males %: 71.1 Caucasian %: NR Treatment naïve (n): NR Inpatients (n): 29 First episode psychosis	Drug name: Olanzapine Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 12.2±7.8 Concurrent treatments: Lithium		
	score ≥ 20.	(n): all	concurrent treatments. Liunum		
	Exclusion criteria: immediate risk of committing harm to self or others; use of neuroleptic medication or mood-stabilizers				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	within two months of				
	admission to the Early				
	Psychosis Prevention and Intervention				
	Centre (EPPIC);				
	organic mental				
	disease; mental				
	retardation; clinically				
	signficant illness;				
	clinically relevant				
	biochemical or				
	hematological abnormalities:				
	pregnancy or lactation;				
	history of epilespsy;				
	drug allergy or				
	hypersensitivity; or				
	non-fluency in English.				
Correll et al., 2009	Recruitment dates:	Enrolled: 312	Treatment duration: 2.8 mo	Benefits: NR	First-time SGA
104	Dec 2001 to Sep 2007	Analyzed: 257	Run-in phase: No		medication use was
Country 110 A		Completed: 192	Run-in phase duration: NR	Harms: Fat mass,	associated with
Country: USA	Study design:	GROUP 1	Permitted druges as mediantions	glucose, insulin	significant weight
Condition	Prospective cohort	N: 47	Permitted drugs: co-medications as necessary	resistance, lipid profile, metabolic	gain and variable metabolic changes
category: Mixed	Setting: Inpatient and	Age, mean±SD (range):	as necessary	syndrome, waist	for each medication
conditions (bipolar,	outpatient	13.4±3.1 (7–19.7)	Prohibited drugs: co-medications	circumference, WAE,	
ADHD, ASD,		Males %: 56.1	as necessary	weight change	
schizophrenia-	Diagnostic criteria:	Caucasian %: NR		0 0	
elated)	DSM-IV, chart review,	Diagnostic breakdown	GROUP 1		
	discussion with treating	(n): disruptive or	Drug name: Aripriprazole		
Funding:	clinician, clinical	aggressive behavior	Dosing variability: variable		
Government, Academic	interview	spectrum disorder (9: ASD (4), ODD, CD, IED, ICD	Target dose (mg/day): NR		
Academic	Inclusion criteria: (1)	(4), ODD, CD, IED, ICD (5)), mood disorder	Daily dose (mg/day), mean±SD (range): NR		
Newcastle-Ottawa	4-19 yr, (2) < 1 wk	spectrum (11: bipolar (3),	Concurrent treatments:		
Scale: 8/8 stars	lifetime antipsychotic	MDD (10), NOS (5)),	anticholinergics (2), antidepressants		
	treatment, (3)	schizophrenia spectrum	(13), anxiolytics or hypnotics (1),		
	psychiatric illness	(14: psychosis NOS (11),	mood stabilizers (6), none (16),		
	prompting	schizophrenia/	psychostimulants (5), psychotropics		
	antipsychotic	schizoaffective disorder	(4)		
	medication initiation,	(3))			
	(4) consent, (5)	Treatment naïve (n): all	GROUP 2		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	baseline	Inpatients (n): NR	Drug name: Olanzapine		
	anthropometric and	First episode psychosis	Dosing variability: variable		
	biochemical	(n): NR	Target dose (mg/day): NR		
	assessments obtained	Comorbidities: NR	Daily dose (mg/day), mean±SD		
	within 7 day of		(range): NR		
	antipsychotic	GROUP 2	Concurrent treatments:		
	medication initiation	N: 52	anticholinergics (0), antidepressants		
		Age, mean±SD (range):	(10), anxiolytics or hypnotics (3),		
	Exclusion criteria: (1)	14.7±3.2 (6.6–18.6)	mood stabilizers (18), none (14),		
	treatment with >1	Males %: 64.4	psychostimulants (4), psychotropics		
	antipsychotic agent, (2)	Caucasian %: NR	(1)		
	active or past eating	Diagnostic breakdown			
	disorder, (3)	(n): disruptive or	GROUP 3		
	biochemical evidence	aggressive behavior	Drug name: Quetiapine		
	of thyroid dysfunction,	spectrum disorder (9: ASD	Dosing variability: variable		
	(4) acute medical	(2), ODD, CD, IED, ICD	Target dose (mg/day): NR		
	disorders, (5)	(7)), mood disorder	Daily dose (mg/day), mean±SD		
	pregnancy or	spectrum (16: bipolar (9),	(range): NR		
	breastfeeding, (6)	MDD (8), NOS (4)),	Concurrent treatments:		
	wards of the state, (7)	schizophrenia spectrum	anticholinergics (2), antidepressants		
	leaving the catchment	(14: psychosis NOS (5),	(10), anxiolytics or hypnotics (1),		
	area within 4 wk	schizophrenia/	mood stabilizers (15), none (8),		
		schizoaffective disorder	psychostimulants (4), psychotropics		
		(9))	(1)		
		Treatment naïve (n): all			
		Inpatients (n): NR	GROUP 4		
		First episode psychosis	Drug name: Risperidone		
		(n): NR	Dosing variability: variable		
		Comorbidities: NR	Target dose (mg/day): NR		
			Daily dose (mg/day), mean±SD		
		GROUP 3	(range): NR		
		N: 45	Concurrent treatments:		
		Age, mean±SD (range):	anticholinergics (18),		
		14±3.1 (6.1–19.4)	antidepressants (43), anxiolytics or		
		Males %: 36.1	hypnotics (13), mood stabilizers		
		Caucasian %: NR	(32), none (32), psychostimulants		
		Diagnostic breakdown	(26), psychotropics (9)		
		(n): disruptive or			
		aggressive behavior			
		spectrum disorder (6: ASD			
		(2), ODD, CD, IED, ICD			
		(4)), mood disorder			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		spectrum (9: bipolar (10),			
		MDD (8), NOS (6)),			
		schizophrenia spectrum			
		(6: psychosis NOS (4), schizophrenia/			
		schizoaffective disorder			
		(2))			
		Treatment naïve (n): all			
		Inpatients (n): NR			
		First episode psychosis			
		(n): NR Comorbidities: NR			
		comorbiances. MA			
		GROUP 4			
		N: 168			
		Age, mean±SD (range): 13.6±4 (4.3–19.9)			
		Males %: 62.2			
		Caucasian %: NR			
		Diagnostic breakdown			
		(n): disruptive or			
		aggressive behavior			
		spectrum disorder (34: ASD (13), ODD, CD, IED,			
		ICD (21)), mood disorder			
		spectrum (55: bipolar (17),			
		MDD (19), NOS (19)),			
		schizophrenia spectrum			
		(46: psychosis NOS (33),			
		schizophrenia/ schizoaffective disorder			
		(13))			
		Treatment naïve (n): all			
		Inpatients (n): NR			
		First episode psychosis			
		(n): NR			
		Comorbidities: NR			
rocq et al., 2007	Recruitment dates:	Enrolled: NR	Treatment duration: 2.8 mo	Benefits: NR	Significantly greater
	NR	Analyzed: 52	Run-in phase: No		increases in weight
		Completed: NR	Run-in phase duration: NR		and BMI were found
ountry: France	Study design: NRCT			Harms: BMI, weight	for olanzapine SOT

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	(parallel)	GROUP 1	Permitted drugs: NR		compared to
Condition		N: NR			olanzapine ODT, as
category:	Setting: Inpatient	Age, mean±SD (range):	Prohibited drugs: NR		well as for
Schizophrenia and		16.5±1.7			olanzapine ODT
related	Diagnostic criteria:	Males %: 31.3	GROUP 1		compared to
	DSM-IV	Caucasian %: all	Drug name: Olanzapine (oral		risperidone.
Funding: NR		Treatment naïve (n): NR	disintegrating tablet)		
	Inclusion criteria: (1)	Inpatients (n): all	Dosing variability: variable		
Risk of bias: NA	hospitalized	First episode psychosis	Target dose (mg/day): NR		
(subjective), High	adolescents with	(n): NR	Daily dose (mg/day), mean±SD		
(objective)	schizophreniform		(range): 16.6±4.4		
	disorder	GROUP 2	Concurrent treatments: NR		
		N: NR			
	Exclusion criteria:	Age, mean±SD (range):	GROUP 2		
	NR	17±1.3	Drug name: Olanzapine (standard		
		Males %: 60	oral tablet)		
		Caucasian %: all	Dosing variability: variable		
		Treatment naïve (n): NR	Target dose (mg/day): NR		
		Inpatients (n): all	Daily dose (mg/day), mean±SD		
		First episode psychosis	(range): 18±4.2		
		(n): NR	Concurrent treatments: NR		
		GROUP 3	GROUP 3		
		N: NR	Drug name: Risperidone		
		Age, mean±SD (range):	Dosing variability: variable		
		15.2±1.4	Target dose (mg/day): NR		
		Males %: 57.7	Daily dose (mg/day), mean±SD		
		Caucasian %: all	(range): 2. 8±1.2		
		Treatment naïve (n): NR	Concurrent treatments: NR		
		Inpatients (n): all			
		First episode psychosis			
		(n): NR			
Cuerda et al., 2011	Recruitment dates:	Enrolled: 61	Treatment duration: 1 yr	Benefits: NR	Hypometabolism
105	Feb 2005-Sept 2007	Analyzed: 46	Run-in phase: NR		may explain weight
		Completed: 16	Run-in phase duration: NR	Harms: Weight, BMI,	gain in patients
Country: Spain	Study design:			lipid values, glucose,	taking SGAs.
	Prospective	GROUP 1	Permitted drugs: NR	insulin, prolactin	Lifestyle
Condition		N: 18	· ·····		recommendations
category: Mixed	Setting: NR	Age, mean±SD (range):	Prohibited drugs: NR		involving reduced
conditions	County. In C	16.1±1.9 yr	rionisitou urugo. nit		calorie intake and
CONDITIONS	Diagnostic criteria:	Males %: 83.3	GROUP 1		increased physical
Funding: Non-	DSM-IV	Caucasian %: 72.2	Drug name: Risperidone		activity should be
		Vaduasian /0. 12.2	Pray name. Rispendone		activity should be

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
ndustry		Diagnostic breakdown	Dosing variability: NR		prescribed in all
	Inclusion criteria: (1)	(n): BP (1), brief	Target dose (mg/day): NR		patients starting
Newcastle-Ottawa	11-18 yr, (2) mental	psychosis/schizophria	Daily dose (mg/day), mean±SD		these treatments.
Scale: 6/8 stars	disorder requiring	disorder (4), conduct	(range): NR		
	treatment with	disorder (3), depression	Concurrent treatments: NR		
	antipsychotics, (3)	with psychotic symptoms			
	antipsychotic naïve	(2), OCD (0), psychosis	GROUP 2		
	patients or quasi-naïve	NOS (6), schizophrenia	Drug name: Olanzapine		
	(<72hr of exposure to	(2), scholar phobia (0),	Dosing variability: NR		
	antipsychotics), (4)	depression (0), intellectual	Target dose (mg/day): NR		
	written informed	disability (0), personality	Daily dose (mg/day), mean±SD		
	consent signed by	disorder (0)	(range): NR		
	parents or legal	Treatment naïve (n): 10	Concurrent treatments: NR		
	representatives and	Inpatients (n): NR			
	patients after the syudy	First episode psychosis			
	was explained	(n): NR	GROUP 3		
		Comorbidities: NR	Drug name: Quetiapine		
	Exclusion criteria: (1)		Dosing variability: NR		
	Concomitant use of	GROUP 2	Target dose (mg/day): NR		
	medications that can	N: 12	Daily dose (mg/day), mean±SD		
	influence body weight	Age, mean±SD (range):	(range): NR		
	(corticosterioids,	16.1±1.3 yr	Concurrent treatments: NR		
	valproic acid or	Males %: 66.7			
	lithium), (2) presence	Caucasian %: 91.7			
	of diabetes mellitus	Diagnostic breakdown			
	and severe	(n): BP (4), brief			
	dyslipidemia, (3) if a	psychosis/schizophria			
	second antipsychotic	disorder (2), conduct			
	was prescribed, (4) if	disorder (1), depression			
	treatment was	with psychotic symptoms			
	changed or withdrawn	(0), OCD (1), psychosis			
	during follow up, (5) if	NOS (2), schizophrenia			
	adherence was poor	(1), scholar phobia (1),			
		depression (0), intellectual			
		disability (0), personality			
		disorder (0)			
		Treatment naïve (n): 5			
		Inpatients (n): NR			
		First episode psychosis			
		(n): NR			
		Comorbidities: NR			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		GROUP 3 N: 16 Age, mean±SD (range): 16.6±0.7 yr Males %: 62.5 Caucasian %: 81.3 Diagnostic breakdown (n): BP (2), brief psychosis/schizophria disorder (4), conduct disorder (0), depression with psychotic symptoms (1), OCD (2), psychosis NOS (3), schizophrenia (1), scholar phobia (0), depression (1), intellectual disability (1), personality disorder (1) Treatment naïve (n): 5 Inpatients (n): NR First episode psychosis (n): NR			Conclusions
de Haan et al., 2003 ¹⁶	Recruitment dates: NR	Comorbidities: NR Enrolled: 24 Analyzed: 19 Completed: 20	Treatment duration: 6 wk Run-in phase: Yes Run-in phase duration: 1 wk	Benefits: CGI-I, PANSS, health	Olanzapine showed no superior
Country:	Study design: RCT	Completed: 20	Run-in phase duration: 1 wk	related quality of life (Subjective Well-	subjective response over haloperidol in
Netherlands	(parallel)	GROUP 1 N: 12	Permitted drugs: oxazepam	Being Under Neuroleptics scale),	patients with recent- onset schizophrenia.
Condition category: Schizophrenia and	Setting: Inpatient and outpatient	Age, mean±SD (range): 21.0±2.8 (17–26) Males %: NR	Prohibited drugs: antidepressants, antipsychotics, mood stabilizers	medication adherence	
related	Diagnostic criteria: DSM-IV	Caucasian %: NR Treatment naïve (n): 0	GROUP 1 Drug name: Haloperidol	Harms: BAS, SAS, akathisia.	
Funding: Government	Inclusion criteria: (1)	Inpatients (n): NR First episode psychosis	Dosing variability: fixed Target dose (mg/day): NR	parkinsonism	
Risk of bias: High (subjective), High	17–28 yr, (2) DSM-IV criteria for schizophrenia, (3)	(n): 9 Comorbidities: MR (0)	Daily dose (mg/day), mean±SD (range): 2.5 Concurrent treatments: oxazepam		
(objective)	admitted to the Adolescent Clinic	GROUP 2 N: 12	(6)		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	Exclusion criteria: (1) neurological or endocrine disease, (2) MR, (3) use of adjunctive medications such as mood stabilizers or antidepressants, (4) history of treatment with clozapine, (5) history of unresponsiveness to haloperidol or olanzapine, (6) intramuscular antipsychotic treatment within the last yr	Age, mean±SD (range): 21±2.3 (17–25) Males %: NR Caucasian %: NR Treatment naïve (n): 0 Inpatients (n): NR First episode psychosis (n): 11 Comorbidities: MR (0)	GROUP 2 Drug name: Olanzapine Dosing variability: fixed Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 7.5 Concurrent treatments: oxazepam (5)		
DelBello et al., 2009 ¹⁹	Recruitment dates: Mar 2006 to June 2007	Enrolled: 32 Analyzed: 32 Completed: 20	Treatment duration: 8 wk Run-in phase: Yes Run-in phase duration: NR	Benefits: CDRS, CGI-BP, HAM-A, YMRS, response	Quetiapine monotherapy was no more effective in
Country: USA	Study design: RCT (parallel)	GROUP 1	Permitted drugs: lorazepam (max	(response, remission, suicide attempt)	treating depression in adolescents with
category: Bipolar (depressive)	Setting: Inpatient and outpatient	N: 17 Age, mean±SD (range): 16.0±2	4 mg/day days 1–7, 2 mg/day days 8–14)	Harms: Blood pressure, BMI,	bipolar disorder thar treatment with placebo.
Funding: Industry	Diagnostic criteria: DSM-IV-TR, WASH-U-	Males %: 29 Caucasian %: 82 Treatment naïve (n): 12	Prohibited drugs: antidepressants (<3 day), anticonvulsants (<3 day), antipsychotics or atomoxetine (<3	diabetes, EPS, glucose, LFT, lipid profile, mania,	
Risk of bias: High (subjective), High	KSADS	Inpatients (n): 7 First episode psychosis	day), fluoxetine (<4 wk), psychostimulant (<48 hr)	prolactin, pulse, SAE, sedation,	
(objective)	Inclusion criteria: (1) 12–18 yr, (2) dx of	(n): NR Comorbidities: ADHD	GROUP 1	tachycardia, WAE, weight change, EPS	
	bipolar I disorder, depressive episode, (3) screening and	(2), anxiety disorder (5), DBD (6), psychosis (2)	Drug name: Quetiapine Dosing variability: variable Target dose (mg/day): 600		
	baseline CDRS-R score ≥40	GROUP 2 N: 15	Daily dose (mg/day), mean±SD (range): 403±133 (300–600)		
	Exclusion criteria: (1) substance use disorder	Age, mean±SD (range): 15±2 Males %: 33	Concurrent treatments: lorazepam (0)		
	(other than nicotine)	Caucasian %: 80	GROUP 2		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	within the previous 3 mo, (2) unstable medical or neurological illness, (3) history of intolerance or nonresponse to quetiapine monotherapy, (4) treatment with an antidepressant (other than fluoxetine), an anticonvulsant (other than valproate or carbamazepine), antipsychotic or atomoxetine within 3 day, fluoxetine within 4 wk, or a psychostimulant within 48 hr of baseline, (5) risk of suicide	Treatment naïve (n): 11 Inpatients (n): 8 First episode psychosis (n): NR Comorbidities: ADHD (2), anxiety disorder (3), DBD (2), psychosis (1)	Drug name: Placebo Dosing variability: variable Target dose (mg/day): 600 Daily dose (mg/day), mean±SD (range): 413±151 (300–600) Concurrent treatments: lorazepam (0)		
DelBello et al., 2008 ¹⁸	Recruitment dates:	Enrolled: 63 Analyzed: 63 Completed: 38	Treatment duration: 3 wk Run-in phase: Yes Run-in phase duration: 24 hr	Benefits: YMRS, BPRS, CGI-S	Neither low- nor high- dose ziprasidone was
Country: USA	Study design: RCT	-	-	Harms: Akathisia,	associated with
Condition	(parallel)	GROUP 1 N: 23	Permitted drugs: benztropine and/or propranolol, lorazepam or	behavioral issues, dystonia, ECG	unexpected tolerability findings,
category: Bipolar	Setting:	Age, mean±SD (range):	similar benzodiazepine	changes, EPS (AIMS,	and a starting dose
& schizophrenia-	Outpatient/community	13.2 (bipolar), 14.4 (schiz)		SAS, BAS), fatigue,	of 20 mg/d, titrated
related	Calpadoni community	Males %: 52	Prohibited drugs: antidepressants,	glucose, lipid profile,	to 80–160 mg/d over
	Diagnostic criteria:	Caucasian %: NR	mood stabilizers, stimulants	prolactin, SAE,	1–2 wk was optimal.
Funding: Industry	DSM-IV-TR	Diagnostic breakdown	·	sedation,	·
		(n): bipolar I (15),	GROUP 1	somnolence, WAE,	
Risk of bias: High	Inclusion criteria: (1)	schizophrenia or	Drug name: Ziprasidone (low)	weight change	
(subjective), High	10–17 yr, (2) bipolar I	schizoaffective disorder	Dosing variability: fixed		
(objective)	disorder (YMRS score	(8) T asa (m. 1997)	Target dose (mg/day): 80		
	≥17), (3)	Treatment naïve (n): NR	Daily dose (mg/day), mean±SD		
	schizophrenia-related disorder (BPRS-A	Inpatients (n): NR First episode psychosis	(range): (20–80) Concurrent treatments:		
	score ≥35, with a score	(n): NR	benztropine (3)		
	of ≥ 4 on at least one	Comorbidities: MR (0),			
	of: unusual thought	SA (0)	GROUP 2		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	content, hallucinations, suspiciousness, or conceptual	GROUP 2 N : 40	Drug name: Ziprasidone (high) Dosing variability: fixed Target dose (mg/day): 160		
	disorganization), (4) BMI between 5th and 95th percentile	Age, mean±SD (range): 13.8 (bipolar), 14.7 (schiz) Males %: 75 Caucasian %: NR	Daily dose (mg/day), mean±SD (range): (40–160) Concurrent treatments: benztropine (4)		
	Exclusion criteria: (1)	Diagnostic breakdown			
	currently on stable well-tolerated	(n): biploar I (31), schizophrenia or			
	treatment, (2)	schizoaffective disorder			
	substance-induced	(9) Treatment naïve (n): NR			
	psychotic disorder, (3) treatment with	Inpatients (n): NR			
	clozapine within 12 wk,	First episode psychosis			
	(4) depot antipsychoticwithin 4 wk, (5) MAO-I	(n): NR Comorbidities: MR (0),			
	within 2 wk, (6)	SA (0)			
	imminent risk of suicide or homicide, (7)				
	MR, (8) autism or other				
	PDD, (8) pregnancy,				
	breastfeeding, or unwillingness to use				
	birth control, (9)				
	serious unstable medical or neurologic				
	illness, (10) any				
	screening laboratory value that deviated				
	significantly from				
	reference range, (11)				
	clinically significant hypokalemia or				
	hypomagnesemia, (12)				
	history of cardiac arryhthmias,				
	conduction				
	abnormalities, QTc				
	prolongation, or genetic risk for				
	prolonged QT				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	syndrome, (13) psychoactive substance or alcohol abuse or dependence (other than nicotine or caffeine) within 1 mo (DSM-IV-TR)				
DelBello et al., 2002 ¹⁷	Recruitment dates: May 2000 to May 2001	Enrolled: 30 Analyzed: 30 Completed: 22	Treatment duration: 6 wk Run-in phase: Yes Run-in phase duration: NR	Benefits: YMRS, Medication adherence, response	Quetiapine in combination with divalproate is more
Country: USA	Study design: RCT (parallel)	GROUP 1	Permitted drugs: lorazepam (≤2	Harms: Blood cells,	effective for the treatment of
Condition category: Bipolar (manic, mixed)	Setting: Inpatient and outpatient	N: 15 Age, mean±SD (range): 14.1±2	mg/day for first 14 day) Prohibited drugs: NR	blood pressure, ECG changes, prolactin, SAE, sedation,	adolescent bipolar mania than divalproate with
Funding: Industry	Diagnostic criteria: DSM-IV, WASH-U-	Males %: 53 Caucasian %: 80 Diagnostic breakdown	GROUP 1 Drug name: Quetiapine	thyroid function, WAE, weight change, EPS (AIMS, BAS,	placebo.
Risk of bias: Medium	KSADS	(n): mixed episode (10) Treatment naïve (n): NR	Dosing variability: variable Target dose (mg/day): 450	SAS)	
(subjective), Medium (objective)	Inclusion criteria: (1) 12–18 yr, (2) DSM-IV criteria for bipolar I disorder, currently mixed or manic, (3) YMRS score ≥20	Inpatients (n): all First episode psychosis (n): NR Comorbidities: ADHD (10), psychosis (7) GROUP 2	Daily dose (mg/day), mean±SD (range): 432 Concurrent treatments: lorazepam (2) GROUP 2 Drug name: Placebo		
	Exclusion criteria: (1) pregnant, (2) manic symptoms secondary to substance intoxication or withdrawal, (3)	N: 15 Age, mean±SD (range): 14.5±2 Males %: 53 Caucasian %: 87 Diagnostic breakdown	Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: lorazepam (3)		
	substance use disorder within the past 3 mo, (4) MR, (5) unstable medical or neurological disorder, cataracts, or clinically significant baseline laboratory abnormalities, (6) history of	(n): mixed episode (13) Treatment naïve (n): NR Inpatients (n): all First episode psychosis (n): NR Comorbidities: ADHD (8), psychosis (7)			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	hypersensitivity, intolerance, or				
	nonresponse to				
	quetiapine or				
	valproate, (7) treated				
	with a depot				
	neuroleptic within 3				
	mo, an antidepressant				
	or antipsychotic within				
	1 wk (fluoxetine within				
	1 mo), a				
	benzodiazepine or				
	psychostimulant within 72 hr, or other				
	antiepileptic agents				
	within 72 hr				
Ebert et al., 2014	Recruitment dates:	Enrolled: 72	Treatment duration: mean 10-17	Benefits: NR	Weight and
106	2011-2012	Analyzed: 56	wk for groups		metabolic monitoring
		Completed: 56	Run-in phase: NR	Harms: Weight, BMI,	is essential as
Country: Israel	Study design:		Run-in phase duration: NR	lipid values, fasting	supposedly weight
Condition	Retrospective	GROUP 1	D ermitted druges ND	glucose,	neutral
category: Mixed	Setting: Inpatient	N: 32 Age, mean±SD (range):	Permitted drugs: NR	transaminases (ALT, AST)	antipsychotics
conditions	Setting. Inpatient	9.6±1.6 yr	Prohibited drugs: NR	A31)	(aripiprazole, ziprasidone, and
conditions	Diagnostic criteria:	Males %: 91.7			amisulpride) may
Funding: NR	NR	Caucasian %: NR	GROUP 1		not be weight
U		Diagnostic breakdown	Drug name: Atypical antipsychotic		neutral in youth,
Newcastle-Ottawa	Inclusion criteria: NR	(n): See below	treatment		especially in
Scale: 5/8 stars		Treatment naïve (n): NR	Dosing variability: NR		antipsychotic-naïve
	Exclusion criteria:	Inpatients (n): NR	Target dose (mg/day): NR		youth.
	NR	First episode psychosis	Daily dose (mg/day), mean±SD		
		(n): NR	(range): NR		
		Comorbidities: Anemia (1), ichthyosis (1)	Concurrent treatments: NR		
			GROUP 2		
		GROUP 2 N: 24	Drug name: Control		
		N: 24 Age, mean±SD (range):	Dosing variability: NR Target dose (mg/day): NR		
		9.3±1.8 yr	Daily dose (mg/day), mean±SD		
		Males %: 87.5	(range): NR		
		Caucasian %: NR	Concurrent treatments: NR		
		Diagnostic breakdown			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		(n): See below Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: Epilepsy (1), central precocious			
		puberty (1)			
		Overall diagnostic breakdown (n): Psychotic spectrum disorder (15), BP (4), DBD (29), ADHD (26), anxiety spectrum disorder (8), depression disorder (13), PDD (5), MR (3), OCD (1), adjustment disorder (2), ED (1), tic disorder (2)			
Findling et al., 2015b ³⁰	Recruitment dates:	Enrolled: 404	Treatment duration: 3 wk	Benefits: YMRS,	All asenapine doses
20150	Jul 2011 to Sept 2013	Analyzed: 403 Completed: 350	Run-in phase: Yes Run-in phase duration: 2-14 d	CGI-BP-S, CGAS, CDRS-R, response,	versus placebo were superior based on
Country: USA	Study design: RCT		·····	suicidal ideation,	change in YMRS at
	(parallel)	GROUP 1	Permitted drugs: Chronic	attempted suicide,	day 21. Asenapin
Condition		N: 104	use medication such as hormonal	psychiatric disorders,	was generally well
category: Bipolar I	Setting: Outpatient	Age, mean±SD (range):	birth control, common over-the-	worsening of mania,	tolerated in patients
(manic, mixed)	Diagnostic criteria:	13.7±2.1 yr Males %: 50	counter medications (i.e., nutritional supplements, pain relievers,	medication adherence	aged 10 to 17years with bipolar I
Funding: Industry	DSM-IV-TR, K-SADS-	Caucasian %: 72.1	antacids); short-acting	aunerence	disorder in manic or
	PL	Diagnostic breakdown	benzodiazepines (e.g., lorazepam	Harms: Mortality,	mixed states.
Risk of bias: Low		(n): Manic (40), mixed	and equivalents) as needed or	somnolence, EPS	Increases in weight
(subjective), Low	Inclusion criteria: (1)	(64)	diazepam; use of psychostimulants	(ESRS), akathisia,	and fasting insulin
(objective)	Dx of bipolar I disorder	Treatment naïve (n): 38	and other ADHD medications,	dystonia, weight gain,	were associated
	acute manic or mixed	Inpatients (n): 0	medications to treat extrapyramidal	BMI, ECG, lipid	with asenapine.
	episode with DSM-IV- TR and K-SADS-PL,	First episode psychosis (n): NR	symptoms (EPS; e.g., anticholinergics, short-acting	values, fasting insulin, glucose,	
	(2) YMRS score ≥ 20 ,	Comorbidities: ADHD	benzodiazepines).	prolactin, nausea,	
	(3) CGI-BP overall ≥ 4 ,	(62)		orthostatic	
	(4) guardian living with	· /	Prohibited drugs: Antipsychotics,	hypotension related	
	the child who was able	GROUP 2	depot neuroleptics,	adverse events	
	to ensure adherence	N: 99	benzodiazepines [except for		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	with treatment,	Age, mean±SD (range):	lorazepam, up to 4		
	outpatient visits, and	13.8±2.0 yr	mg daily, or otherwise the		
	study protocol	Males %: 43.4	equivalent dose of short-acting		
		Caucasian %: 67.7	benzodiazepines that were clinically		
	Exclusion criteria: (1)	Diagnostic breakdown	indicated], antidepressants, mood		
	Pervasive	(n): Manic (43), mixed	stabilizers, miscellaneous		
	development disorder,	(56)	psychotropics, and herbal		
	schizophrenia,	Treatment naïve (n): 24	drugs/dietary supplements for		
	schizoaffective	Inpatients (n): 0	depression, anxiety, or insomnia)		
	disorder,	First episode psychosis			
	posttraumatic stress	(n): NR	GROUP 1		
	disorder, obsessive-	Comorbidities: ADHD	Drug name: Asenapine (2.5 mg)		
	compulsive disorder,	(45)	Dosing variability: fixed		
	psychosis due to a		Target dose (mg/day): NR		
	medical condition, (2)	GROUP 3	Daily dose (mg/day), mean±SD		
	prohibited concomitant	N: 99	(range): NR		
	medication, (3)	Age, mean±SD (range):	Concurrent treatments: Stimulant		
	uncontrolled, unstable,	13.9±2.1 yr	(29)		
	clinically significant	Males %: 58.6			
	medical condition	Caucasian %: 65.7	GROUP 2		
		Diagnostic breakdown	Drug name: Asenapine (5 mg)		
		(n): Manic (44), mixed	Dosing variability: fixed		
		(55)	Target dose (mg/day): NR		
		Treatment naïve (n): 32	Daily dose (mg/day), mean±SD		
		Inpatients (n): 0	(range): NR		
		First episode psychosis	Concurrent treatments: Stimulant		
		(n): NR	(22)		
		Comorbidities: ADHD			
		(61)	GROUP 3		
			Drug name: Asenapine (10 mg)		
		GROUP 4	Dosing variability: fixed		
		N: 101	Target dose (mg/day): NR		
		Age, mean±SD (range):	Daily dose (mg/day), mean±SD		
		13.7±2.0 yr	(range): NR		
		Males %: 37.6	Concurrent treatments: Stimulant		
		Caucasian %: 67.3	(25)		
		Diagnostic breakdown			
		(n): Manic (44), mixed	GROUP 4		
		(57) T ransformer (17), 40	Drug name: Placebo		
		Treatment naïve (n): 43	Dosing variability: NR		
		Inpatients (n): 0	Target dose (mg/day): NR		
		First episode psychosis	Daily dose (mg/day), mean±SD		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		(n): NR	(range): NR		
		Comorbidities: ADHD	Concurrent treatments: Stimulant		
		(52)	(20)		
Findling_et al.,	Recruitment dates:	Enrolled: 306	Treatment duration: 8 wk	Benefits: PANSS,	Although
2015a ²⁹	April 2011 to April	Analyzed:	Run-in phase: Yes	CGI-S, response	improvements in
	2013	Completed:	Run-in phase duration: 3-10 day		PANSS total score
Country: USA (19	O tracks de sizes DOT		Democities of almost and a stimu	Harms: EPS,	at day 56 of the
centers),	Study design: RCT	GROUP 1	Permitted drugs: short-acting	somnolence, weight,	acute phase were
nternational (60	(parallel)	N: 106 Age, mean±SD (range):	benzodiazepines (lorazepam 4mg or equivalent; or diazepam £ 40	BMI, lipids, glucose, insulin, prolactin,	numerically greater for both asenapine
centers)	Setting: in and	15.4±1.5	mg/day in countries with no	metabolic syndrome,	2.5 and 5mg b.i.d.
Condition	outpatient (mostly	Males %: 63	approved short-acting	mortality, suicide, any	than for placebo and
category:	outpatient)	Caucasian %: 52	benzodiazepines) for relief of	AE, serious AEs,	were maintained in
Schizophrenia and	oupationty	Treatment naïve (n): 33	transient symptoms of agitation,		the OLE, the primary
related	Diagnostic criteria:	Inpatients (n): NR	anxiety, insomnia, restlessness, or		end-point did not
	DSM-IV-TR, K-SADS-	First episode psychosis	akathisia, and anticholinergics or		achieve statistical
Funding: Industry	PL	(n): NR	short-acting benzodiazepines to		significance in the
			treat EPS symptoms		acute phase.
Risk of bias: Low	Inclusion criteria: (1)	GROUP 2			
(subjective), Low	12-17 yrs, (2)	N: 98	Prohibited drugs: antipsychotics;		
(objective)	schizophrenia, (3)	Age, mean±SD (range):	depot neuroleptics; antidepressants;		
	PANSS total ≥80, CGI-	15.2±1.5	benzodiazepines;		
	$S \ge 4$, and ≥ 4 on $2+$	Males %: 63	mood stabilizers; stimulants and		
	items on PANSS	Caucasian %: 55 Treatment naïve (n): 28	other ADHD medications; miscellaneous psychotropics; and		
	positive subscale	Inpatients (n): NR	herbal drugs/dietary supplements		
	Exclusion criteria: (1)	First episode psychosis	for depression, anxiety, and		
	treatment with	(n): NR	insomnia		
	clozapine, (2)	(
	comorbid Axis I	GROUP 3	GROUP 1		
	condition responsible	N: 102	Drug name: Asenapine		
	for current symptoms,	Age, mean±SD (range):	Dosing variability: fixed		
	(3) uncontrolled or	15.4±1.4	Target dose (mg/day): 5mg bid		
	unstable clinically	Males %: 61	(2.5mg bid days 1-4; 5mg bid		
	significant	Caucasian %: 56	onwards)		
	general medical	Treatment naïve (n): 36	Daily dose (mg/day), mean±SD		
	condition (eg, renal,	Inpatients (n): NR	(range):		
	endocrine, hepatic,	First episode psychosis (n): NR	Concurrent treatments: anti-EPS (12)		
	respiratory, cardiovascular,		(14)		
	hematologic,		GROUP 2		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	immunologic, or		Drug name: Asenapine		
	cerebrovascular		Dosing variability: fixed		
	disease, or		Target dose (mg/day): 2.5mg bid		
	malignancy) or an		Daily dose (mg/day), mean±SD		
	abnormal laboratory,		(range):		
	vital sign,		Concurrent treatments: anti-EPS		
	physical examination, or ECG findings), (4)		(2)		
	uncontrolled diabetes		GROUP 3		
	or significant abnormal		Drug name: Placebo		
	blood glucose, (5)		Dosing variability: fixed		
	suicide ideation over		Target dose (mg/day): NA		
	past 2 mo or behavior		Daily dose (mg/day), mean±SD		
	over past 6 mo, (6)		(range): NA		
	beginning		Concurrent treatments: anti-EPS		
	psychotherapy after		(3)		
	trial initiation, (7) MR or				
	SUD			B (1/4 A B A H	
Findling et al.,	Recruitment dates:	Enrolled: 85	Treatment duration: 16 wk	Benefits: ABC-I,	The safety and
2014b ²⁸	Mar 2011 to Jun 2012	Analyzed: 82	Run–in phase: No	CGI-I, CGI-S,	efficacy of
0	Classical and a stress DOT	Completed: 41	Run-in phase duration: NA	PedsQL, CGSQ,	aripiprazole and
Country: USA	Study design: RCT			relapse, medication	risperidone were
O a m all () a m	(parallel)	GROUP 1	Permitted drugs: Diphenhydramine	adherence	comparable. The
Condition		N: 41	for sleep or serious behaviour		choice between
category: ASD	Setting: NR	Age, mean±SD (range): 10.1±2.8 yr	problems, nonbenzodiazepine sleep aids (eg, zolpidem, zaleplon,	Harms: Constipation, EPS (AIMS, BAS,	these two medications shoul
Funding: Industry	Diagnostic criteria:	Males %: 73.2	zopiclone, eszopiclone) for	SAS), akathisia,	be on the basis of
	DSM-IV-TR, ADI-R	Caucasian %: 75.6	insomnia, and melatonin for	mortality, lipid profile,	clinical equipoise
Risk of bias: High		Diagnostic breakdown	insomnia (not permitted to start or	glucose, prolactin,	considering the
(subjective), High	Inclusion criteria: (1)	(n): ASD (all)	make changes to their sleep aid	sexual maturation	patient's preference
(objective)	Male of female, (2) 6-	Treatment naïve (n): 0	treatment durng phase 2)		and clinical profile
	17 yr, (3) meets DSM-	Inpatients (n): NR			
	IV-TR criteria for	First episode psychosis	Prohibited drugs: Antipsychotics		
	autistic disorder,	(n): NR	other than aripiprazole,		
	confirmed by ADI-R	Comorbidities: NR	antidepressants, benzodiazepines,		
	and also had serious		stimulants, α-agonists, mood		
	behavioural problems	GROUP 2	stabilizers, and atomoxetine		
	(ie, tantrums,	N: 44			
	aggression, self-	Age, mean±SD (range):	GROUP 1		
	injurious behaviour, or	10.8±2.8 yr	Drug name: Aripiprazole		
	a combination of	Males %: 86.4	Dosing variability: variable		
	these), (4) ABC-I score	Caucasian %: 63.6	Target dose (mg/day): NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	≥18, CGI-S score ≥4 at	Diagnostic breakdown	Daily dose (mg/day), mean±SD		
	screening and baseline	(n): ASD (all) Treatment naïve (n): 0	(range): 9.0±4.5 [initial of phase 2], 9.7±4.9 [end dose at wk 16]		
	Exclusion criteria: (1)	Inpatients (n): NR	Concurrent treatments: NR		
	Treatment resistant to	First episode psychosis			
	antipsychotic	(n): NR	GROUP 2		
	medication (lack of	Comorbidities: NR	Drug name: Placebo		
	therapeutic response		Dosing variability: variable		
	to 2 different		Target dose (mg/day): NR		
	antipsychotics with		Daily dose (mg/day), mean±SD		
	treatment of ≥3 wks		(range): 9.5±4.2 [initial of phase 2],		
	each) or previously		10.0±4.2 [end dose at wk 16]		
	treated with an		Concurrent treatments: NR		
	adequate dose of				
	aripiprazole for ≥3 wks without a clinically				
	meaningful response,				
	(2) lifetime dx of				
	bipolar disorder,				
	psychosis, or				
	shizophrenia or a				
	current dx of major				
	depressive disorder,				
	pervasive				
	developmental				
	disorder-NOS,				
	Asperger syndrome,				
	Rett syndrome,				
	childhood				
	disintegrativedisorder,				
	or fragile X syndrome,				
	(3) hisory of neoroleptic malignant				
	syndrome, history of				
	seizures within the				
	past year or of severe				
	head trauma or stroke,				
	a history or current				
	unstable medical				
	conditions, a history of				
	low white blood cell				
	count, or abnormal				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	laboratory test results that were medically				
	significant				
Findling_et al.,	Recruitment dates:	Enrolled: 193	Treatment duration: 8 wk	Benefits: CDRS-R,	QuetiapineXR(150
2014a ²⁷	Jan 2009 to Nov 2010	Analyzed: 192	Run-in phase: Yes	CGI-BP-S, CGI-BP-	to 300 mg/day) did
		Completed: 144	Run-in phase duration: 7-28 d	C, response,	not demonstrate
Country: USA	Study design: RCT			remission, suicidal	efficacy
Condition	(parallel)	GROUP 1	Permitted drugs: Psychostimulants	ideation, aggression,	relative to placebo in
Condition	Setting: Outpatient	N: 92	(centrally acting sympathomimetics,	medication	this large, 8 week,
category: Bipolar	Setting: Outpatient	Age, mean±SD (range):	including amphetamine, dexamphetamine, methylphenidate)	adherence, health	randomized study of youth with bipolar I
I,II (depressed)	Diagnostic criteria:	13.9±2.2 yr Males %: 48.9	in patients with ADHD if prescribed	care system utilization,	or II depression.
Funding: Industry	DSM-IV-TR, K-SADS-	Caucasian %: 70.7	dose stable ≥30 d prior to baseline.	exacerbation of	These observations
runung. maasay	PL	Diagnostic breakdown	No dose adjustment allowed during	bipolar I and	contrast with the
Risk of bias: High	1 2	(n): NR	study. Nonpsychoactive medications	depressive	efficacy of
(subjective), High	Inclusion criteria: (1)	Treatment naïve (n): NR	considered necessary for patient's	symptoms, mania	quetiapine XR
(objective)	Boys and girls, (2) 10–	Inpatients (n): 0	well being	(YMRS)	demonstrated in
(])	17 yr, (3) dx of bipolar I	First episode psychosis		(********	adults with bipolar
	or bipolar II disorder,	(n): NR	Prohibited drugs: Adjunctive	Harms: somnolence,	de-
	current or most recent	Comorbidities: ADHD	medications for EPS	fatigue, nausea,	pression or MDD.
	episode depressed;	(38)		agitation, EPS (AIMS,	Consistent with
	duration ≥4 wk (DSM-		GROUP 1	BAS, SAS), ECG,	studies in adults,
	IV-TR, confirmed by K-	GROUP 2	Drug name: Quetiapine	transaminase, fasting	quetiapine XR
	SADS-PL), (4) CDRS-	N: 100	Dosing variability: variable	glucose,	at the dose range
	R total score ≥45 (5)	Age, mean±SD (range):	Target dose (mg/day): 300	dyslipidemia, TSH,	investigated was
	YMRS score ≤16 at	14.0±2.1 yr	Daily dose (mg/day), mean±SD	throxine, prolactin,	generally safe and
	screening and	Males %: 52.0	(range): mean modal dose,	weight gain, blood	well tolerated
	baseline, (6) Patients	Caucasian %: 60.0	204.9mg/day Concurrent treatments: Total	pressure, pulse	in these pediatric
	with rapid cycling, defined as ≥4	Diagnostic breakdown (n): NR			patients.
	episodes/yr, and a	Treatment naïve (n): NR	psychostimulants (20), other (35)		
	secondary diagnosis of	Inpatients (n): 0	GROUP 2		
	comorbid ADHD, were	First episode psychosis	Drug name: Placebo		
	permitted	(n): NR	Dosing variability: variable		
	porrinted	Comorbidities: ADHD	Target dose (mg/day): NR		
	Exclusion criteria: (1)	(46)	Daily dose (mg/day), mean±SD		
	current DSM-IV-TR		(range): NR		
	Axis I disorder other		Concurrent treatments:		
	than bipolar I or bipolar		psychostimulants (27), other (37)		
	II depression or ADHD,				
	(2) YMRS total score				
	>16 at screening or				

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Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	baseline, (3) criteria for				
	bipolar disorder, most				
	recent episode mania/				
	hypomania/ mixed, as				
	determined by the K-				
	SADS-PL, (4) history				
	of nonresponse to				
	adequate treatment				
	with more than two				
	antidepressants during				
	the current episode or				
	of treatment noncompliance, (5)				
	use of valproate within				
	3 days, an				
	antipsychotic, other				
	mood stabilizer,				
	antidepressant, an-				
	xiolytic, hypnotic, or				
	other psychoactive				
	drug within 7 days, or				
	fluoxetine within 28				
	days before baseline,				
	(6) a requirement for				
	psychotherapy during				
	the study period,				
	unless initiated at least				
	3 mo before, (7) being				
	a current serious				
	suicidal or homicidal				
	risk, CDRS-R intem 13				
	score ≥3 at enrollment				
	or randomization, (8)				
	clinically significant				
	deviations from normal				
	reference ranges of				
	clinical laboratory parameters				
ndling, 2013a 25	Recruitment dates:	Enrolled: 284	Treatment duration: 6 wk	Benefits: BPRS-A,	Oral ziprasidone
3, , , , , , ,	Apr 2006 to Mar 2009	Analyzed: 283	Run-in phase: Yes	PANSS, CGI-S, CGI-	failed to
ountry: Canada,	(terminated	Completed: NR	Run-in phase duration: 14 days	I, CGAS, health	demonstrate

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Columbia, Costa Rica, Germany, ndia, Malaysia, Mexico, Peru, Russia, Singapore, Sweden, Ukraine, JSA Condition Category: Schizophrenia and related Funding: Industry Risk of bias: High (subjective), High (objective)	prematurely) Study design: RCT (parallel) Setting: In- and outpatient Diagnostic criteria: DSM-IV, KID-SCID Inclusion criteria: (1) 13–17 yr, (2) schizophrenia (DSM- IV, confirmed by KID- SCID), (3) current symptoms present for ≥7 days prior to screening, (4) first episode psychosis allowed, (5) BPRS Anchored score ≥35 and a score ≥4 on ≥1 of the following items: unusual thought content, hallucinations, suspiciousness, or conceptual disorganization at screening and baseline visits, (6) BMI Z-score 1.65–2.00, inclusive Exclusion criteria: substance-induced psychotic disorder, a DSM-IV-defined psychoactive substance or alcohol abuse/ dependence in the preceding month, a	GROUP 1 N: 193 Age, mean±SD (range): 15.3 Males %: 56 Caucasian %: 60 Diagnostic breakdown (n): paranoid type (127) Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR GROUP 2 N: 90 Age, mean±SD (range): 15.4 Males %: 69 Caucasian %: 67 Diagnostic breakdown (n): paranoid type (57) Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR	Permitted drugs: lorazepam or diazepam, diphenhydramine, zolpidem, benzotropine, anticholinergics, propranolol Prohibited drugs: antipsychotic, mood stabilizers, stimulants, antidepressants, anti-emetics, several antihypertensives GROUP 1 Drug name: Ziprasidone Dosing variability: variable Target dose (mg/day): 40–80 (<45 kg), 120–160 (≥45 kg) Daily dose (mg/day), mean±SD (range): 67.8 (<45kg), 129.3 (≥45kg) Concurrent treatments: 51% GROUP 2 Drug name: Placebo Dosing variability: variable Target dose (mg/day): 60–80 (<45 kg), 120–160 (≥45 kg) Daily dose (mg/day): 60–80 (<45 kg), 120–160 (≥45 kg) Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: 39%	related quality of life (Child Health Questionnaire), suicide, depression Harms: Serious AE, SARS, BARS, AIMS, akathisia, behavioral issues, dermatologic AE, ECG changes, QTcF, fatigue, EPS, liver function, mortality, SAE, somnolence, total AE, WAE, weight change, blood pressure, pulse rate, lipids	superiority over placebo in adolescents with schizophrenia.

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	single suicidal ideation				
	item on the Child				
	Depression Rating				
	Scale-Revised (CDRS-				
	R), significant MR, or				
	ASD, or if they were				
	judged by investigator				
	to be at imminent risk				
	of suicide or homicide.				
	Other general criteria				
	for exclusion included				
	serious/ unstable				
	medical conditions,				
	history of significant				
	cardiovascular				
	disease, cardiac				
	arrhythmias, conduction				
	abnormalities, QT				
	prolongation, clinically				
	significant ECG				
	abnormalities, and				
	Fridericia's corrected				
	QT (QTcF) interval				
	±460ms at screening				
	or baseline.				
Findling et al.,	Recruitment dates:	Enrolled: 238	Treatment duration: 4 wk	Benefits: YMRS,	Ziprasidone at
2013b ²⁶	Jan 2006 to Jul 2007	Analyzed: 229	Run-in phase: Yes	CGI-S, CGI-I, CGAS,	doses of 40–160
		Completed: 148	Run-in phase duration: 1–10 day	CDRS-R, suicidal	mg/day is an
Country: USA	Study design: RCT		_	ideation, aggression	effective and
• ···	(parallel)	GROUP 1	Permitted drugs: Lorazepam or a		generally well-
Condition	0.41 ND	N : 149	comparable benzodiazepine as	Harms: dystonia,	tolerated treatment
category: Bipolar I	Setting: NR	Age, mean±SD (range):	required ≤2mg/day. Not to be	akathisia, dyskinesia,	for children and
(manic, mixed)		13.2±2.4 yr (males),	administered ≤6 hours prior to	EPS (AIMS, BAS,	adolescents 10–17
From allow and the objection	Diagnostic criteria:	14.1±2.0 yr (females)	clinical assessments.	SARS), somnolence,	years of age with a
Funding: Industry,	DSM-IV, K-SADS	Males %: 56.4	Drebibited drugs: Other	weight change,	manic or mixed
non-industry	Inclusion exiteria: (1)	Caucasian %: 81.2	Prohibited drugs: Other	nausea, prolonged	episode associated
Dick of bigg, Ligh	Inclusion criteria: (1)	Diagnostic breakdown	antipsychotics, lithium and	QTc interval,	with bipolar I
Risk of bias: High	10–17 yr, (2) primary dx of bipolar I disorder	(n): Single manic (14),	anticonvulsants, stimulants,	increased hepatic	disorder.
(subjective), High		manic (45), mixed (90)	antidepressants, antiemetics (dopamine antagonists such as	enzymes, extrapyramidal	
(objective)	(DSM-IV, confirmed by	Treatment naïve (n): 149			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	symptoms present for	First episode psychosis	metoclopramide), treatment with	injurious behavior,	
	≥7 day prior to	(n): NR	clozapine ≤12 weeks, treatment with	prolactin, lipid profile,	
	screening, (4) YMRS	Comorbidities: ADHD	a depot antipsychotic ≤4 weeks, treatment with a monoamine	fatigue	
	score >17 at screening and baseline visits, (5)	(66)	oxidase inhibitor ≤2 weeks. or		
	BMI Z-score 1.65–	GROUP 2	treatment with an investigational		
	2.00, inclusive	N: 88	agent ≤4 weeks of baseline.		
	2.00, 110,0010	Age, mean±SD (range):			
	Exclusion criteria: (1)	13.5±2.0 yr (males),	GROUP 1		
	current or prior	14.0±1.9 yr (females)	Drug name: Ziprasidone		
	treatment with	Males %: 53.4	Dosing variability: variable		
	ziprasidone, (2) known	Caucasian %: 81.8	Target dose (mg/day): 60-80 (<45		
	allergy to ziprasidone,	Diagnostic breakdown	kg), 120–160 (≥45 kg)		
	(3) serious suicidal	(n): Single manic (8),	Daily dose (mg/day), mean±SD		
	risk, (4) a Fridericia- corrected QT interval	manic (23), mixed (57) Treatment naïve (n): 88	(range): 69.2(<45 kg), 118.8 (≥45		
	$(QTcF) \ge 460 \text{ ms}, (5)$	Inpatients (n): NR	kg) Concurrent treatments: NR		
	DSM-IV substance	First episode psychosis	concurrent treatments. NK		
	abuse/dependence	(n): NR	GROUP 2		
	(except nicotine or	Comorbidities: ADHD	Drug name: Placebo		
	caffeine) in the	(36)	Dosing variability: variable		
	preceding month, and		Target dose (mg/day): 60-80 (<45		
	(5) numerous other		kg), 120–160 (>45 kg)		
	standard medical and		Daily dose (mg/day), mean±SD		
	psychiatric exclusion		(range): NR		
	criteria		Concurrent treatments: NR		
Findling et al.,	Recruitment dates:	Enrolled: 60	Treatment duration: 72 wk (after	Benefits: YMRS,	Even though
2012b ²⁴	May 2004 to Nov 2008	Analyzed: 60	16 wk of open label study: phase I)	CDRS-R, CGAS,	aripiprazole
0	Classical and DOT	Completed: 6	Run-in phase: NR	CGI-S, time to	maintenance was
Country: USA	Study design: RCT	GROUP 1	Run-in phase duration: NR	discontinuation of	statistically superior
Condition	(parallel)	N: 30	Permitted drugs: Continued	medication	to placebo maintenance,
category: Bipolar	Setting: Outpatient	Age, mean±SD (range):	coadministration of stable dose of	Harms: weight, EPS	alone it was not
I,II, NOS,	- stang. e aparoni	7.1±1.5 yr	psychostimulants from phase 1	(AIMS, BAS, SAS),	sufficient to keep
cyclothymia	Diagnostic criteria:	Males %: 63	1 · 7 · · · · · · · · · · · · · · · · ·	lipid values, prolactin,	most youth stable
	DSM-IV, K-SADS-PL	Caucasian %: NR	Prohibited drugs: Other	fasting glucose, blood	for extended periods
Funding: Industry		Diagnostic breakdown	psychotropic medications	pressure, pulse,	of time.
	Inclusion criteria: (1)	(n): bipolar disorder NOS		mortality	
Risk of bias: High	4-9 yr, (2) met DSM-IV	(17), bipolar I disorder	GROUP 1		
(subjective), High	criteria for bipolar I, II,	(10), cyclothymia (3)	Drug name: Aripiprazole		
(objective)	NOS or cyclothymia,	Treatment naïve (n): 0	Dosing variability: variable		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	 (3) screened by highly trained raters completing K-SADS- PL, (4) patients must have adhered to study- related procedures during phase 1, (5) tolerated a minimum daily aripiprazole dose of 0.05 mg/kg/day for at least 6 wk, (6) met a priori response criteria Exclusion criteria: (1) evidence of pervasive developmental disorder, Rett's syndrome, mental retardation, (2) a general medical or neurologic condition for which treatment with aripiprazole would be contraindicated 	Inpatients (n): 0 First episode psychosis (n): NR Comorbidities: DBD (6), ADHD (27), any anxiety disorder (0) GROUP 2 N: 30 Age, mean±SD (range): 6.7±1.7 yr Males %: 77 Caucasian %: NR Diagnostic breakdown (n): bipolar disorder NOS (16), bipolar I disorder (11), cyclothymia (3) Treatment naïve (n): 0 Inpatients (n): 0 First episode psychosis (n): NR Comorbidities: DBD (5), ADHD (27), any anxiety disorder (2)	Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 0.23±0.07 [at randomization], 0.26±0.11 [end of study] Concurrent treatments: Stimulants (12) GROUP 2 Drug name: Placebo Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day): NR Daily dose (mg/day); NR Daily dose (mg/day); MR Daily dose (mg/day); mean±SD (range): 0.22±0.07 [at randomization], 0.22±0.07 [end of study] Concurrent treatments: Stimulants (13)		
Findling et al., 2012a ²³	Recruitment dates: Oct 2004 to June 2007	Enrolled: 222 Analyzed: 220 Completed: 220	Treatment duration: 6 wk Run-in phase: Yes Run-in phase duration: 1 day–4	Benefits: BSPSd, CGAS, CGI-I, CGI-S, PANSS, Caregiver	Quetiapine at a dose of 400 mg/day and 800 mg/day
Country: Asia,	Study design: RCT	•	wk	Strain Questionnaire,	provided significant
Central and	(parallel)	GROUP 1		response, agitation,	improvements in
Eastern Europe,		N: 73	Permitted drugs: antidepressants,	aggression,	symptoms
South Africa,	Setting: Inpatient and	Age, mean±SD (range):	lorazepam	medication	associated with
United States	outpatient	15.5±1.3 (13–17)	Drobibitod druge: antinovabation	adherence	schizophrenia in
Condition	Diagnostic criteria:	Males %: 58.9 Caucasian %: 61.6	Prohibited drugs: antipsychotics, psychostimulants, CYP3A4	Harms: Withdrawals	adolescent patients,
category:	DSM-IV, K-SADS-PL	Diagnostic breakdown	inhibitors/inducres, monoamine	from AEs, serious	including the primary efficacy measure of
Schizophrenia and	DSIVILIV, K-SADS-PL	(n): disorganized (6),	oxidase inhibitors, atomoxetine,	AEs, SAS, BARS,	PANSS total score
related	Inclusion criteria: (1)	paranoid (53), residual (0),	prophylactic benztropine	ALS, SAS, BARS, AIMS-7, behavioral	change. Quetiapine
	inpatients and	undifferentiated (14)		issues, ECG	was generally well
Funding: Industry	outpatients, (2) 13–17	Treatment naïve (n): NR	GROUP 1	changes, EPS,	tolerated with a
. analig. maastry	yr, (3) schizophrenia	Inpatients (n): 31	Drug name: Quetiapine (low)	fatigue, lipid profile,	profile broadly
	(DSM-IV, confirmed by	First episode psychosis	Dosing variability: fixed		similar to that

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
(subjective), High (objective)	K-SADS-PL), (4) PANSS total score ≥60 and a score ≥4 on delusions, conceptual disorganization, or hallucinations Exclusion criteria: DSM-IV Axis I diagnosis of BD, schizophreniform disorder, schizoaffective disorder, psychotic disorder, psychotic disorder NOS, or acute PTSD, psychosis judged to be a direct consequence of a medical condition or its treatment, history of suicide attempts or homicidal risk or behavior within the past 3 months, DSM- IV-defined SUD, laboratory test results outside the normal reference range, hospital admission for diabetes or diabetes or diabetes or diabetes or diabetes (), or other medical conditions that were unstable or may have affected or been affected by the study medication, pregnancy	(n): NR GROUP 2 N: 74 Age, mean±SD (range): 15.5±1.3 (13–17) Males %: 59.5 Caucasian %: 59.5 Diagnostic breakdown (n): disorganized (5), paranoid (50), residual (1), undifferentiated (18) Treatment naïve (n): NR Inpatients (n): 28 First episode psychosis (n): NR GROUP 3 N: 73 Age, mean±SD (range): 15.3±1.4 (13–17) Males %: 57.5 Caucasian %: 63 Diagnostic breakdown (n): disorganized (5), paranoid (52), residual (0), undifferentiated (16) Treatment naïve (n): NR Inpatients (n): 36 First episode psychosis (n): NR	Target dose (mg/day): 400 Daily dose (mg/day), mean±SD (range): 400 Concurrent treatments: NR GROUP 2 Drug name: Quetiapine (high) Dosing variability: fixed Target dose (mg/day): 800 Daily dose (mg/day), mean±SD (range): 800 Concurrent treatments: NR GROUP 3 Drug name: Placebo Dosing variability: fixed Target dose (mg/day): NA Daily dose (mg/day), mean±SD (range): NA Concurrent treatments: NR	concentration, mortality, prolactin, pulse, SAE, sedation, somnolence, tachycardia, thyroid, liver and renal function, total AE, WAE, weight change	reported previously in adult and adolescent populations.

Findling et al., 2009 ²²	and lactation. Recruitment dates:				Conclusions
Findling et al.,	Docruitmont datace			D (1) 0000	
2000		Enrolled: 296	Treatment duration: 4 wk	Benefits: CDRS,	Aripiprazole in daily
2009	Mar 2005 to Feb 2007	Analyzed: 294	Run-in phase: Yes	CGAS, CGI-BP,	doses of 10 mg or
0	C I I I DOT	Completed: 237	Run-in phase duration: 3 day	YMRS, health related	30 mg was effective
Country: USA	Study design: RCT		Demosities deduceres and interview	quality of life (P-	and generally well-
O and differen	(parallel)	GROUP 1	Permitted drugs: anticholinergics,	QLES-Q), response,	tolerated for acute
Condition	Outline and have a time to an al	N: 98	benzodiazepines	suicide	treatment of
category: Bipolar	Setting: Inpatient and	Age, mean±SD (range):	Drobibited drugger Maad stabilizare		pediatric subjects
(manic, mixed)	outpatient	13.7±2.2	Prohibited drugs: Mood stabilizers,	Harms: Akathisia,	with bipolar I mania
-		Males %: 53.1	other psychotropics	BMI, dyskinesia,	or mixed episodes.
Funding: Industry	Diagnostic criteria:	Caucasian %: 66.3		dystonia, ECG	
Dist. of biss.	DSM-IV, K-SADS-PL	Diagnostic breakdown	GROUP 1	changes, EPS (AIMS,	
Risk of bias:	Inclusion oritories (1)	(n): manic (41), mixed	Drug name: Aripiprazole (low)	BAS, SAS), fatigue,	
Medium	Inclusion criteria: (1)	(43), unknown (14)	Dosing variability: variable	glucose, lipid profile,	
(subjective),	10–17 yr, (2) bipolar l	Treatment naïve (n): 41	Target dose (mg/day): 10	mortality,	
Medium	disorder with current	Inpatients (n): NR	Daily dose (mg/day), mean±SD	parkinsonism,	
(objective)	manic or mixed	First episode psychosis	(range): (2–10)	prolactin, SAE,	
	episodes, with or	(n): NR	Concurrent treatments: NR	somnolence, total AE,	
	without psychotic	Comorbidities: ADHD		WAE, weight change	
	features (DSM-IV), (3) YMRS score ≥20	(48), DBD (28)	GROUP 2		
	YMRS score 220		Drug name: Aripiprazole (high)		
	Evolucion oritorio. (1)	GROUP 2	Dosing variability: variable		
	Exclusion criteria: (1)	N: 99	Target dose (mg/day): 30		
	bipolar II disorder,	Age, mean±SD (range):	Daily dose (mg/day), mean±SD		
	bipolar disorder NOS, PDD, schizophrenia,	13.3±2.3 Males %: 51.5	(range): (2–30) Concurrent treatments: NR		
	schizoaffective	Caucasian %: 68.7	concurrent treatments. NR		
	disorder, psychosis	Diagnostic breakdown	GROUP 3		
	due to other medical	(n): manic (40), mixed	Drug name: Placebo		
	condition or	(39), unknown (20)	Dosing variability: variable		
	concomitant	Treatment naïve (n): 49	Target dose (mg/day): NR		
		Inpatients (n): NR	Daily dose (mg/day), mean±SD		
	medication, (2) MR, (3) DSM-IV substance or	First episode psychosis	(range): NR		
	alcohol use disorder,	(n): NR	Concurrent treatments: NR		
	(4) positive drug	Comorbidities: ADHD	concurrent treatments. NK		
	screen for cocaine or	(50), DBD (34)			
	other substances of				
	abuse during	GROUP 3			
	screening, (5) sexual	N: 99			
	activity without	Age, mean±SD (range):			
	contraceptive use,	13.3±2.1			
	pregnancy, lactation,	Males %: 56.6			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	(6) other medical	Caucasian %: 60.6			
	reason determined by	Diagnostic breakdown			
	investigator, (7)	(n): manic (38), mixed			
	noncompliance with medication washout,	(43), unknown (18) Treatment naïve (n): 36			
	(8) inability to swallow	Inpatients (n): NR			
	tablets whole, (9)	First episode psychosis			
	history of antipsychotic	(n): NR			
	treatment resistance or	Comorbidities: ADHD			
	NMS, (10) suicide	(55), DBD (31)			
	attempt in the past 6				
	mo, score >3 on the				
	Suicidal Ideation item				
	of the CDRS-R, or				
	determined by the				
	investigator to be at				
	risk of suicide, (11)				
	clinically important				
	laboratory test results, vital signs, or ECG,				
	and unstable medical				
	conditions, diabetes				
	melitus, epilepsy, (12)				
	prior participation in an				
	aripiprazole study,				
	allergy or				
	hypersensitivity to				
	aripiprazole, or				
	participation in an				
	investigational drug				
- :	trial in the past month	F	T	D	A : :
Findling et al., 2008a ²¹	Recruitment dates: NR	Enrolled: 302 Analyzed: 294	Treatment duration: 6 wk Run-in phase: Yes	Benefits: CGAS, CGI-I, CGI-S, PANSS	Aripiprazole (10 or 30 mg/d) was well
2000a	INT	Completed: 258	Run-in phase: Yes Run-in phase duration: ≥3 day	Health related quality	tolerated and was
Country: Asia,	Study design: RCT	Completed. 200	Run-in phase duration. =3 day	of life (P-QLES-Q),	more effective than
Caribbean,	(parallel)	GROUP 1	Permitted drugs: anticholinergics,	response, suicide	placebo in improving
Europe, South	(parallol)	N : 100	benzodiazepines		symptoms of
Africa, South	Setting: Inpatient and	Age, mean±SD (range):		Harms: Akathisia,	schizophrenia.
America, USA	outpatient	15.6±1.3	Prohibited drugs: antidepressants,	behavioral issues,	-1
	·	Males %: 45	atomoxetine, mood stabilizers, other	BMI, dyskinesia,	
Condition	Diagnostic criteria:	Caucasian %: 54	psychotropics, stimulants	dystonia, ECG	
category:	DSM-IV, K-SADS-PL	Diagnostic breakdown		changes, EPS, EPS	

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Study Schizophrenia and related Funding: Industry Risk of bias: Medium (subjective), Medium (objective)	Study Characteristics Inclusion criteria: (1) 13–17 yr, (2) primary dx of schizophrenia (DSM-IV Axis I, confirmation with K- SADS-PL), (3) baseline PANSS ≥ 70 Exclusion criteria: (1) current psychiatric comorbidity requiring pharmacology, (2) evidence of suicide risk, (3) history, or current dx of schizoaffective disorder, MR, major depressive episodes, NMS, any neurologic disorder other than Tourette syndrome, severe head trauma, unstable medical condition, (4) resistant to antipsychotics according to trials of two different antipsychotics of adequate dose and duration, (5) pregnancy, breast- feeding, sexually active patients who refused abstinence or birth control, (6) positive screens for illegal drugs within 3 mo of baseline or during study, (7) hospitalized for acute schizophrenia		Treatment Characteristics GROUP 1 Drug name: Aripiprazole (low) Dosing variability: variable Target dose (mg/day): 10 Daily dose (mg/day), mean±SD (range): 9.8 (2–10) Concurrent treatments: NR GROUP 2 Drug name: Aripiprazole (high) Dosing variability: variable Target dose (mg/day): 30 Daily dose (mg/day), mean±SD (range): 28.9 (2–30) Concurrent treatments: NR GROUP 3 Drug name: Placebo Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: NR	Outcomes Reported (SAS), glucose, lipid profile, mortality, prolactin, parkinsonism, SAE, somnolence, WAE, weight change	

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Findling et al.,	Recruitment dates:	Enrolled: 24	Treatment duration: 26 d	Benefits: CGI-I/S	Aripiprazole at
2008b ¹⁰⁷	NR	Analyzed: 21 (safety); 20	Run-in phase: NR		doses of 20, 25, and
		(efficacy)	Run-in phase duration: NR	Harms: AEs, physical	30 mg/d seemed
Country: USA	Study design: OLE	Completed: 17	• · · · ·	examination, vital	generally safe and
Condition		A 11	Concurrent treatments:	signs, ECGs, clinical	well tolerated in
Condition	Setting: NR	All N: 21	Analgesics (paracetamol; Vicks	laboratory	children and
category: Mixed conditions	Diagnostia aritaria.	Age, mean±SD (range):	formula 44M) (5); anesthetics (lidocaine) (4); antiasthmatics	parameters, and EPS (SAS, AIMS, BARS)	adolescents with
conditions	Diagnostic criteria:	Age, mean±3D (range). 12.2±2.1	(hudesonide; salbutamol; other) (2);	(SAS, AINS, BARS)	psychiatric disorders. All 3
Funding: Industry	Inclusion criteria: (1)	Males %: 66.7	antiparkinsonism drugs		planned aripiprazole
runung. maasty	13-17 yr; (2) dx of	Caucasian %: 76.1	(benztropine; benztropine mesylate)		dose levels were
Newcastle-Ottawa	schizophrenia or	Diagnostic breakdown	(2); anti-inflammatories or		judged to be
Scale: 5/8 stars	bipolar	(n): schizophrenia (1);	antirheumatics (naproxen sodium;		tolerated.
		bipolar disorder (12); TS	ibuprofen) (2); antipruritics including		
	Exclusion criteria: (1)	(5); ADHD and CD (1);	antihistamines (diphenhydramine		
	sexually active pt not	OCD (1); PDD (1)	hydrochloride) (1); antacids		
	practicing double-	Treatment naïve (n):	(dihydroxyaluminum sodium		
	barrier birth control; (2)	Inpatients (n):	carbonate) (1); antibacterials		
	pregnancy/lactation;	First episode psychosis	(minocycline) (1); sex hormones		
	(3) current/hx of drug	(n):	(progestogens and estrogens) (1);		
	or alcohol abuse; (4)	Comorbidities:	antidiabetics (insulin lispro; insulin		
	mental retardation; (5)		and analog) (1); nasal preparations		
	neurologic disorders	GROUP 1	(Dimetapp) (1)		
	(except PDD, ADHD,	N: 8			
	or TS); (6) use of	Age, mean±SD (range): NR	GROUP 1 Drug name: Aripiprazole		
	antipsychotic or psychotropic	Males %: NR	Dosing variability: 2 mg/d (starting		
	medication, CYP2D6	Caucasian %: NR	dose), then increased to target dose		
	and CYP3A4 inhibitors,	Diagnostic breakdown	every 2 d for 8 d		
	or CYP3A4 inducers	(n): NR	Target dose (mg/day): 20 mg/d		
	<14 d; (7) participation	Treatment naïve (n): NR	Daily dose (mg/day), mean±SD		
	in another clinical	Inpatients (n): NR	(range): NR		
	study <1 mo (or 6 mo if	First episode psychosis			
	the study involved	(n): NR	GROUP 2		
	psychotropic	Comorbidities: NR	Drug name: Aripiprazole		
	medication); (8) major		Dosing variability: 2 mg/d (starting		
	surgery or blood	GROUP 2	dose), then increased to target dose		
	transfusion/donation	N: 7	every 2 d for 10 d		
	<30 d; (9) abnormal	Age, mean±SD (range):	Target dose (mg/day): 25 mg/d		
	physical, ECG, or	NR	Daily dose (mg/day), mean±SD		
	clinical laboratory	Males %: NR	(range): NR		
	examinations; (10)	Caucasian %: NR			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	significant risk of	Diagnostic breakdown	GROUP 3		
	suicide or homicide	(n): NR	Drug name: Aripiprazole		
		Treatment naïve (n): NR	Dosing variability: 2 mg/d (starting		
		Inpatients (n): NR	dose), then increased to target dose		
		First episode psychosis	every 2 d for 12 d		
		(n): NR Comorbidities: NR	Target dose (mg/day): 30 mg/d Daily dose (mg/day), mean±SD		
			(range): NR		
		GROUP 3			
		N: 6			
		Age, mean±SD (range):			
		Males %: NR Caucasian %: NR			
		Diagnostic breakdown			
		(n): NR			
		Treatment naïve (n): NR			
		Inpatients (n): NR			
		First episode psychosis			
		(n): NR			
		Comorbidities: NR			
Findling et al.,	Recruitment dates:	Enrolled: 20	Treatment duration: 10 wk	Benefts: CBCL, CGI-	Low doses of
2000 ²⁰	NR	Analyzed: 20	Run-in phase: No	I, CGI-S, Conner	risperidone may be
Country 110A	Ctudu designs DOT	Completed: 9	Run-in phase duration: NR	PRS, RAAPP	effective in the
Country: USA	Study design: RCT (parallel)	GROUP 1	Permitted drugs: benztropine	Medication adherence	treatment of youths with CD and are not
Condition	(parallel)	N: 10	remmiled drugs. benzitopine	aunerence	associated with
category: ADHD	Setting:	Age, mean±SD (range):	Prohibited drugs: NR	Harms: Dermatologic	extrapyramidal
category. ADITD	Outpatient/community	10.7±3.4 yr	Tombled drugs. Nit	AE, EPS, liver	symptoms.
Funding: Industry,	C	Males %: NR	GROUP 1	function, sedation,	eypree.
Foundation	Diagnostic criteria:	Caucasian %: NR	Drug name: Risperidone	total AE, WAE, AIMS,	
	DSM-IV, K-SADS,	Diagnostic breakdown:	Dosing variability: variable	SAS	
Risk of bias: High	clinical interview	CD with aggression (10)	Target dose (mg/day): NR		
(subjective), High		Treatment naïve (n): NR	Daily dose (mg/day), mean±SD		
(objective)	Inclusion criteria: (1)	Inpatients (n): 0	(range): 0±0.004 (0.8–1.5)		
	outpatients with	First episode psychosis (n): NR	Concurrent treatments: NR		
	primary dx of CD, (2) 5–15 yr, (3) at least	(n): NR Comorbidities: NR	GROUP 2		
	moderate degree of	Comorbiances. NR	Drug name: Placebo		
	overall symptom	GROUP 2	Dosing variability: variable		
	severity (CGI), (4)	N : 10	Target dose (mg/day): NR		
	Aggression subscale	Age, mean±SD (range):	Daily dose (mg/day), mean±SD		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	T-score ≥2 SD above	8.2±1.9 yr	(range): (0.3–3)		
	the mean for age- and	Males %: NR	Concurrent treatments: NR		
	gender-matched peers	Caucasian %: NR			
	(CBCL)	Diagnostic breakdown:			
		CD with aggression (10)			
	Exclusion criteria: (1)	Treatment naïve (n): NR			
	moderate/severe	Inpatients (n): 0			
	ADHD, (2) significant	First episode psychosis			
	psychiatric comorbidity	(n): NR			
	(including mood	Comorbidities: NR			
	disorder), (3) treatment				
	with a psychotropic medication within 1 wk				
	of initiating double- blind therapy, (4)				
	positive toxicology				
	screen, (5) suicide				
	attempt within the past				
	mo, (6) organic mental				
	syndromes, (7)				
	pregnant or nursing				
	females and females of				
	childbearing potential				
	who were not using an				
	acceptable method of				
	birth control, (8) a				
	standard score				
	equivalent to <70 on				
	the Peabody Picture				
	Vocabulary Test-				
	Revised			- AL	
indling et al.,	Recruitment dates:	Enrolled: 105	Treatment duration: 3 wk	Benefits: NR	Adverse events
2015 ³¹⁷	June 2012 to May	Analyzed: 102	Run-in phase: Yes		were qualitiatively
	2013	Completed: 90	Run-in phase duration: 2 days	Harms: AE,	similar to those
country: USA				laboratory tests,	reported in adults.
	Study design:	GROUP 1	Permitted drugs: NR	weight	Discontinuation du
ondition	Prospective cohort	N: 20			to adverse events
ategory: Mixed	Catting and Castra atting the	Age, mean±SD (range):	Prohibited drugs: Inhibitors or		were dose related
onditions	Setting: Outpatient	see below	inducers of CYP3A4 or any		with lurasidone
		Males %: see below	medication that could have		doses <120 mg/d
Funding: Industry	Diagnostic criteria:	Caucasian %: see below	significantly prolonged the QT/QTc		being better
	NR	Diagnostic breakdown	interval		tolerated than high

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Risk of bias: NA		(n): see below			doses, especially in
(subjective), High	Inclusion criteria:	Treatment naïve (n): NR	GROUP 1		younger children.
(objective)	male or female	Inpatients (n): see below	Drug name: Lurasidone		The PK and
	outpatients between	First episode psychosis	Dosing variability: fixed		tolerability results
	the ages of 6 and 17	(n): NR	Target dose (mg/day): 20		suggest that the
	years with a diagnosis	Comorbidities: NR	Daily dose (mg/day), mean±SD		dose range of 20 to
	of schizophrenia		(range): NR		80 mg/d provides
	spectrum disorder,	GROUP 2	Concurrent treatments: NR		adequate serum
	bipolar spectrum	N: 25			concentrations, but
	disorder, autism	Age, mean±SD (range):	GROUP 2		with improved
	spectrum disorder,	see below	Drug name: Lurasidone		tolerability compare
	attention	Males %: see below	Dosing variability: fixed		with higher doses.
	deficit/hyperactivity	Caucasian %: see below	Target dose (mg/day): 40 Daily dose (mg/day), mean±SD		
	disorder with	Diagnostic breakdown	(range): NR		
	aggressive behavior (ie comorbid conduct	(n): see below Treatment naïve (n): NR	Concurrent treatments: NR		
	disorder or other	Inpatients (n): see below	Concurrent treatments. NR		
	disruptive behavior), or	First episode psychosis	GROUP 3		
	Tourette's syndrome.	(n): NR	Drug name: Lurasidone		
	Tourelle's syndrome.	Comorbidities: NR	Dosing variability: fixed		
	Exclusion criteria:	comorbiances. NR	Target dose (mg/day): 80		
	clinically significant	GROUP 3	Daily dose (mg/day), mean±SD		
	alcohol or drug	N : 19	(range): NR		
	abuse/dependence	Age, mean±SD (range):	Concurrent treatments: NR		
	within the previous 6	see below			
	months or a positive	Males %: see below	GROUP 4		
	breath alcohol test or	Caucasian %: see below	Drug name: Lurasidone		
	urine screen for drugs	Diagnostic breakdown	Dosing variability: fixed		
	of abuse at screening;	(n): see below	Target dose (mg/day): 120		
	severe cognitive	Treatment naïve (n): NR	Daily dose (mg/day), mean±SD		
	impairment; clinical	Inpatients (n): see below	(range): NR		
	instability or an	First episode psychosis	Concurrent treatments: NR		
	imminent risk for	(n): NR			
	suicide or injury to self,	Comorbidities: NR	GROUP 5		
	others, or property; a		Drug name: Lurasidone		
	clinically significant	GROUP 4	Dosing variability: fixed		
	major medical	N: 25	Target dose (mg/day): 160		
	condition or abnormal	Age, mean±SD (range):	Daily dose (mg/day), mean±SD		
	laboratory value or vital	see below	(range): NR		
	sign measurement;	Males %: see below	Concurrent treatments: NR		
	and/or pregnant,	Caucasian %: see below			
	breastfeeding, or	Diagnostic breakdown			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	sexual activity without the use of medically approved birth control.	(n): See below Treatment naïve (n): NR Inpatients (n): see below First episode psychosis (n): NR Comorbidities: NR			
		GROUP 5 N: 16 Age, mean±SD (range): see below Males %: see below Caucasian %: see below Diagnostic breakdown (n): see below Treatment naïve (n): NR Inpatients (n): see below First episode psychosis (n): NR Comorbidities: NR			
		All Groups N: 102 Age, mean±SD (range): 12.7 Males %: 65 Caucasian %: 78 Diagnostic breakdown			
		(n): ADHD (78), BP (19), Schizophrenia (5), Tourette's (2), ASD (1). Treatment naïve (n): NR Inpatients (n): 0 First episode psychosis (n): NR Comorbidities: NR			
leischhaker et al., 006 ¹⁰⁸	Recruitment dates:	Enrolled: 51 Analyzed: 51	Treatment duration: 7.4 wk (mean) Run-in phase: No	Benefits: NR	Olanzapine cause significant weight
country: Germany	Study design: Prospective cohort	Completed: 51 GROUP 1	Run-in phase duration: NR Permitted drugs: NR	Harms: Akathisia, behavioral issues, bradycardia, blood	gain in children an adolescents, potentially

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Condition category: Mixed	Setting: Inpatient	N: 16 Age, mean±SD (range):	Prohibited drugs: NR	cells, blood pressure, BMI, constipation,	influencing medication
conditions		17.2±1.8 (14.4–21.3)		dystonia,	compliance and
	Diagnostic criteria:	Males %: 68.9	GROUP 1	dermatologic AE,	health risk.
Funding: NR	ICD-10	Caucasian %: NR	Drug name: Clozapine	ECG changes, liver	Clozapine and
Nowoostla Ottowa	Inclusion oritoria, NP	Treatment naïve (n): NR Diagnostic breakdown	Dosing variability: variable Target dose (mg/day): NR	function tachycardia,	risperidone were
Newcastle-Ottawa Scale: 3/8 stars	Inclusion criteria: NR	(n): Schizophrenia (31),	Daily dose (mg/day), mean±SD	tardive dyskinesia, weight change	associated with less marked changes in
	Exclusion criteria:	PDD (5), AN (1),	(range): 321.9±156.5 (125–600)	weight change	weight, but gains
	NR	Cannabis-related	Concurrent treatments: all groups:		were still more
		disorders (4), AD (3), DBD	amisulpride, biperiden,		pronounced than
		(3), OCD (2), TD (1) for all	chlorprotixene, fluboxamine,		those seen in adults.
		groups	fluoxetine, haloperidol, imipramine,		
		Inpatients (n): NR	lactulose, levomepromazine,		
		First episode psychosis	lorazepam, metixene,		
		(n): NR	metoclopramid, metoprolol,		
		Comorbidities (n): NR	paroxetine, perazine, pimozide,		
		GROUP 2	pipamperone, pirenzepine, promethazine		
		N: 16	prometrazine		
		Age, mean±SD (range):	GROUP 2		
		15.8±1.4 (12.8–17.8)	Drug name: Olanzapine		
		Males %: 56.3	Dosing variability: variable		
		Caucasian %: NR	Target dose (mg/day): NR		
		Treatment naïve (n): NR	Daily dose (mg/day), mean±SD		
		Diagnostic breakdown	(range): 16.6±7.1 (7.5–30)		
		(n): See group 1	Concurrent treatments: see group		
		Inpatients (n): NR First episode psychosis	1		
		(n): NR	GROUP 3		
		Comorbidities (n): NR	Drug name: Risperidone		
			Dosing variability: variable		
		GROUP 3	Target dose (mg/day): NR		
		N: 19	Daily dose (mg/day), mean±SD		
		Age, mean±SD (range):	(range): 3.9±1.7 (1–6)		
		15.6±2.6 (9.7–19)	Concurrent treatments: see group		
		Males %: 68.4	1		
		Caucasian %: NR			
		Treatment naïve (n): NR Diagnostic breakdown			
		(n): See group 1			
		Inpatients (n): NR			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		First episode psychosis			
		(n): NR			
		Comorbidities (n): NR			
Fraguas et al.,	Recruitment dates:	Enrolled: 92	Treatment duration: 6 mo	Benefits: NR	Metabolic and
2008 ¹⁰⁹	Mar 2005 to Oct 2006	Analyzed: 66	Run-in phase: No		hormonal
		Completed: 66	Run-in phase duration: NR	Harms: Blood	adverse events
Country: Spain	Study design:			pressure, BMI,	should be carefully
	Prospective cohort	GROUP 1	Permitted drugs: anticholinergics,	glucose, lipid profile,	monitored when
Condition		N: 25	antidepressants, benzodiazepines	thyroid function,	prescribing SGAs.
category: Mixed	Setting: Inpatient and	Age, mean±SD (range):		weight change	
conditions	outpatient	15.9±1.5 (12–17) Males %: 65	Prohibited drugs: antipsychotics		
Funding:	Diagnostic criteria:	Caucasian %: 90	GROUP 1		
Government,	DSM-IV	Diagnostic breakdown	Drug name: Olanzapine		
Foundation, Other	2000	(n): bipolar (2),	Dosing variability: variable		
NR	Inclusion criteria: (1)	depression (1), eating	Target dose (mg/day): NR		
	new prescription of	disorders (3), PDD (1),	Daily dose (mg/day), mean±SD		
Newcastle-Ottawa	olanzapine, risperidone	psychosis NOS (5),	(range): 9.8±5.6		
Scale: 6/8 stars	of quetiapine within 30	schizophrenia (3),	Concurrent treatments:		
	days, (2) no history of	schizophreniform (5)	antidepressants (3),		
	prior lifetime	Treatment naïve (n): 9	benzodiazepines (14), biperiden (4)		
	antipsychotic treatment	Inpatients (n): NR			
		First episode psychosis	GROUP 2		
	Exclusion criteria: (1)	(n): NR	Drug name: Quetiapine		
	receiving >1	Comorbidities: psychosis	Dosing variability: variable		
	antipsychotic or	(14), SA (12)	Target dose (mg/day): NR		
	needed another	(),()	Daily dose (mg/day), mean±SD		
	antipychotic during	GROUP 2	(range): 390.8±321.2		
	followup	N: 29	Concurrent treatments:		
	· • · • • • • • •	Age, mean±SD (range):	antidepressants (9),		
		16.3±1.3 (13–18)	benzodiazepines (12), biperiden (4)		
		Males %: 58.3	······································		
		Caucasian %: 95.8	GROUP 3		
		Diagnostic breakdown	Drug name: Risperidone		
		(n): ADHD (0), bipolar (5),	Dosing variability: variable		
		CD (1), depression (2),	Target dose (mg/day): NR		
		eating disorders (2), OCD	Daily dose (mg/day), mean±SD		
		(2), PDD (0), psychosis	(range): 3.5±3.1		
		NOS (4), schizophrenia	Concurrent treatments:		
		(4), schizophreniform (4)	antidepressants (9),		
		Treatment naïve (n): 8	benzodiazepines (11), biperiden (6)		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Inpatients (n): NR First episode psychosis (n): NR Comorbidities: psychosis (14), SA (18)			
		GROUP 3 N: 38 Age, mean±SD (range): 13.4±4 (4–17) Males %: 77.3 Caucasian %: 81.8 Diagnostic breakdown (n): ADHD (4), bipolar (1), CD (7), depression (1), eating disorders (1), OCD (2), PDD (1), psychosis NOS (3), schizophrenia (2), schizophreniform (0) Treatment naïve (n): 8 Inpatients (n): NR First episode psychosis (n): NR Comorbidities: psychosis (6), SA (13)			
Friedlander et al., 2001 ¹¹⁰	Recruitment dates: NR	Enrolled: 44 Analyzed: 44 Completed: NR	Treatment duration: 6 wk Run-in phase: No Run-in phase duration: NR	Benefits: NR Harms: Akathisia,	Adolescents and young adults with developmental
Country: Canada	Study design: Retrospective cohort	GROUP 1	Permitted drugs: NR	dyskinesia, dystonia, EPS, prolactin-related	disabilities treated with SGAs for
Condition category: Mixed	Setting: NR	N: 14 Age, mean±SD (range):	Prohibited drugs: NR	AE, sedation, total AE, WAE, weight	multiple conditions were particularly
conditions	Diagnostic criteria:	NR Males %: NR	GROUP 1	change	sensitive to neuroleptic induced
Funding: NR	DSM-IV, author consensus on chart	Caucasian %: NR Treatment naïve (n): NR	Drug name: Olanzapine Dosing variability: variable		movement disorders.
Newcastle-Ottawa	review	Diagnostic breakdown	Target dose (mg/day): NR		
Scale: 4/8 stars	-	(n): Developmental	Daily dose (mg/day), mean±SD		
	Inclusion criteria: (1)	disabilities (all),	(range): NR		
	13–24 yr, (2)	Schizophrenia/other	Concurrent treatments: all groups:		
	developmental	psychotic (15), PDD (16),	anticholinergics (5), anticonvulsants		
	disabilities and	mood disorders (11),	(12), anxiolytics (9), clonidine (1),		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	complex psychiatric	ADHD/DBD (6), Tic-	mood stabilizers (21), non-SSRI		
	problems, (3) active	related disorders (3), AD	antidepressants (8), SSRIs (9),		
	files with the mental	(2), Impulse control	stimulants (2), tetrabenazine (2)		
	health sites in the	disorder (1) for all patients	GROUP 2		
	Greater Vancouver	Inpatients (n): NR First episode psychosis	Drug name: Risperidone		
	area	(n): NR	Dosing variability: variable		
	Exclusion criteria:	Comorbidities: Addison's	Target dose (mg/day): NR		
	NR	disease (1),	Daily dose (mg/day), mean±SD		
		hypothyroidism (4), MR	(range): NR		
		(borderline (1), mild (17),	Concurrent treatments: see group		
		moderate (15), severe	1		
		(9)), Neurodevelopmental			
		syndrome (15), Seizure			
		disorder (9)			
		GROUP 2			
		N: 40			
		Age, mean±SD (range):			
		NR			
		Males %: NR			
		Caucasian %: NR			
		Treatment naïve (n): NR			
		Diagnostic breakdown			
		(n): see group 1			
		Inpatients (n): NR			
		First episode psychosis (n): NR			
		Comorbidities: see group			
		1			
ermano et al., 014 ¹¹¹	Recruitment dates:	Enrolled: 65	Treatment duration: 2 mo	Benefits: NR	Treatment with
014	Jan 2009-Dec 2012	Analyzed: 60 Completed: 60	Run-in phase: Yes Run-in phase duration: 2 wk	Harms: ECG	risperidone and aripiprazole in
ountry: Italy	Study design:	Completed. 60	Run-in pliase duration. 2 WK	parameters	children and
currenty . Italy	Prospective	GROUP 1	Permitted drugs: NR	parameters	adolescents with
ondition	Tiospective	N: 29	r ennitieu uruge. Mix		psychiatric disorde
ategory: Mixed	Setting: NR	Age, mean±SD (range):	Prohibited drugs: NR		is not associated
		See below			with clinically
unding: NR	Diagnostic criteria:	Males %: See below	GROUP 1		relevant
	NR	Caucasian %: NR	Drug name: Aripiprazole		modifications of the
ewcastle-Ottawa	-	Diagnostic breakdown	Dosing variability: NR		QT interval on EC
cale: 5/8 stars	Inclusion criteria: (1)	(n): See below	Target dose (mg/day): NR		Aripiprazole use ca

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	child and adolescent pateints, (2) ≤17 yr	Treatment naïve (n): See below Innatients (n): NR	Daily dose (mg/day), mean±SD (range): 7.4±3.1 Concurrent treatments: NR		be associated to a slight increase of
	Exclusion criteria: NR	Inpatients (n): NR First episode psychosis (n): NR Comorbidities: NR GROUP 2 N: 31 Age, mean±SD (range): See below Males %: See below Caucasian %: NR Diagnostic breakdown (n): See below Treatment naïve (n): See below Inpatients (n): NR First episode psychosis (n): NR Comorbidities: NR Overall age, mean±SD (range): 10.2±2.6 yr Overall Males %: 91.6 Overall diagnostic breakdown (n): PDD (22), ODD (12), ADHD (21), MR with psychotic disorder (11), Tourette syndrome and other tic disorders (9) Overall treatment naïve (n): 22	Concurrent treatments: NR GROUP 2 Drug name: Risperidone Dosing variability: NR Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 1.5±1.0 Concurrent treatments: NR		QTd value only, along with risperidone use that can be associated to an increase of both QTc and QTd values. Therefore, monitoring of both QTc and QTd parameters during AP treatment in pediatric Population should be considered.
Ghanizadeh et al.,	Recruitment dates:	Enrolled: 59	Treatment duration: 2 mo	Benefits: ABC, CGI-	The safety and
2014a ³²	NR	Analyzed: 59 Completed: 50	Run–in phase: NR Run–in phase duration: NR	S, CGI-I, discontinuation due	efficacy of aripiprazole and
Country: Iran	Study design: RCT (parallel)	GROUP 1	Permitted drugs: Any (with no	to lack of efficacy	risperidone were comparable. The
Condition	(parallol)	N: 29	marked change in dose allowed	Harms: Fatigue,	choice between
category: ASD	Setting: Outpatient	Age, mean±SD (range):	during the trial and during 2 wk	constipation,	these two

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Funding: Industry/ non-industry	Diagnostic criteria: DSM-IV-TR, ADI-R	9.6±3.3 yr Males %: 86.2 Caucasian %: NR Diagnostic breakdown	before the trial onset) Prohibited drugs: Antipsychotics	dystonia, dyskinesia, nausea, seizure, agitation, weight	medications should be on the basis of clinical equipoise considering the
Risk of bias: Medium (subjective), Medium (objective)	Inclusion criteria: (1) Meets DSM-IV-TR and ADI-R criteria, (2) has a clinicain rating of at least moderate severity of autistic symptoms (CGI severity score of C4) Exclusion criteria: (1) Children with a history of medically significant or uncontrolled medical conditions such as hypothyroidism, diabetes or cancer, (2) history of drug or alcohol abuse, (3) could not have received risperidone or aripiprazole during at least 2 wk before entering this trial, (4) could not have received additional behavioural interventions above the regular educational programming during this trial	(n): see below Treatment naïve (n): NR Inpatients (n): 0 First episode psychosis (n): NR Comorbidities: NR GROUP 2 N: 30 Age, mean±SD (range): 9.5±4.6 yr Males %: 76.7 Caucasian %: NR Diagnostic breakdown (n): see below Treatment naïve (n): NR Inpatients (n): 0 First episode psychosis (n): NR Comorbidities: NR Overall diagnostic breakdown (n): Autism (38), Asperger disorder (8), PDD-NOS (9), childhood disruptive behavior disorder (1)	GROUP 1 Drug name: Aripiprazole Dosing variability: variable Target dose (mg/day): 10 (<40 kg), 15 (>40kg) Daily dose (mg/day), mean±SD (range): 5.5 Concurrent treatments: NR GROUP 2 Drug name: Risperidone Dosing variability: variable Target dose (mg/day): 2 (<40 kg), 3 (>40kg) Daily dose (mg/day), mean±SD (range): 1.12 Concurrent treatments: NR		patient's preference and clinical profile.
Ghanizadeh et al., 2014b ³³	Recruitment Dates: NR	Enrolled: 60 Analyzed: 60 Completed: 35	Treatment duration: 8 weeks Run-in phase: Unclear Run-in phase duration: 2 weeks	Benefits: YGTSS, PedsQL, ADHD RS- IV	Aripiprazole decreased tic scores as much as
Country: Iran Condition category: Tic	Study design: RCT (parallel) Diagnostic criteria:	GROUP 1: N:31 Age, mean±SD	Permitted drugs: Nortriptyline, Biperiden, Citalopram, Clonidine, Fluvoxamine, Propanolol,	Harms: Neuromotor effects, metabolic effects, somnolence,	risperidone in children and adolescents with tic disorder. However
disorders	DSM-IV-TR	(range):11.12±3.3 yr	Methylphenidate	exercise intollerance	this should not be

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Males %: 82.8			interpreted as
Funding: Non-	Setting: outpatient	Caucasian %:NR	Prohibited drugs: NR		arapiprazole and
industry		Diagnostic breakdown			risperidone being
Dials of Diago Lligh	Inclusion criteria: 6-	(n): NR	GROUP 1		equivalent. Efficacsy
Risk of Bias: High	18 yr, primary	Treatment naïve (n): NR	Drug name: Aripiprazole Dosing variability: Variable		and safety of other
(subjective), High	diagnosis of tic	Inpatients (n): NR			doses of these
(objective)	disorder	First episode psychosis (n): NR	Target dose (mg/day): 15mg/day Daily dose (mg/day), mean±SD		medications are recommended. Long
	Exclusion criteria:	Comorbidities (n): NR	(range): 4.0±2.4 mg/day		term use of the
	Current mood		Concurrent treatments:		medications needs
	disorders, psychotic	GROUP 2:	Nortripyline (1), Citalopram (1),		further studies.
	symptoms, PDD,	N: 29	Clonidine + fluvoxamine +		further studies.
	substance-related	Age, mean±SD (range):	propranolol (1), Methylphenidate (2)		
	disorder, severe	10.22±2.3 yr			
	uncontrolled medical	Males %: 86.2	GROUP 2:		
	conditions such as	Caucasian %: NR	Drug name: Risperidone		
	neurological problems,	Diagnostic breakdown	Dosing variability: Variable		
	diabetes, epilepsy,	(n): NR	Target dose (mg/day): 3mg/day		
	Huntington's chorea,	Treatment naïve (n): NR	Daily dose (mg/day), mean±SD		
	reported cardiac	Inpatients (n): NR	(range): 0.6±0.2 mg/day		
	problems, or clinically	First episode psychosis	Concurrent treatments:		
	estimated mental	(n): NR	Nortriptyline (1), Biperiden (1),		
	retardation	Comorbidities (n): NR	Clonidine (1), Methylphenidate (2)		
Gilbert et al., 2004	Recruitment dates:	Enrolled: 19	Treatment duration: 8 wk	Benefits: CGI-I,	Risperidone was
34	NR	Analyzed: NR	Run-in phase: Yes	TSSR, YGTSS	superior to pimozide
		Completed: 13	Run-in phase duration: 2 wk		for tic suppression
Country: USA	Study design: RCT			Harms: EPS (ESRS),	but it induced weight
	(crossover)	GROUP 1	Permitted drugs: NR	ECG changes, weight	gain.
Condition		N: 19 (crossover)		changes	
category: Tic disorders	Setting: NR	Age, mean±SD (range): NR	Prohibited drugs: NR		
	Diagnostic criteria:	Males %: NR	GROUP 1		
Funding: Industry,	DSM-IV-TR, clinical	Caucasian %: NR	Drug name: Pimozide		
Government	assessment	Diagnostic breakdown	Dosing variability: variable		
		(n): Tourette syndrome	Target dose (mg/day): 4		
Risk of bias: High	Inclusion criteria: (1)	(16), Chronic tic disorder	Daily dose (mg/day), mean±SD		
(subjective), High	7–17 yr, (2) Tourette	(3)	(range): 2.4 (1–4)		
(objective)	syndrome or chronic	Treatment naïve (n): NR	Concurrent treatments: NR		
	motor tic disorder, (3)	Inpatients (n): NR			
	CGI tic severity score	First episode psychosis	GROUP 2		
	>4 after 2 wk with no	(n): NR	Drug name: Risperidone		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	medication Exclusion criteria: (1) transient tic disorder, anorexia nervosa, PDD,	Comorbidities: ADHD (7), c onduct disorder (1), learning disorder (3), OCD (2), oppositional defiant disorder (2)	Dosing variability: variable Target dose (mg/day): 4 Daily dose (mg/day), mean±SD (range): 2.5 (1–4) Concurrent treatments: NR		
	substance/alcohol abuse or dependence within the past yr, or any psychotic disorder, (2) serious or unstable medical illness or abnormal ECG or laboratory findings, (3) sexually active females of childbearing potential not using contraceptives	GROUP 2 N: 19 (crossover) Age, mean±SD (range): NR Males %: NR Caucasian %: NR Diagnostic breakdown (n): See group 1 Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: see group 1			
Gothelf et al., 2002	Recruitment dates:	Enrolled: 20 Analyzed: NR	Treatment duration: 4 wk Run-in phase: Yes	Benefits: NR	Body mass index significantly
Country: Israel	Study design: Prospective cohort (NR)	Completed: NR GROUP 1 N: 10	Run-in phase duration: 17.6 day (mean) Permitted drugs: NR	Harms: Abdominal circumference, BMI, weight	increased in adolescent male inpatients treated with olanzapine but
category: Schizophrenia and related	Setting: Inpatient	Age, mean±SD (range): 17.0±1.6 Males %: 100	Prohibited drugs: NR		not in those given haloperidol.
Funding: Government	Diagnostic criteria: DSM-IV, K-SADS Inclusion criteria: NR	Caucasian %: NR Treatment naïve (n): ND Inpatients (n): all First episode psychosis	GROUP 1 Drug name: Haloperidol Dosing variability: variable Target dose (mg/day): NR		
Newcastle-Ottawa Scale: 3/8 stars	Exclusion criteria: (1) taking medications that affect weight	(n): NR GROUP 2 N: 10	Daily dose (mg/day), mean±SD (range): 6.5±3.4 Concurrent treatments: NR		
	-	Age, mean±SD (range): 17±1.6 Males %: 100 Caucasian %: NR Treatment naïve (n): 1	GROUP 2 Drug name: Olanzapine Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Inpatients (n): all First episode psychosis (n): NR	(range): 14±4.1 Concurrent treatments: NR		
Gulisano et al., 2011 ³⁵	Recruitment Dates: NR	Enrolled: 50 Analyzed: 50 Completed: 50	Treatment duration: 24 mo Run-in phase: Yes Run-in phase duration: NR	Benefits: NR Harms: HR, BP, QTc	At equivalent doses, arapiprazole is characterized by a
Country: Italy Condition	Study design: NRCT (parallel)	GROUP 1: N:25	Permitted drugs: NR		safer cardiovascular profile than pimozide, being
category: Tic disorders	Diagnostic criteria: DSM-IV-TR	Age, mean±SD (range): 13.1±2.3 yr Males %: 84	Prohibited drugs: NR GROUP 1		associated with a lower frequency of QTc prolongation.
Funding: Non- industry	Setting: NR	Caucasian %: NR Diagnostic breakdown (n): Tourette syndrome	Drug name: Arapiprazole Dosing variability: Variable Target dose (mg/day): NR		
Risk of Bias: NA (subjective), Medium (objective)	With TS, 6-18 yr, normal IQ	(25) Treatment naïve (n): NR Inpatients (n): NR	Daily dose (mg/day), mean±SD (range): 5.3±2.4 Concurrent treatments: NR		
	Exclusion criteria: Patient or family history of cardiovascular symptoms	First episode psychosis (n): NR Comorbidities (n): ADHD (15), OCD (11)	GROUP 2: Drug name: Pimozide Dosing variability: Variable Target dose (mg/day): NR		
	oj inprovide	GROUP 2: N:25 Age, mean±SD (range):	Daily dose (mg/day), mean±SD (range): 4.4±1.5 Concurrent treatments: NR		
		9.1±2.9 yr Males %: 88 Caucasian %: NR Diagnostic breakdown (n): Tourette syndrome (25)			
		Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities (n): ADHD (13), OCD (13)			
Haas et al., 2009b	Recruitment dates: Aug 2004 to Dec 2005	Enrolled: 160 Analyzed: 158 Completed: 125	Treatment duration: 6 wk Run–in phase: Yes Run–in phase duration: ≤5 day	Benefits: CGAS, CGI-I, CGI-S, PANSS, response,	Risperidone treatment for 6- weeks was safe and

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Country: India,	Study design: RCT			suicide	effective at daily
Russia, Ukraine,	(parallel)	GROUP 1	Permitted drugs: Propanolol was		doses of 1–3 and 4–
USA		N: 55	allowed for treatment-emergent	Harms: SAS, BAS,	6 mg in adolescents
	Setting:	Age, mean±SD (range):	akathisia. Antiparkinsonian	AIMS, Behavioral	experiencing acute
Condition	Inpatient/outpatient	15.7±1.3	medications could be initiated for	issues, BMI, EPS,	exacerbations of
category:		Males %: 55	treatment-emergent EPS. Use of all	glucose-related AE,	schizophrenia
Schizophrenia and	Diagnostic criteria:	Caucasian %: 60	rescue medications was kept to a	mortality, prolactin,	
related	DSM-IV, K-SADS-PL	Diagnostic breakdown	minimum, and the permitted doses	prolactin-related AE,	
- .		(n): Paranoid (38),	of certain medications progressively	SAE, somnolence,	
Funding: Industry	Inclusion criteria: (1)	Undifferentiated (8),	decreased over the course of the	tachycardia, tardive	
	male and females, (2)	Disorganized (8),	study. Subjects could receive limited	dyskinesia, total AE,	
Risk of bias: High	aged 13 to 17 years,	Catatonic (1), Residual (0)	supportive psychotherapy or	WAE, weight change	
(subjective), High	(3) DSM-IV diagnosis	Treatment naïve (n): NR	psychoeducation.		
(objective)	of schizophrenia, (4)	Inpatients (n): 30	Drahibitad druge, antidagrappents		
	inpatients or	First episode psychosis	Prohibited drugs: antidepressants,		
	outpatients,	(n): NR Comorbidities: NR	mood stabilizers, anticonvulsants,		
	experiencing an acute episode with a total	Comorbiantes. NR	psychostimulants, direct dopamine agonists, cholinesterase inhibitors,		
	PANSS score of 60 to	GROUP 2	herbal or over-the-counter		
	120 (inclusive), (5) no	N: 51	medications with psychotripic		
	serious illnesses or	Age, mean±SD (range):	properties, or antipsychotic other		
	neurological	15.7±1.3	than the study medication. Drugs		
	conditions, (6) females	Males %: 73	with sedative, hypnotic, or anxiolytic		
	were required to a	Caucasian %: 47	properties were not allowed, with		
	have negative	Diagnostic breakdown	some exceptions. Subjects were not		
	pregnancy test and to	(n): Paranoid (34),	permitted to receive insight-oriented		
	be using an acceptable	Undifferentiated (13),	or cognitive-behavioral		
	form of contraception.	Disorganized (4),	psychotherapy.		
		Catatonic (0), Residual (0)	F - J F J .		
	Exclusion criteria: (1)	Treatment naïve (n): NR	GROUP 1		
	DSM-IV criteria for	Inpatients (n): 25	Drug name: Risperidone (low)		
	dissociative disorder,	First episode psychosis	Dosing variability: fixed		
	bipolar disorder, MDD,	(n): NR	Target dose (mg/day): 1-3		
	schizoaffective	Comorbidities: NR	Daily dose (mg/day), mean±SD		
	disorder,		(range): NR (1-3)		
	schizophreniform	GROUP 3	Concurrent treatments: NR		
	disorder, autistic	N: 54			
	disorder, or primary	Age, mean±SD (range):	GROUP 2		
	substance-induced	15.5±1.4	Drug name: Risperidone (high)		
	psychotic disorder at	Males %: 65	Dosing variability: fixed		
	screening, (2) MR	Caucasian %: 50	Target dose (mg/day): 4–6		
	(IQ<70), (3) substance	Diagnostic breakdown	Daily dose (mg/day), mean±SD		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	dependence diagnosed by DSM-IV criteria in 3 months preceding screening, (4) significant risk of suicide or violent behavior, (5) failed to respond to adequate treatment with >2 antipsychotic drugs during the current psychotic episode, (6) hypersensitivity or intolerance to risperidone, (7) history of neuroleptic malignant syndrome or any severe drug	(n): Paranoid (38), Undifferentiated (12), Disorganized (3), Catatonic (0), Residual (1) Treatment naïve (n): NR Inpatients (n): 23 First episode psychosis (n): NR Comorbidities: NR	(range): NR (4–6) Concurrent treatments: NR GROUP 3 Drug name: Placebo Dosing variability: fixed Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: NR		
Haas et al., 2009c	allergy, Recruitment dates: Dec 2003 to Dec 2005	Enrolled: 170 Analyzed: 169 Completed: 137	Treatment duration: 3 wk Run-in phase: Yes Run-in phase duration: ≤5 day	Benefits: BPRS, CGI-BP, YMRS, Medication	A significant reduction in manic symptoms was seer
Country: USA	Study design: RCT (parallel)	GROUP 1	Permitted drugs: medication for	adherence, response, suicide	in youth when treated with
Condition	M	N: 50	EPS; sedatives/hypnotics (run-in		risperidone (0.5–2.5
category: Bipolar	Setting: Inpatient and	Age, mean±SD (range):	and wk 1 only)	Harms: Behavioral	mg/d or $3-6 mg/d$)
(manic, mixed)	outpatient	NR (10–17) Males %: 56	Prohibited drugs: anticonvulsants,	issues, BMI, dermatologic AE,	compared to placebo.
Funding: Industry	Diagnostic criteria: DSM-IV, K-SADS-PL	Caucasian %: 70 Diagnostic breakdown	antidepressants, antimanic medications, other antipsychotics	EPS (AIMŠ, BAS, SAS), fatigue,	
Risk of bias: High		(n): manic episode (20),	(including herbal substances);	glucose, lipid profile,	
(subjective), High (objective)	Inclusion criteria: (1) 10–17 yr, (2) medically stable, (3) acute	mixed episode (30) Treatment naïve (n): NR Inpatients (n): NR	methylphenidate/other medication for ADHD	mortality, prolactin, prolactin-related AE, SAE, sedation,	
	manic/mixed episode	First episode psychosis	GROUP 1	somnolence, tardive	
	(K-SADS-PL), (4) total	(n): NR	Drug name: Risperidone (low)	dyskinesia, total AE,	
	score ≥20 at screening	Comorbidities: ADHD	Dosing variability: variable	WAE, weight change	
	and baseline on	(25), DBD (27)	Target dose (mg/day): NR		
	YMRS, (5) responsible		Daily dose (mg/day), mean±SD		
	caregiver	GROUP 2	(range): (0.5–2.5)		
		N: 61	Concurrent treatments: NR		
	Exclusion criteria: (1)	Age, mean±SD (range):			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	known intellectual impairment	NR (10–17) Males %: 43 Caucasian %: 82 Diagnostic breakdown (n): manic episode (21), mixed episode (40) Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: ADHD (33), DBD (40) GROUP 3 N: 58 Age, mean±SD (range): NR (10–17) Males %: 48 Caucasian %: 78 Diagnostic breakdown (n): manic episode (19), mixed episode (39) Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: ADHD (27), DBD (34)	GROUP 2 Drug name: Risperidone (high) Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 3 (26%), 4 (19%), 5 (15%), 6 (41%) (3–6) Concurrent treatments: NR GROUP 3 Drug name: Placebo Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: NR		
Haas et al., 2009a ³⁶ Country: Belgium,	Recruitment dates: Apr 2001 to Mar 2006 Study design: RCT	Enrolled: 257 Analyzed: 255 Completed: 172	Treatment duration: 8 wk Run-in phase: Yes Run-in phase duration: ≥7 day	Benefits: CGI-I, CGI- S, PANSS, medication	A greater improvement in total PANSS score was found with high doop
Bulgaria, Czech Republic, Estonia,	(parallel)	GROUP 1 N: 132	Permitted drugs: antiparkinsonian medications (first 3 wk), propranolol,	adherence, response, suicide	found with high dose risperidone than with low dose
Germany, Poland, Romania, USA	Setting: Inpatient	Age, mean±SD (range): 15.6±1.32 (13–17)	rescue medications (diazepam, hydroxyzine, lorazepam, zolpidem,	Harms: SAS, BAS, AIMS, Akathisia,	risperidone.
Condition	Diagnostic criteria: DSM-IV, K-SADS-PL	Males %: 61 Caucasian %: 85	zopiclone)	behavioral issues,	
ategory:	DOINTIN, ROADOPL	Diagnostic breakdown	Prohibited drugs: NR	dyskinesia, dystonia, ECG changes, EPS,	
Schizophrenia and	Inclusion criteria: (1)	(n): catatonic (3),		glucose, mortality,	
elated	13–17 yr, (2)	disorganized (6), paranoid	GROUP 1	prolactin, prolactin-	
	schizophrenia, (3)	(92), residual (7),	Drug name: Risperidone (low)	related AE, SAE,	

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Funding: Industry	currently hospitalized	undifferentiated (24)	Dosing variability: variable	somnolence,	
	for an acute episode	Treatment naïve (n): NR	Target dose (mg/day): NR	tachycardia, total AE,	
Risk of bias: High	(PANSS total score	Inpatients (n): all	Daily dose (mg/day), mean±SD	WAE, weight change	
(subjective), High	60–120)	First episode psychosis	(range): 0.4 (0.2–0.6)		
(objective)		(n): NR	Concurrent treatments: all groups:		
	Exclusion criteria: (1)		rescue medication (133)		
	significant risk for	GROUP 2			
	suicidal or violent	N: 125	GROUP 2		
	behavior, (2) history of	Age, mean±SD (range):	Drug name: Risperidone (high)		
	NMS, tardative	15.6±1.25 (13–17)	Dosing variability: variable		
	dyskinesia, or a known	Males %: 52	Target dose (mg/day): NR		
	or suspected seizure	Caucasian %: 85	Daily dose (mg/day), mean±SD		
	disorder, (3) BMI <5th	Diagnostic breakdown	(range): 4 (1.5–6)		
	percentile or >95th	(n): catatonic (4),	Concurrent treatments: see group		
	percentile, (4)	disorganized (13),	1		
	schizophreniform	paranoid (83), residual (0),			
	disorder	undifferentiated (25)			
		Treatment naïve (n): NR			
		Inpatients (n): all			
		First episode psychosis			
		(n): NR			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Hagman et al.,	Recruitment dates:	Enrolled: 41	Treatment duration: 9 wk	Benefits: EDI-2 DT,	This exploratory pilo
2011 ³⁹	Aug 2004 to Sept 2008	Analyzed: 40	Run-in phase: NR	EDI-2 BD, ADJ-	study does not
		Completed: 40	Run-in phase duration: NR	current, ADJ-desired,	demonstrate a clear
Country: USA	Study design: RCT	-	•	CAPT, MASC,	benefit from the
•	(parallel)	GROUP 1	Permitted drugs: antidepressants	suicidal ideation,	addition of
Condition	(1)	N: 18	(if on stable dose for >1 wk before	anxiety, depression	risperidone in the
category: Eating	Setting:	Age, mean±SD (range):	entering the study, no dose		course of active
disorders	Inpatient/outpatient	16.2±(2.5) yr	adjustments during study),	Harms: EPS (AIMS,	treatment and
	mpationsoupation	Males %: 0	multivitamin, zinc, medications for	SAS), glucose, lipid	weight
Funding: Non-	Diagnostic criteria:	Caucasian %: NR	other medical conditions	profile, prolactin,	restoration in
industry	DSM-IV	Diagnostic breakdown	(constipation, asthma, gastritis)	fatigue, blood	adolescents with
muustry	DSIVI-IV	(n): NR	(consupation, astima, gastitus)	pressure	AN.
ROB: Medium	Inclusion criteria: (1)	Treatment naïve (n): NR	Prohibited drugs: new	pressure	AN.
		Inpatients (n): NR	-		
(subjective),	primary diagnosis of		psychotropic medications		
Medium (objective)	AN, (2) female gender,	First episode psychosis	GROUP 1		
	(3) 12-21 yr, (4) active	(n): NR			
	in a level of care in the	Comorbidities:	Drug name: Risperidone		
	eating disorders	depression (NR),	Dosing variability: flexible		
	program	obsessive-compulsive	Target dose (mg/day): 4.0		
		disorder (NR), anxiety	Daily dose (mg/day), mean±SD		
	Exclusion criteria: (1)	disorder (NR), bulimia	(range): 2.5±1.2		
	previous enrollment in	nervosa (NR)	Concurrent treatments: NR		
	study, (2) allergic				
	reaction to risperidone	GROUP 2	GROUP 2		
	or another atypical	N: 22	Drug name: Placebo		
	neuroleptic drug, (3) a	Age, mean±SD (range):	Dosing variability: flexible		
	positive pregnancy test	15.8±(2.3) yr	Target dose (mg/day): 4.0		
	result, (4) taking a	Males %: 0	Daily dose (mg/day), mean±SD		
	psychotropic	Caucasian %: NR	(range): 3.0±1.0		
	medication other than	Diagnostic breakdown	Concurrent treatments: NR		
	an antidepressant, (5)	(n): NR			
	active hepatic or renal	Treatment naïve (n): NR			
	disease, (6) male	Inpatients (n): NR			
	gender, (7) wards of	First episode psychosis			
	court	(n): NR			
	ooun	Comorbidities: see group			
		1			
Hellings et al.,	Recruitment dates:	Enrolled: 26	Treatment duration: 5.1 mo (6 wk	Benefits: ABC, CGI-	Compared to
2006 ⁴⁰	NR	Analyzed: 26	at each dose)	I, PAC, VAS	placebo, risperidone
		Completed: NR	,		was more effective
Country: USA	Study design: RCT	•	Run-in phase: Yes	Harms: NMS, tardive	in treating

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	(crossover)	GROUP 1	Run-in phase duration: 5–7 wk	dyskinesia, weight	problematic
Condition	. ,	N: 26 (crossover)		change	behaviors in children
category: ASD	Setting:	Age, mean±SD (range):	Permitted drugs: divalproex,	C C	and adolescents
0,	Outpatient/community	NR	gabapentin (if epilepsy was in		with MR. Low doses
Funding: Industry,		Males %: NR	remission ≥1 yr)		were better tolerated
Government	Diagnostic criteria:	Caucasian %: NR	······································		and were equally
	DSM-IV	Treatment naïve (n): NR	Prohibited drugs: psychotropics,		effective compared
Risk of bias: High	Bom IV	Inpatients (n): NR	including stimulants		to high doses.
(subjective), High	Inclusion criteria: (1)	First episode psychosis			to high doodd.
(objective), high	6–65 yr, (2) MR (IQ	(n): NR	GROUP 1		
(Objective)	<70), (3) at least 6 mo	Comorbidities: Autistic	Drug name: Risperidone (low)		
			Dosing variability: variable		
	history of aggression,	Disorder (ND), MR (Mild			
	property destruction, or	(8), moderate (6), severe	Target dose (mg/day): NR		
	self-injury, (4) above	(8), profound (4)), PDD-	Daily dose (mg/day), mean±SD		
	normal baseline	NOS (ND)	(range): NR		
	Irritability score for		Concurrent treatments: all groups:		
	age, gender and	GROUP 2	divalproex (5), gabapentin (1)		
	setting (ABC-C)	N: 26 (crossover)			
		Age, mean±SD (range):	GROUP 2		
	Exclusion criteria: (1)	NR	Drug name: Risperidone (high)		
	previous risperidone	Males %: NR	Dosing variability: variable		
	hypersensitivity, (2)	Caucasian %: NR	Target dose (mg/day): 0.05		
	history of NMS, (3)	Treatment naïve (n): NR	mg/kg/day		
	seizures within the	Inpatients (n): NR	Daily dose (mg/day), mean±SD		
	past yr, (4)	First episode psychosis	(range): 2 (1.2–2.9)		
	degenerative brain	(n): NR	Concurrent treatments: see group		
	disease, (5)	Comorbidities: see	1		
	problematic living	group 1	•		
	situation	group	GROUP 3		
	Situation	GROUP 3	Drug name: Placebo II		
		N: 26 (crossover)	Dosing variability: variable		
		Age, mean±SD (range):	Target dose (mg/day): NR		
		NR	Daily dose (mg/day), mean±SD		
		Males %: NR	(range): NR		
		Caucasian %: NR	Concurrent treatments: see group		
		Treatment naïve (n): NR	1		
		Inpatients (n): NR			
		First episode psychosis			
		(n): NR			
		Comorbidities: see			
		group 1			
Hollander et al.,	Recruitment dates:	Enrolled: 11	Treatment duration: 8 wk	Benefits: CGI-I,	Olazapine improved

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
2006 41	NR	Analyzed: 11	Run-in phase: Yes	response (CGI-I,	global functioning ir
		Completed: 8	Run-in phase duration: 4 wk	CPRS)	children and
Country: USA	Study design: RCT	-	-	,	adolescents with
•	(parallel)	GROUP 1	Permitted drugs: anticonvulsants	Harms: Constipation,	PDD, but was
Condition	u ,	N: 6	(stable dose ≥3 mo), clonidine,	EPS (AIMS, BAS,	associated with a
category: ASD	Setting: NR	Age, mean±SD (range):	chloral hydrate	SAS), sedation,	significant risk of
	e	9.3±2.9 (6–14.8)	,	weight change	weight gain.
Funding: Industry	Diagnostic criteria:	Males %: 100	Prohibited drugs: NR		- 3 - 3 -
0,	DSM-IV, ADI-R, ADOS	Caucasian %: 50	5		
Risk of bias: High	, , ,	Treatment naïve (n): NR	GROUP 1		
(subjective), High	Inclusion criteria: (1)	Inpatients (n): NR	Drug name: Olanzapine		
(objective)	6–17 yr, (2) meets	First episode psychosis	Dosing variability: variable		
(00)00110)	DSM-IV and ADI-R	(n): NR	Target dose (mg/day): NR		
	criteria with a rating of	Comorbidities: MR	Daily dose (mg/day), mean±SD		
	at least moderate (≥4)	(normal (2), mild (2),	(range): 10±2 (7.5–12.5)		
	on the CGI	severe (2))	Concurrent treatments: none		
	Exclusion criteria: (1)	GROUP 2	GROUP 2		
	response to prior	N: 5	Drug name: Placebo		
	pharmacological	Age, mean±SD (range):	Dosing variability: variable		
	treatment, (2)	8.9±2.1 (6.1–11)	Target dose (mg/day): NR		
	psychotic disorders	Males %: 60	Daily dose (mg/day), mean±SD		
	and a history of any	Caucasian %: 80	(range): 10±2 (7.5–12.5)		
	clinically significant	Treatment naïve (n): NR	Concurrent treatments: none		
	medical illness (with	Inpatients (n): NR			
	the exception of a	First episode psychosis			
	stable seizure	(n): NR			
	disorder)	Comorbidities: MR			
		(normal (2), mild (3))			
Hrdlicka et al.,	Recruitment dates:	Enrolled: 109	Treatment duration: 6 wk	Benefits: NR	Weight gain did no
2009 ¹¹³	1997 to 2007	Analyzed: NR	Run-in phase: No		differ between the
		Completed: 52	Run-in phase duration: NR	Harms: Weight	groups on typical
Country: Czech	Study design:			changes	and atypical
Republic	Retrospective cohort	GROUP 1	Permitted drugs: NR	5	antipsychotics.
		N: 24	5		
Condition	Setting: Inpatient	Age, mean±SD (range):	Prohibited drugs: NR		
category:	5	15.8±1.6yr (all)	5		
Schizophrenia and	Diagnostic criteria:	Males %: 48% (all)	GROUP 1		
related	ICD-10	Caucasian %: NR	Drug name: Typical (Haloperidol,		
	-	Treatment naïve (n): NR	Perphenazine, Sulpiride)		
Funding:	Inclusion criteria: (1)	Inpatients (n): NR	Dosing variability: variable		
Government.	schizophrenia dx (F20-	First episode psychosis	Target dose (mg/day): NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Academic	29), (2) medical record	(n): NR	Daily dose (mg/day), mean±SD		
	quality sufficient to		(range): Haloperidol 6.8±1.1,		
Newcastle-Ottawa	evaluate the patient,	GROUP 2	Perphenazine 12±6.9, Sulpiride		
Scale: 5/8 stars	(3) the first treatment	N: 85	450±409.3		
	used following	Age, mean±SD (range):	Concurrent treatments: NR		
	admission was	see above			
	considered (with the	Males %: see above	GROUP 2		
	exception of	Caucasian %: NR	Drug name: Atypical (Clozapine,		
	clozapine), (4) only	Treatment naïve (n): NR	Olanzapine, Risperidone,		
	antipsychotic	Inpatients (n): NR	Ziprasidone)		
	treatments initiated	First episode psychosis	Dosing variability: variable		
	after admission to the	(n): NR	Target dose (mg/day): NR		
	Department of Child		Daily dose (mg/day), mean±SD		
	Psychiatry were		(range): Clozapine 247.5±118,		
	analyzed		Olanzapine 15±6.1, Risperidone		
	Exclusion criteria:		2.7±1.3, Ziprasidone 80±0 Concurrent treatments: NR		
	NR		concurrent treatments: NR		
Jensen et al., 2008	Recruitment dates:	Enrolled: 30	Treatment duration: 2.8 mo	Benefits: PANSS,	There was no
12	May 2003 to June	Analyzed: 29	Run-in phase: Yes	CGAS, CGI-S,	statistically
	2006	Completed: 21	Run-in phase duration: 2 wk	medication	significant difference
Country: USA		-		adherence, response	between groups in
	Study design: RCT	GROUP 1	Permitted drugs: diphenhydramine	-	the reduction of
Condition	(parallel)	N: 10	(≤100 mg/day), lorazepam (0.5–2	Harms: AIMS, SAS,	PANSS scores;
category:		Age, mean±SD (range):	mg/day)	akathisia, behavioral	however a larger
Schizophrenia and	Setting: Inpatient	15.3±1.5		issues, dyskinesia,	RCT may be
related	(most)	Males %: 50	Prohibited drugs: antidepressants,	EPS, mastitis,	warranted to test the
		Caucasian %: 50	mood stabilizers, and stimulants	sedation, WAE,	clinical significance
Funding: NR	Diagnostic criteria:	Diagnostic breakdown	(discontinued prior to or within first 2	weight change	of differences
	DSM-IV, K-SADS	(n): psychotic disorder	wk of trial)		between treatment
Risk of bias: High		NOS (6), schizophrenia,			with quetiapine and
(subjective), High	Inclusion criteria: (1)	schizoaffective,	GROUP 1		risperidone.
(objective)	10–18 yr, (2)	schizophreniform disorder	Drug name: Olanzapine		
	schizophrenia/	(4)	Dosing variability: variable		
	schizoaffective	Treatment naïve (n): NR	Target dose (mg/day): 20		
	disorder,	Inpatients (n): 9	Daily dose (mg/day), mean±SD		
	schizophreniform, or	First episode psychosis	(range): 14±4.6 (5–20)		
	psychotic disorder	(n): NR	Concurrent treatments:		
	NOS, (3) ≥1 positive or	Comorbidities: MR (0),	anticholinergics (0), dietary		
	negative symptom	psychosis (all)	counselling, psychoeducation		
	associated with		GROUP 2		
	schizophrenia present	GROUP 2			

114 Jan 1996 to Dec 2005 Analyzed: 4140 Run-in phase: NR the overall b Completed: 4140 Run-in phase duration: NR Harms: Weight gain, risk Country: USA Study design: type 2 diabetes ratio of all	Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Exclusion criteria: (1) MR or affective disorder with psychotic alcohol of drug dependence or abuse, (3) history of serious adverse reactions or nonresponse to an adequate trial of any dependence or abuse, (3) history of serious adverse reactions or nonresponse to an adequate trial of any dependence or abuse, (3) history of serious adverse reactions or nonresponse to an adequate trial of any dependence or abuse, (3) history of serious adverse reactions or nonresponse to an adequate trial of any of the proposed treatments, (4) pregnant or refusal to consolities: NR (0), (5) serious and unstable medical condition GROUP 3 Traget dose (mg/day): (A) mean:SD Traget dose (mg/day): (A) Daily dose (U	Age, mean±SD (range):	Dosing variability: variable		
psychosis (all) errell et al., 2008 Recruitment dates: Enrolled: NA Treatment duration: ≥9 mo Benefits: NR When evalue 4 Jan 1996 to Dec 2005 Analyzed: 4140 Run-in phase: NR the overall b 6 Completed: 4140 Run-in phase duration: NR Harms: Weight gain, risk rountry: USA Study design: Treatment duration: NR Harms: Weight gain, ratio of all		MR or affective disorder with psychotic features, (2) current alcohol or drug dependence or abuse, (3) history of serious adverse reactions or nonresponse to an adequate trial of any of the proposed treatments, (4) pregnant or refusal to practice contraception, (5) serious and unstable medical	Males %: 70 Caucasian %: 60 Diagnostic breakdown (n): psychotic disorder NOS (3), schizophrenia, schizoaffective, schizophreniform disorder (7) Treatment naïve (n): NR Inpatients (n): 9 First episode psychosis (n): NR Comorbidities: MR (0), psychosis (all) GROUP 3 N: 10 Age, mean±SD (range): 15.6±2.5 Males %: 80 Caucasian %: 70 Diagnostic breakdown (n): psychotic disorder NOS (0), schizophrenia, schizoaffective, schizophreniform disorder (10) Treatment naïve (n): NR Inpatients (n): 9 First episode psychosis (n): NR	Daily dose (mg/day), mean±SD (range): 611±253.4 (100–800) Concurrent treatments: anticholinergics (0), dietary counselling, psychoeducation GROUP 3 Drug name: Risperidone Dosing variability: variable Target dose (mg/day): 6 Daily dose (mg/day), mean±SD (range): 3.4±1.5 (1–6) Concurrent treatments: anticholinergics (0), dietary		
Completed: 4140Run-in phase duration: NRHarms: Weight gain, riskCountry: USAStudy design:type 2 diabetesratio of all	lerrell et al., 2008		Enrolled: NA		Benefits: NR	When evaluating
						risk
	-	Study design: Retrospective	GROUP 1	Permitted drugs: NR	mellitus, dyslipidemia,	ratio of all psychotropics prescribed in

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
category: Mixed	Setting: Inpatient/ outpatient	Age, mean±SD (range): NR	Prohibited drugs: NR	cardiovascular/ cerebrovascular	children and adolescents, the
Questions: KQ2,	-	Males %: 68	GROUP 1	events, orthostatic	practitioner needs to
KQ3	Diagnostic criteria: ICD-9-CM	Caucasian %: 42 Diagnostic breakdown	Drug name: Antipsychotics cohort Dosing variability: NR	hypotension/ syncope, EPS,	give careful consideration
Funding: Non-		(n): Schizophrenia or	Target dose (mg/day): NR	seizures, sedation/	to possible toxicities
industry	Inclusion criteria: (1) Child and adolescent	other psychotic disorders (1507), major affective	Daily dose (mg/day), mean±SD (range): 7.4±3.1	somnolence, sexual/ reproductive	that have been previously
Newcastle-Ottawa Scale: 6/8 stars	pateints, $(2) \le 17$ yr, (3) enrolled in and eligible for Medicaid for ≥ 9 mo in each calendar year, (4) who had a service encounter, (5) who were prescribed 1 of 5 atypical (aripiprazole, ziprasidone, quetiapine, risperidone, olanzapine) or 2 conventional antipsychotics (haloperidol or fluphenazine) Exclusion criteria: NR	disorders (2261), ADHD (3258) Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: Epilepsy (954), CNS disorders (919), organic brain syndrome or severe MR (704), congenital heart defects (146), endocrine disorder (168), preexisting obesity (680), preexisting type II diabetes mellitus or dyslipidemia (404), preexisting cardiovascular disorder (246)	Concurrent treatments: SSRI (2367), , weight-inducing antidepressants (3292), psychostimulants (3170), multiple antipsychotics (1756), mood stabilizers (1898)		demonstrated in this and other studies, especially in individuals receiving concomitant psychotropic medications, and to children with preexisting/comorbid medical conditions or diet/family risk factors that might increase their potential for experiencing adverse reactions.
Johnson & Johnson, 2011 ⁴³	Recruitment dates: Mar to Aug 2006	Enrolled: 25 Analyzed: 25	Treatment duration: 7 days Run–in phase: Yes	Benefits: NR	Pediatric subjects tolerated doses from
		Completed: 24	Run–in phase duration: 21 days	Harms: total AE,	4 to 12 mg
Country: NR	Study design: RCT	-	maximum	serious AEs,	paliperidone ER
	(parallel)	GROUP 1		mortality, prolactin,	(corresponding to
Condition		N: 8	Permitted drugs: NR	prolactin-related AE,	weight-adjusted
category:	Setting: NR	Age, mean±SD (range):		orthostatic	doses ranging from
Schizophrenia and	Diamantia sultania	all groups: 14.6±2.2 (10–	Prohibited drugs: NR	hypotension, ECG	0.086 and 0.171
related	Diagnostic criteria:	17) Molec (/, ell groups, 72		changes, EPS scales	mg/kg).
	DSM-IV-TR	Males %: all groups: 72	GROUP 1		
Funding: Industry	Inclusion criteries (4)	Caucasian %: all groups:	Drug name: Paliperidone ER		
Dick of block Llick	Inclusion criteria: (1)	56 Diagnostia brookdown	Dosing variability: fixed		
Risk of bias: High	male or female, (2)	Diagnostic breakdown	Target dose (mg/day): 0.086		
(subjective), High	aged 10 to 17 years,	(n): all groups:	mg/kg/day		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
(objective)	(3) height and weight	schizophreniform disorder	Daily dose (mg/day), mean±SD		
	within the 5th to 95th	(8), schizoaffective	(range): NR		
	percentile for age and	disorder (7), paranoid (6),	Concurrent treatments: NR		
	sex, (4) DSM-IV-TR diagnosis of	undifferentiated (3), disorganized (1)	GROUP 2		
	schizophrenia of any	Treatment naïve (n): NR	Drug name: Paliperidone ER		
	subtype,	Inpatients (n): NR	Dosing variability: fixed		
	schizoaffective or	First episode psychosis	Target dose (mg/day): 0.129		
	schizophreniform (3)	(n): NR	mg/kg/day		
	otherwise healthy, (4)		Daily dose (mg/day), mean±SD		
	CGI-S score of =< 3	GROUP 2	(range): NR		
		N : 9	Concurrent treatments: NR		
	Exclusion criteria:	Age, mean±SD (range):			
	NR	see group 1 Males %: see group 1	GROUP 3 Drug name: Paliperidone ER		
		Caucasian %: see group	Dosing variability: fixed		
		1	Target dose (mg/day): 0.171		
		Diagnostic breakdown	mg/kg/day		
		(n): see group 1	Daily dose (mg/day), mean±SD		
		Treatment naïve (n): NR	(range): NR		
		Inpatients (n): NR	Concurrent treatments: NR		
		First episode psychosis			
		(n): NR			
		GROUP 3			
		N: 8			
		Age, mean±SD (range):			
		see group 1 Males %: see group 1			
		Caucasian %: see group			
		1			
		Diagnostic breakdown			
		(n): see group 1			
		Treatment naïve (n): NR			
	Inpatients (n): NR				
		First episode psychosis			
Kofontoria at al	Recruitment dates:	(n): NR Enrolled: 20	Treatment duration: 10 wk	Benefits: HDRS,	The look of ourse
Kafantaris et al., 2011 44	NR	Analyzed: 20	Run-in phase: NR	Brief Psychiatric	The lack of suppo for olanzapine's
2011		Completed: 15	Run-in phase duration: NR	Rating Scale, EDE,	efficacy relative to
Country: USA	Study design: RCT			YBC-EDS,	placebo
	(parallel)	GROUP 1	Permitted drugs: NR	medication	in the context of o

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Condition		N: 10		adherence	comprehensive
category: Eating	Setting:	Age, mean±SD (range):	Prohibited drugs: NR		treatment setting,
disorders	Inpatient/outpatient	16.4±2.2 yr		Harms: dystonia,	coupled with
		Males %: 0	GROUP 1	akathisia, dyskinesia,	concerns regarding
Funding: Industry	Diagnostic criteria:	Caucasian %: see below	Drug name: Olanzapine	weight gain (BMI),	increases in insulin
	EDE (Eating Disorder	Diagnostic breakdown	Dosing variability: flexible	glucose, insulin,	and glucose,
ROB: Medium	Examination)	(n): NR	Target dose (mg/day): 10	cardiac function	dissuaded us from
(subjective),		Treatment naïve (n): 10	Daily dose (mg/day), mean±SD		pursuing a larger
Medium (objective)	Inclusion criteria: (1)	Inpatients (n): see below	(range): NR (started with 2.5mg		placebo-controlled
	females who received	First episode psychosis	single oral dose; increased by		study of adjunctive
	treatment for AN at the	(n): NR	2.5mg each wk to reach target		olanzapine for
	Eating Disorder	Comorbidities: NR	dose)		adolescents with
	Treatment Program		Concurrent treatments: NR		AN-R at our setting.
	over a 4 yr period, (2)	GROUP 2			
	between 12-21 yr, (3)	N: 10	GROUP 2		
	primary diagnosis of	Age, mean±SD (range):	Drug name: Placebo		
	ANR	18.1±2.0 yr	Dosing variability: flexible		
		Males %: 0	Target dose (mg/day): 10		
	Exclusion criteria: (1)	Caucasian %: see below	Daily dose (mg/day), mean±SD		
	past or current	Diagnostic breakdown	(range): NR (started with 2.5mg		
	binge/purge type, (2)	(n): NR	single oral dose; increased by		
	serious suicidal risk,	Treatment naïve (n): 10	2.5mg each wk to reach target		
	(3) prior treatment with	Inpatients (n): see below	dose)		
	olanzapine, (4) not on	First episode psychosis	Concurrent treatments: NR		
	a sable medication	(n): NR			
	regimen for 8 wk prior to study entry	Comorbidities: NR			
		Overall Caucasian %: 80 Overall inpatients (n): 9			
Kent et al., 2013 45	Recruitment dates:	Enrolled: 96	Treatment duration: 6 wk	Benefits: ABC-I,	Data from this study
0	Dec 2007 to Mar 2010	Analyzed: 96	Run-in phase: Yes	ABC (other sub	demonstrate that
Country: USA		Completed: 77	Run-in phase duration: 3 wk	scales), CGI-S,	risperidone at higher
•	Study design: RCT			CYBOCS, CGI-I,	doses of 1.25 and
Condition	(parallel)	GROUP 1	Permitted drugs: Anticholinergics,	response, aggression	1.75 mg/day were
category: ASD		N: 30	antihistamine, hypnotic, sedative		efficacious;
-	Setting: NR	Age, mean±SD (range):	(lorazepam, diphenhydramine)	Harms: EPS (AIMS,	however,
Funding: Industry	.	NR		BAS, SAS)	risperidone at doses
	Diagnostic criteria:	Males %: 83	Prohibited drugs: Psychotropic	Somnolence, weight	<0.25 mg did not
Risk of bias:	DSM-IV-TR, ADI-R	Caucasian %: 70	medications for atleast 1 week (4	increase (BMI),	demonstrate
Medium		Diagnostic breakdown	weeks for fluoxetine, 8 weeks for	mortality, akathisia,	significant efficacy in
(subjective),	Inclusion criteria: (1)	(n): autistic disorder (all)	depot medications)	tardive dyskinesia,	the treatment of

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Medium (objective)	Male or female 5–17 years old, (2) Body weight of \geq 20 kg (3) DSM-IV diagnosis of Autistic Disorder (299.00), corroborated by standard cut-off scores on the ADI-R, ABC-I Subscale score of 18 or more, CGI-S of \geq 4, (4) mental age >18 months, (5) patients with history of seizures required to be seixure free for at least 6 consecutive months or on stable dosage of antiepileptic frugs \geq 4 weeks before screening, (6) normal fasting glucose and creatinine, and liver funcion tests levels <1.5 times normal upper limit Exclusion criteria: (1) Previous or current DSM-IV diagnosis of psychotic disorder or PDD other than autism, (2) neurologic disorders, (3) moderate/severe extrapyramidal symptoms or tardive dyskinesia, (4) lack of response to risperidone treatment in the past, (5) pregnant/breast feeding girls	Treatment naïve (n): 26 Inpatients (n): NR First episode psychosis (n): NR Comorbidities: NR GROUP 2 N: 31 Age, mean±SD (range): NR Males %: 90 Caucasian %: 81 Diagnostic breakdown (n): autistic disorder (all) Treatment naïve (n): 29 Inpatients (n): NR First episode psychosis (n): NR Comorbidities: NR GROUP 3 N: 35 Age, mean±SD (range): NR Males %: 89 Caucasian %: 60 Diagnostic breakdown (n): autistic disorder (all) Treatment naïve (n): 32 Inpatients (n): NR First episode psychosis:NR Comorbidities: NR	GROUP 1 Drug name: Risperidone Dosing variability: fixed Target dose (mg/day): 0.125 (20<45 kg), 0.175 (≥45kg) Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: methylphenidate (1) GROUP 2 Drug name: Risperidone Dosing variability: fixed Target dose (mg/day): 1.25 (20<45 kg), 1.75 (≥45kg) Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: methylphenidate (1) GROUP 3 Drug name: Placebo Dosing variability: NR Target dose (mg/day): NR Daily dose (mg/day): NR Daily dose (mg/day): NR Daily dose (mg/day): NR Daily dose (mg/day): MR 1arget dose (mg/day): NR Daily dose (mg/day): MR Daily dose (mg/day): MR (range): NR Concurrent treatments: methylphen- idate (1), alprazolam (1), melatonin (2)	prolactin, prolactin- related AE (oligomenorrhea), glucose metabolism related AE, elevated insulin levels, lipid profile, nausea, ECG, constipation, agitation	irritability and relate behaviors associated with autistic disorder in children and adolescents, consistent with current labeling.

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Khan et al., 2009	Recruitment dates:	Enrolled: NA	Treatment duration: Olanzapine	Benefits: NA	Treatment with both
115	Sept 2003 to Aug 2005	Analyzed: 49	27±12 d, risperidone 26±13 d		olanzapine and
		Completed: 49	Run-in phase: Yes	Harms: BMI, systolic/	risperidone results in
Country: USA	Study design:		Run-in phase duration: 2-4 wk	diastolic blood	a significant
A 1141	Retrospective	GROUP 1		pressure, lipid profile,	increase in BMI.
Condition		N: 25	Permitted drugs: NR	fasting glucose	Also, olanzapine
category: Mixed	Setting: Inpatient	Age, mean±SD (range):			significantly
conditions		13.0±3.5 yr	Prohibited drugs: NR		increases risk
Funding ND	Diagnostic criteria:	Males %: 64			factors for diabetes
Funding: NR	Medical record	Caucasian %: 72	GROUP 1		mellitus and overall
Newseetle Ottown	Inclusion eritoria: (1)	Diagnostic breakdown	Drug name: Olanzapine		risk factors for
Newcastle-Ottawa	Inclusion criteria: (1)	(n): See below	Dosing variability: NR		metabolic syndrome.
Scale: 6/8 stars	<18 yr, (2) treated with	Treatment naïve (n): NR	Target dose (mg/day): NR		Clinicians should
	olanzapine or	Inpatients (n): 25	Daily dose (mg/day), mean±SD		consider potential
	risperidone between	First episode psychosis (n): NR	(range): 12.5 (range 5-25 mg) Concurrent treatments: Stimulants		metabolic effects
	Sept 2003 to Aug 2005 at the child and	(n): NR Comorbidities: See			while selecting
			(5)		antipsychotics and
	adolescent psychiatric unit of the Austin State	below	GROUP 2		educate patients on these effects.
	Hospital	GROUP 2	Drug name: Risperidone		
	Ποοριιαί	N: 24	Dosing variability: NR		
	Exclusion criteria: (1)	Age, mean±SD (range):	Target dose (mg/day): NR		
	\geq 18 yr, (2) who	13.0±3.5 yr	Daily dose (mg/day), mean±SD		
	received antipsychotic	Males %: 83	(range): 2.6 (range 1-7 mg)		
	polypharmacy or >2 wk	Caucasian %: 58	Concurrent treatments: Stimulants		
	of cross titration	Diagnostic breakdown	(6)		
	between	(n): See below			
	antipsychotics, (3) who	Treatment naïve (n): NR			
	received one of the	Inpatients (n): 24			
	study medications	First episode psychosis			
	within 4 wk prior to	(n): NR			
	their inpatient	Comorbidities: See			
	admission or who	below			
received the stu	received the study				
	medication <2 wk	Overall diagnostic			
	during inpatient	breakdown (n): BP (NR),			
	hospital stay, (4)	mood disorder NOS (NR),			
	subjects who did not	major depressive disorder			
	have either a lipid	(NR), schizoaffective			
	profile or a glucose	disorder, schizophrenia,			
	level drawn during	and schizophreniform			
	admission	disorder (7)			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Overall comorbidities: SUD (14), ADHD (8)			
Khan et al., 2006	Recruitment dates: Jan 2003 to Jan 2005	Enrolled: NA Analyzed: 100 Completed: 100	Treatment duration: Olanzapine 3.7 (2.4) wk, Ziprasidone 4.9 (3.4) wk (mean(SD))	Benefits: NA Harms: Dermatologic	IM ziprasidone and IM olanzapine may be equally effective
Country: USA	Study design: Retrospective cohort	GROUP 1	Run-in phase: No Run-in phase duration: NR	AE, pseudoparkinsonism,	for the treatment of children and
Condition		N: 50	·····	sedation	adolescents with
category: Mixed conditions	Setting: Inpatient	Age, mean±SD (range): 13.7±2.4	Permitted drugs: NR		agitation and aggression.
Funding: NR	Diagnostic criteria : NR	Males %: 68 Caucasian %: 60	Prohibited drugs: NR		
		Diagnostic breakdown	GROUP 1		
Newcastle-Ottawa	Inclusion criteria: (1)	(n): any Axis I dx with	Drug name: Olanzapine		
Scale: 4/8 stars	<18 yr, (2) hospitalized	psychosis (18)	Dosing variability: variable		
	with any mental illness,	Treatment naïve (n): NR	Target dose (mg/day): NR		
	(3) treatment with IM	Inpatients (n): NR	Daily dose (mg/day), mean±SD		
	ziprasidone or	First episode psychosis	(range): total 8.2 ± 2.4 , children		
	olanzapine for acute	(n): NR	6±2.2, adolescents 9.20±1.8		
	agitation/agression, (4)	Comorbidities: PTSD	Concurrent treatments:		
	hospitalized during	(18), SA (27)	antipsychotic other than ziprasidone		
	study period	GROUP 2	(41); aripiprazole, quetiapine most		
	Evolution oritories (1)		commonly prescribed		
	Exclusion criteria: (1)	N: 50	GROUP 2		
	>18 yr, (2) moderate,	Age, mean±SD (range): 14.6±2.1	Drug name: Ziprasidone		
	severe or profound MR, (3) patients who	Males %: 32	Dosing variability: variable		
	did not receive IM	Caucasian %: 68	Target dose (mg/day): NR		
	ziprasidone/	Diagnostic breakdown	Daily dose (mg/day), mean±SD		
	olanzapine for agitation	(n): any Axis I dx with	(range): total 19.1 ± 2.7 , children		
	or agression during	psychosis (16)	15.7 \pm 4.4, adolescents 19.5 \pm 2.1		
	their inpatient stay, (4)	Treatment naïve (n): NR	Concurrent treatments:		
patients receiving both IM ziprasidone and	Inpatients (n): NR	antipsychotics (48) (olanzapine (13),			
	First episode psychosis	clozapine (4)); aripiprazole,			
	olanzapine	(n): NR	quetiapine the most commonly		
		Comorbidities: see group 1	prescribed		
Kowatch et al.,	Recruitment dates:	Enrolled: 25	Treatment duration: 6 wk	Benefits: YMRS,	In this small sample
2015 ⁴⁶	Sept 2005 to Sept	Analyzed: 25	Run-in phase: Yes	CGI-I, CDRS,	of preschool childre
	2010	Completed: 23	Run-in phase duration: 4 wk	response, irritability	with BD, risperidor

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Country: USA			(aripiprazole/fluoxetine), 2 wk (other		demonstrated clear
-	Study design: RCT	GROUP 1	psychotropic)	Harms: EPS (AIMS,	efficacy versus
Condition	(parallel)	N: 18	,	BAS, SAS), ECG,	placebo. Treatment
category: Bipolar	u ,	Age, mean±SD (range):	Permitted drugs: Oral	lipid profile, liver	with risperidone over
disorder	Setting: Outpatient	5.31±1.3 yr	chlorpromazine in low doses for	function tests.	6 weeks led to
	3	Males %: 61	sleep disturbance and agitation	prolactin, insulin,	increased prolactin
Funding: Non-	Diagnostic criteria:	Caucasian %: 61	during the first 2 wk of trial	weight (BMI),	levels, liver
industry	DSM-IV-TR, K-SADS,	Diagnostic breakdown		hematologic values	functions, metabolic
maaony	PAPA	(n): NR	Prohibited drugs: Antipsychotic,	noniatologio valueo	measures, and
Risk of bias:		Treatment naïve (n): NR	antidepressant, mood stabilizer/		weight/BMI.
Medium	Inclusion criteria: (1)	Inpatients (n): 0	anticonvulsant other than study drug		weight/bivit.
		First episode psychosis	anticonvulsant other than study drug		
(subjective),	Male and female, (2)	(n): NR	GROUP 1		
Medium (objective)	aged 3-7yr 11 mo, (3)				
	bipolar I disorder,	Comorbidities: ADHD	Drug name: Risperidone		
	mixed or manic,	(37%), ODD (4.3%), GAD	Dosing variability: variable		
	psychotic or	(8.7%)	Target dose (mg/day): NR		
	nonpsychotic		Daily dose (mg/day), mean±SD		
	(according to DSM-IV-	GROUP 2	(range): 0.5(0.5-0.75)mg/day		
	TR, K-SADS [for 6-7	N: 7	Concurrent treatments: NR		
	yr] and PAPA [for3-5	Age, mean±SD (range):			
	yr]), (4)) permitted to	5.19±1.0 yr	GROUP 2		
	have comorbid ADHD	Males %: 71	Drug name: Placebo		
	Exclusion criteria: (1)	Caucasian %: 71	Dosing variability: variable		
	Clinically significant or	Diagnostic breakdown	Target dose (mg/day): NR		
	unstable hepatic, renal,	(n): NR	Daily dose (mg/day), mean±SD		
	gastroenterological,	Treatment naïve (n): NR	(range): NR		
	respiratory,	Inpatients (n): 0	Concurrent treatments: NR		
	cardiovascular,	First episode psychosis			
	endocrine,	(n): NR			
	immunological,	Comorbidities: ADHD			
		(15.2%), ODD (0%), GAD			
	hematological, or other				
	systemic medical	(6.5%)			
	conditions, (2)				
	neurological disorders				
	including epilepsy,				
	stroke, or severe head				
	trauma, (3) clinically				
	significant laboratory				
	abnormalities on				
	complete blood count				
	(CBC) with differential,				
	electrolytes, blood urea				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	nitrogen (BUN),				
	creatinine, hepatic				
	transaminases,				
	urinalysis, thyroid				
	indices (T3, total T4,				
	tree T4, thyroid-				
	stimulating hormone				
	[TSH]) and				
	electrocardiogram				
	(ECG), (4) mania				
	caused by a general				
	medical condition or substance-induced				
	mania, (5) mental				
	retardation (intelligence quotient				
	[IQ] < 70); evidence of				
	fetal alcohol syndrome				
	or an alcohol-related				
	neurodevelopmental				
	disorder, (6) or				
	schizophrenia or other				
	psychotic disorders				
	(including				
	schizophreniform				
	disorder,				
	schizoaffective				
	disorder, delusional				
	disorder, brief				
	psychotic disorder,				
	shared psychotic				
	disorder, psychotic				
	disorder caused by a				
	general medical				
	condition, substance-				
	induced psychotic				
	disorder, psychotic				
	disorder not otherwise				
	specified) as defined in the DSM-IV				
(ryzhanovskaya et	Recruitment dates:	Enrolled: 107	Treatment duration: 6 wk	Benefits: BPRS-C,	Adolescents with
al., 2009 ⁴⁷	Nov 2002 to Apr 2005	Analyzed: 107	Run-in phase: Yes	PANSS, CGI-I, CGI-	schizophrenia

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Completed: 64	Run-in phase duration: 2–14 day	S, OAS, medication	experienced
Country: Russia,	Study design: RCT			adherence, response,	significant sympton
USA	(parallel)	GROUP 1	Permitted drugs: anticholinergics	suicide	improvement when
		N: 72	(2–6mg/day), benzodiazepines (2		treated with
Condition	Setting: Inpatient and	Age, mean±SD (range):	mg/day lorazepam equivalents for	Harm: AIMS, BAS,	olanzapine
category:	outpatient	16.1±1.3 (13–18)	≤3 consecutive days)	SAS, BMI, ECG	compared to
Schizophrenia and		Males %: 70.8		changes, glucose,	placebo.
related	Diagnostic criteria:	Caucasian %: 72.2	Prohibited drugs: NR	hepatic enzyme, lipid	•
	DSM-IV-TR, K-SADS	Treatment naïve (n): 21	C C	profile, mortality,	
Funding: Industry	- ,	Inpatients (n): NR	GROUP 1	prolactin, sedation,	
J	Inclusion criteria: (1)	First episode psychosis	Drug name: Olanzapine	schizophrenia,	
Risk of bias: High	13–17 yr, (2)	(n): NR	Dosing variability: fixed	somnolence, WAE,	
(subjective), High	schizophrenia	Comorbidities: MR (0),	Target dose (mg/day): NR	weight change	
(objective)	(paranoid,	SA (0)	Daily dose (mg/day), mean±SD	weight enalige	
(objective)	disorganized,	5A (0)	(range): 11.1 (2.5–20)		
		GROUP 2	Concurrent treatments:		
	catatonic,	N: 35			
	undifferentiated, and		anticholinergics (3),		
	residual types), (3)	Age, mean±SD (range):	benzodiazepines (21)		
	able to perform all	16.3±1.6 (13.1–18)			
	protocol-required	Males %: 68.6	GROUP 2		
	examinations, (4) total	Caucasian %: 71.4	Drug name: Placebo		
	score ≥35 on the	Treatment naïve (n): 5	Dosing variability: fixed		
	anchored version of	Inpatients (n): NR	Target dose (mg/day): NR		
	the BPRS-C16 and a	First episode psychosis	Daily dose (mg/day), mean±SD		
	score ≥3 on at least	(n): NR	(range): NR		
	one of the following	Comorbidities: MR (0),	Concurrent treatments:		
	BPRS-C items at	SA (0)	anticholinergics (2),		
	enrolment and		benzodiazepines (18)		
	randomization:				
	hallucinations,				
	delusions, or peculiar				
	fantasies, (5)				
	previously treated with				
	clozapine and other				
	atypical antipsychotics				
	Exclusion criteria: (1)				
previous participation					
	in a clinical trial of oral				
	olanzapine, (2)				
	treatment within 30 day				
	of the trial with a drug				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	without regulatory approval for any indication, (3) documented olanzapine allergic reaction, (4) previous nonresponse to an adequate dose/duration of olanzapine treatment, (5) potential safety concerns, (6) pregnancy, nursing, or refusal to practice acceptable contraception, (7) acute/ unstable medical conditions, (8) current/expected use of any concomitant psychotropic medications (except for permitted drugs), (9) baseline prolactin ≥200 ng/mL, (10) clinically significant laboratory abnormalities, (11) DSM-IV-TR substance dependence within 30 day (except nicotine and caffeine) (12) current DSM-IV-TR dx of a comorbid psychiatric or developmental	Characteristics			Conclusions
Kumra et al., 2008	disorder Recruitment dates:	Enrolled: 40	Treatment duration: 2.8 mo	Benefits: BPRS,	A greater number of
49	Sep 2001 to Mar 2006	Analyzed: 39 Completed: 28	Run-in phase: No Run-in phase duration: NR	CGAS, CGI-I, CGI-S, SANS, response	children diagnosed with schizophrenia/
Country: USA	Study design: RCT (parallel)	GROUP 1	Permitted drugs: current	Harms: Blood cells,	schizoaffective disorder and treated
Condition	M	N: 19	medications tapered as tolerated	BMI, constipation,	with clozapine met

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
category: Schizophrenia and	Setting: Inpatient and outpatient	Age, mean±SD (range): 15.8±2.2	(first 4 wk of trial)	diabetes, EPS, glucose, lipid profile,	drug response criteria than children
related		Males %: 44.4	Prohibited drugs: NR	prolactin, SAE, WAE,	treated with
Funding, ND	Diagnostic criteria:	Caucasian %: 11.1	GROUP 1	weight change	olanzapine. Clinicians should be
Funding: NR	DSM-IV, K-SADS-PL, structured interview	Diagnostic breakdown (n): schizoaffective	Drug name: Clozapine		aware of potential
Risk of bias: High	structured interview	disorder (7),	Dosing variability: variable		metabolic adverse
(subjective), High	Inclusion criteria: (1)	schizophrenia (11)	Target dose (mg/day): NR		events of long-term
(objective)	10–18 yr, (2)	Treatment naïve (n): 0	Daily dose (mg/day), mean±SD		clozapine treatment.
	schizophrenia or	Inpatients (n): NR	(range): 403.1±201.8 (50–700)		
	schizoaffective	First episode psychosis	Concurrent treatments: all groups:		
	disorder, (3) treatment	(n): 0	antidepressants (4), depakoate (3),		
	refractoriness	Comorbidities: MR (0)	lithium (7), mood stabilizer (6),		
	(documented treatment		naltrexone (1), stimulant (1); group		
	failure of ≥2 prior	GROUP 2	1: n=6		
	adequate antipsychotic	N: 21			
	trials and a baseline	Age, mean±SD (range):	GROUP 2		
	BRPS total score ≥35	15.5±2.1	Drug name: Olanzapine (high dose)		
	and at least moderate	Males %: 61.9	Dosing variability: variable		
	on one or more psychotic items on the	Caucasian %: 28.6 Diagnostic breakdown	Target dose (mg/day): NR Daily dose (mg/day), mean±SD		
	BRPS)	(n): schizoaffective	(range): 26.2±6.5 (10–30)		
	BRI S)	disorder (7),	Concurrent treatments: see group		
	Exclusion criteria: (1)	schizophrenia (14)	1; group 2: n=11		
	premorbid dx of MR,	Treatment naïve (n): 0	r, group 2. n= r		
	(2) history of serious	Inpatients (n): NR			
	adverse reactions to	First episode psychosis			
	the proposed	(n): 0			
	treatments, (3)	Comorbidities: MR (0)			
	pregnant, (4) serious				
	and unstable medical				
	condition, (5) failed an				
	adequate trial of				
	clozapine (≥12 wk) at				
	adequate doses				
	(≥300mg/day) and/or				
	failed an adequate trial of olanzapine (≥8wk) at				
	high doses				
	(≥20mg/day)				
Kumra et al., 1998	Recruitment dates:	Enrolled: 23	Treatment duration: Clozapine 6	Benefits: BPRS,	Preliminary data
	NR	Analyzed: 23	wk, Olanzapine 8 wk	SANS, SAPS,	suggested clozapine

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
• • • • • •	.	Completed: 21	Run-in phase: Yes	response	and olanzapine
Country: USA	Study design:		Run-in phase duration: 17.5 day		were efficacious in
O a se all'il a se	Prospective cohort	GROUP 1	(mean)	Harms: Behavioral	children and
Condition		N: 15	Demoistre de deserve de serve disserve in es	issues, blood cells,	adolescents with
category:	Setting: Inpatient	Age, mean±SD (range):	Permitted drugs: benzodiazepines	constipation, EPS,	treatment-refractory
Schizophrenia and	Diagnactic criteria:	13.6±1.5 Males %: 53.3	(<8 mg/day)	liver function, seizure,	schizophrenia.
related	Diagnostic criteria: DSM-III-TR, K-SADS-E	Caucasian %: NR	Prohibited druges NP	somnolence,	
Funding: Industry	DSM-111-1R, K-SADS-E	Diagnostic breakdown	Prohibited drugs: NR	tachycardia, weight change	
Funding. Industry	Inclusion criteria: (1)	(n): disorganized (8),	GROUP 1	change	
Newcastle-Ottawa	schizophrenia with	paranoid (2),	Drug name: Clozapine		
Scale: 5/8 stars	psychotic symptoms	undifferentiated (5)	Dosing variability: variable		
	documented by 12 yr	Treatment naïve (n): 0	Target dose (mg/day): NR		
	(DSM-III-R), (2) failure	Inpatients (n): all	Daily dose (mg/day), mean±SD		
	of two prior neuroleptic	First episode psychosis	(range): 317±147 (100–600)		
	treatments, (3)	(n): 0	Concurrent treatments: NR		
	communication				
	capability, (4)	GROUP 2	GROUP 2		
	premorbid Full Scale	N: 8	Drug name: Olanzapine		
	IQ >70	Age, mean±SD (range):	Dosing variability: variable		
		15.3±2.3	Target dose (mg/day): NR		
	Exclusion criteria: (1)	Males %: 50	Daily dose (mg/day), mean±SD		
	any significant	Caucasian %: NR	(range): 17.5±2.3 (12.5–20)		
	unstable neurological	Diagnostic breakdown	Concurrent treatments:		
	or medical disorder, (2)	(n): disorganized (3),	benzodiazepines (7), lithium (1)		
	current serious suicidal	paranoid (1),			
	risk, (3) active alcohol	undifferentiated (4)			
	or drug abuse	Treatment naïve (n): 0			
		Inpatients (n): all			
		First episode psychosis			
Kumma at al. 1000	Deerwitment datas-	(n): 0 Enrolled: 21	Treatment duration: Cult	Banafita: DDDC C	Olemenine was an a
Kumra et al., 1996	Recruitment dates:		Treatment duration: 6 wk	Benefits: BPRS-C, CGAS, CGI-I, SANS,	Clozapine was more
	NR	Analyzed: 21 Completed: 17	Run-in phase: Yes Run-in phase duration: 6 wk	SAPS, CGI-I, SANS,	effective in
Country: USA	Study design: RCT		Nun-in phase unation. O we	JAFJ,	controlling positive and negative
Country. USA	(parallel)	GROUP 1	Permitted drugs: group 1:	Harms: Blood cells,	symptoms in
Condition	(parallel)	N: 11	benztropine mesylate (≤6 mg/day);	blood pressure, EPS	treatment-refractory
category:	Setting: Inpatient	Age, mean±SD (range):	group 2: identical placebo; all:	(SAS, AIMS),	childhood onset
Schizophrenia and	coung. mpanent	13.7±1.6	atenolol, antibiotics, anticonvulsants	drowsiness, hepatic	schizophrenia than
related	Diagnostic criteria:	Males %: 54.6		enzyme, NMS,	haloperidol.
	DSM-III-TR, K-SADS,	Caucasian %: NR	Prohibited drugs: NR	seizure, tachycardia,	nalopondol.
Funding: NR	DICA-R	Diagnostic breakdown		weight	

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		(n): disorganized (5),	GROUP 1		
Risk of bias: High	Inclusion criteria: (1)	paranoid (1),	Drug name: Haloperidol		
(subjective), High	schizophrenia with	undifferentiated (5)	Dosing variability: variable		
(objective)	documented psychotic	Treatment naïve (n): NR	Target dose (mg/day): NR		
	symptoms by 12 yr	Inpatients (n): 11	Daily dose (mg/day), mean±SD		
	(DSM-III-TR), (2)	First episode psychosis	(range): 16±8 (7–27)		
	intolerance,	(n): 0	Concurrent treatments:		
	nonresponse, or both		benzotropine		
	to ≥2 different	GROUP 2			
	neuroleptic drugs, (3)	N : 10	GROUP 2		
	full-scale IQ ≥70	Age, mean±SD (range):	Drug name: Clozapine		
		14.4±2.9	Dosing variability: variable		
	Exclusion criteria: (1)	Males %: 50	Target dose (mg/day): NR		
	neurologic or medical disease	Caucasian %: NR	Daily dose (mg/day), mean±SD		
	uisease	Diagnostic breakdown (n): disorganized (5),	(range): 176±149 (25–525) Concurrent treatments:		
		undifferentiated (5),			
		Treatment naïve (n): NR	amoxicillin (1), penicillin (1)		
		Inpatients (n): 10			
		First episode psychosis			
		(n): 0			
Loebel et al., 2016	Recruitment dates:	Enrolled: 150	Treatment duration: 6 weeks	Benefits: ABC	Modest changes
50	Sept 2013 to Nov	Analyzed: 149	Run-in phase: NR	irritability,	were observed in
	2014	Completed: 128	Run-in phase duration: NR	hyperactivity,	weight and selected
Country: USA				stereotypic behavior,	metabolic
	Study design: RCT	GROUP 1	Permitted drugs:	inappropriate speech,	parameters. Doses
Condition		N: 48	diphenhydramine, melatonin,	lethargy/withdrawal,	of 20 and 60mg/day
category: ASD	Setting: Outpatient	Age, mean±SD (range):	benztropine, diphenhydramine or	CGI-I, CGI-S, CY-	of lurasidone were
		10.5±3	propranolol	BOCS, CGSQ global	not demonstrated to
Funding: Industry	Diagnostic criteria:	Males %: 79.2		strain	be efficacious
	DSM-IV-TR	Caucasian %: 71	Prohibited drugs: psychotropic		compared to
Risk of Bias:		Treatment naïve (n): 64.6	medications	Harms: TEAE,	placebo for the
Medium	Inclusion criteria: (1)	Inpatients (n): 0		weight, BMI, fasting	short-term treatment
(subjective,	≥18 on the Irritability	First episode psychosis	GROUP 1	laboratory	of children and
Medium (objective)	subscale of the	(n): NR	Drug name: Lurasidone	parameters	adolescents with
	Aberrant behavior	Comorbidities: NR	Dosing variability: fixed		moderate-to-severe
	checklist, (2) ≥4 on the		Target dose (mg/day): 20 mg/d		irritability associated
	Clinical Global	GROUP 2	Daily dose (mg/day), mean±SD		with autistic
	Impression severity	N: 51	(range): NR		disorder.
		Age, mean±SD (range):	Concurrent treatments: NR		
	Exclusion criteria:	10.5±3 Males %: 84.3	GROUP 2		
	current diagnosis of	Wales 70. 04.3	GROUP Z		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	bipolar disorder,	Caucasian %: 74.5	Drug name: Lurasidone		
	schizophrenia, major	Treatment naïve (n): 67.6	Dosing variability: fixed		
	depressive disorder,	Inpatients (n): 0	Target dose (mg/day): 60 mg/d		
	Fragile-X syndrome, or	First episode psychosis	Daily dose (mg/day), mean±SD		
	childhood	(n): NR	(range): NR		
	disintegrative disorder	Comorbidities: NR	Concurrent treatments: NR		
	or a confirmed genetic disorder associated	GROUP 3			
	with cognitive and/or	N : 49	GROUP 3		
	behavioral disturbance	Age, mean±SD (range):	Drug name: Placebo		
	or profound intellectual	11±3	Dosing variability: fixed		
	disability. History of	Males %: 81.6	Target dose (mg/day): NR		
	seizures, unless they	Caucasian %: 86	Daily dose (mg/day), mean±SD		
	were seizure-free and	Diagnostic breakdown	(range): NR		
	off antiepileptic drugs	(n): Treatment naïve (n):	Concurrent treatments: NR		
	for at least 6 months.	61.2			
		Inpatients (n): 0			
		First episode psychosis			
		(n): NR			
		Comorbidities: NR			
51					
Luby et al., 2006 ⁵¹	Recruitment dates:	Enrolled: 24	Treatment duration: 6 mo	Benefits: CARS	Risperidone was
0	Nov 1999 to Nov 2002	Analyzed: 23	Run-in phase: No	11	well tolerated in
Country: USA	Study decign: PCT	Completed: NR	Run-in phase duration: NR	Harms:	preschoolers, but
Condition	Study design: RCT	GROUP 1	Permitted drugs: NR	Constipation, EPS,	only minimal
category: ASD	(parallel)	N : 12	Permitted drugs. NR	mortality, prolactin, SAE, sedation, WAE,	improvement in target symptoms
Calegory. AOD	Setting:	Age, mean±SD (range):	Prohibited drugs: NR	weight change	was evident.
Funding: Industry	Outpatient/community	4.1±0.9		morgine on ange	
	e aparioni community	Males %: 75	GROUP 1		
Risk of bias:	Diagnostic criteria:	Caucasian %: 91	Drug name: Risperidone		
Medium	DSM-IV	Treatment naïve (n): NR	Dosing variability: variable		
(subjective), Low		Inpatients (n): NR	Target dose (mg/day): NR		
(objective)	Inclusion criteria: (1)	First episode psychosis	Daily dose (mg/day), mean±SD		
	2.5–6 yr, (2) autism or	(n): NR	(range): 1.1±0.3 (0.5–1.5)		
	PDD-NOS (DSM-IV),		Concurrent treatments: applied		
	(3) absence of other	GROUP 2	behavior analysis (mean 21.2 hr/wk)		
	known significant CNS	N: 12			
	disorders, (4) absence	Age, mean±SD (range):	GROUP 2		
	of significant medical	4±1.1 Males %: 66.7	Drug name: Placebo		
	problems or other	Wales %: 00./	Dosing variability: variable		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	psychiatric disorders	Caucasian %: 92	Target dose (mg/day): NR		
	requiring	Treatment naïve (n): NR	Daily dose (mg/day), mean±SD		
	pharmacotherapy	Inpatients (n): NR	(range): 1.4±0.6 (0.5–1.5)		
		First episode psychosis	Concurrent treatments: applied		
	Exclusion criteria: NR	(n): NR	behavior analysis (mean 11.3 hr/wk)		
Malone et al., 2001	Recruitment dates:	Enrolled: 12	Treatment duration: 6 wk	Benefits: CGI-S,	The use of
52	NR	Analyzed: 12	Run-in phase: Yes	CPRS, response	olanzapine is
		Completed: 12	Run-in phase duration: 1 wk	(CGI-I)	promising in children
Country: USA	Study design: RCT	• • • • •	•	()	with autistic
,	(parallel)	GROUP 1	Permitted drugs: NR	Harms: Dermatologic	disorder, although
Condition	() · · · · · · · · · · · · · · · · · · ·	N: 6	.	AE, EPS (AIMS,	placebo-controlled
category: ASD	Setting: Inpatient and	Age, mean±SD (range):	Prohibited drugs: NR	SAS), EPS, fatigue,	and long-term
0,	outpatient	7.3±1.9 (5–10.1)	C	tachycardia, weight	studies are needed.
Funding: Industry		Males %: 66.7	GROUP 1	changes	
•	Diagnostic criteria:	Caucasian %: 66.7	Drug name: Haloperidol	5	
Risk of bias: High	DSM-IV	Diagnostic breakdown	Dosing variability: variable		
(subjective),		(n): autistic disorder (5),	Target dose (mg/day): NR		
Medium (objective)	Inclusion criteria: (1)	PDD NOS (1)	Daily dose (mg/day), mean±SD		
	primary dx of PDD, (2)	Treatment naïve (n): NR	(range): 1.4±0.7 (0.5–2.5)		
	5–17 yr, (3) at least	Inpatients (n): NR	Concurrent treatments: NR		
	moderate impairment	First episode psychosis			
	on ≥2 of the first 28	(n): NR	GROUP 2		
	items on the CPRS	Comorbidities: MR (mild	Drug name: Olanzapine		
		(1), moderate (2), severe	Dosing variability: variable		
	Exclusion criteria: (1)	(3))	Target dose (mg/day): NR		
	major medical		Daily dose (mg/day), mean±SD		
	problems, (2) seizure	GROUP 2	(range): 7.9±2.5 (5–10)		
	disorder or gross	N: 6	Concurrent treatments: NR		
	neurological deficit, (3)	Age, mean±SD (range):			
	treatment with	8.5±2.4 (4.9–11.8)			
	concomitant	Males %: 66.7			
	psychotropic	Caucasian %: 50			
	medication, (4) history	Diagnostic breakdown			
	of previous treatment	(n): autistic disorder (all)			
	with haloperidol or	Treatment naïve (n): NR			
	olanzapine	Inpatients (n): NR			
		First episode psychosis			
		(n): NR			
		Comorbidities: MR (mild			
		(0), moderate (3), severe			
		(2))			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Mankoski et al.,	Study design:	Enrolled: NA	GROUP 1	Benefits: ABC-I,	Antipsychotic naïve
2013 ¹¹⁸	Retrospective (pooled	Analyzed: 313	Drug name: Aripiprazole	CGI-S	subjects receiving
(see Marcus 2009	analysis), evaluate	Completed: NA	(antipsychotic naïve)		aripiprazole for the
& Owen 2009)	impact of prior		Dosing variability: NR	Harms: NA	treatment of
	antipsychotic exposure	GROUP 1	Target dose (mg/day): NR		irritability associated
Country: USA	(PAE) on safety and	N: 176	Daily dose (mg/day), mean±SD		with ASD showed
	tolerability outcomes in	Age, mean±SD (range):	(range): NR		greater risk for
Condition	pediatric subjects	see below	Concurrent treatments: NR		weight gain and
category: ASD	receiving aripiprazole	Males %: see below			somnolence-related
	treatment	Caucasian %: NR	GROUP 2		AEs than subjects
Funding: Industry		Diagnostic breakdown	Drug name: Placebo (antipsychotic		receiving placebo.
		(n): NR	naïve)		Changes in
Newcastle-Ottawa		Treatment naïve (n): 176	Dosing variability: NR		metabolic
Scale: 6/8 stars		Inpatients (n): NR	Target dose (mg/day): NR		parameters in
		First episode psychosis	Daily dose (mg/day), mean±SD		antipsychotic naïve
		(n): NA	(range): NR		subjects receiving
		Comorbidities: NR	Concurrent treatments: NR		aripiprazole treat- ment were small
		GROUP 2	GROUP 3		and similar to those
		N: 80	Drug name: Aripiprazole (PAE)		in subjects receiving
		Age, mean±SD (range):	Dosing variability: NR		placebo.
		see below	Target dose (mg/day): NR		
		Males %: see below	Daily dose (mg/day), mean±SD		
		Caucasian %: NR	(range): NR		
		Diagnostic breakdown (n): NR	Concurrent treatments: NR		
		Treatment naïve (n): 80	GROUP 4		
		Inpatients (n): NR	Drug name: Placebo (PAE)		
		First episode psychosis	Dosing variability: NR		
		(n): NA	Target dose (mg/day): NR		
		Comorbidities: NR	Daily dose (mg/day), mean±SD		
			(range): NR		
		GROUP 3	Concurrent treatments: NR		
		N: 36			
		Age, mean±SD (range):			
		see below			
		Males %: see below			
		Caucasian %: NR			
		Diagnostic breakdown			
		(n): NR Treatment naïve (n): 0			
		Inpatients (n): NR			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		First episode psychosis			
		(n): NA			
		Comorbidities: NR			
		GROUP 4			
		N: 21			
		Age, mean±SD (range):			
		see below			
		Males %: see below			
		Caucasian %: NR Diagnostic breakdown			
		(n): NR			
		Treatment naïve (n): 0			
		Inpatients (n): NR			
		First episode psychosis			
		(n): NA			
		Comorbidities: NR			
		Overall Age, mean±SD			
		(range): mean(9.4-10) yr			
		Overall Males %: 87.3-			
Maraua at al. 2000	Recruitment dates:	96.5% Enrolled: 218	Treatment duration, 9 w/	Banafita: ADC	
Marcus et al., 2009	June 2006 to Jun 2008	Analyzed: 213	Treatment duration: 8 wk Run-in phase: Yes	Benefits: ABC, CYBOCS, CGI-I,	Aripiprazole was efficacious, safe,
	3011e 2000 to 3011 2000	Completed: 178	Run-in phase duration: ≤6 wk	CGI-S, PedsQL,	and well tolerated in
Country: USA	Study design: RCT			CGSQ, medication	children and
,	(parallel)	GROUP 1	Permitted drugs: anxiolytics,	adherence, response	adolescents with
Condition	u ,	N: 53	benztropine or propranolol,	(ABC-I, CGI-I),	irritability assocated
category: ASD	Setting:	Age, mean±SD (range):	diphenhydramine (≤50 mg/day),	suicide	with autistic
	Outpatient/community	9.0±2.8	psychotropic medication, sleep aids		disorder.
Funding: Industry		Males %: 88.7	Deskikited deserves actide seconds	Harms: Akathisia,	
Risk of bias: High	Diagnostic criteria: DSM-IV-TR, ADI-R,	Caucasian %: 69.8 Treatment naïve (n): 43	Prohibited drugs: antidepressants, antipsychotics, anxiolytics, mood	BMI, dermatologic AE, ECG changes,	
(subjective), High	CGI-S, ABC-I	Inpatients (n): NR	stabilizers, neuroleptics,	EPS, EPS (AIMS,	
(objective)	001-0, AD0-1	First episode psychosis	psychostimulants (washout ≥4 day)	BAS, SAS), fatigue,	
(00)00(110)	Inclusion criteria: (1)	(n): NR		glucose, lipid profile,	
	6–17 yr, (2) DSM-IV-	. ,	GROUP 1	mortality, prolactin,	
	TR criteria for autistic	GROUP 2	Drug name: Aripiprazole (low)	SAE, sedation,	
	disorder and behaviors	N: 59	Dosing variability: fixed	seizure/convulsion,	
	such as tantrums,	Age, mean±SD (range):	Target dose (mg/day): 5	somnolence, total AE,	
	aggression, self-injury,	10±3.2	Daily dose (mg/day), mean±SD	WAE, weight change,	
	or a combination, with	Males %: 84.7	(range): NR	constipation	

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	a dx corroborated by	Caucasian %: 69.5	Concurrent treatments: analgesics		
	ADI-R certified trainer,	Treatment naïve (n): 45	and antipyretics (12), anxiolytics (2),		
	(3) CGI-S score ≥4 and	Inpatients (n): NR	benztropine (2), hypnotics and		
	ABC Irritability	First episode psychosis	sedatives (2), propranolol (2)		
	subscale score ≥18 at	(n): NR			
	screening and		GROUP 2		
	baseline, (4) ≥15 kg,	GROUP 3	Drug name: Aripiprazole (medium)		
	(5) stable	N: 54	Dosing variability: fixed		
	nonpharmacologic	Age, mean±SD (range):	Target dose (mg/day): 10		
	therapy	9.5±3.1	Daily dose (mg/day), mean±SD		
		Males %: 92.6	(range): NR		
	Exclusion criteria: (1)	Caucasian %: 77.8	Concurrent treatments:		
	bipolar disorder,	Treatment naïve (n): 44	analgesics and antipyretics (12),		
	psychosis,	Inpatients (n): NR	anxiolytics (1), benztropine (1),		
	schizophrenia, major depression, fragile X	First episode psychosis (n): NR	hypnotics and sedatives (1)		
	syndrome, or another		GROUP 3		
	ASD, (2) history of	GROUP 4	Drug name: Aripiprazole (high)		
	NMS, (3) significant	N: 52	Dosing variability: fixed		
	risk of committing	Age, mean±SD (range):	Target dose (mg/day): 15		
	suicide, (4) seizure in	10.2±3.1	Daily dose (mg/day), mean±SD		
	the past yr, (5) history	Males %: 92.3	(range): NR		
	of severe head trauma	Caucasian %: 67.3	Concurrent treatments:		
	or stroke, (6) history or	Treatment naïve (n): 40	analgesics and antipyretics (12),		
	current evidence of	Inpatients (n): NR	anxiolytics (1), benzotropine (5),		
	any unstable medical	First episode psychosis	hypnotics and sedatives (1)		
	condition or or an	(n): NR			
	abnormal laboratory		GROUP 4		
	test result considered		Drug name: Placebo		
	clinically significant, (7)		Dosing variability: fixed		
	antipsychotic treatment		Target dose (mg/day): NR		
	resistant, (8) known		Daily dose (mg/day), mean±SD		
	allergy or		(range): NR		
	hypersensitivity to		Concurrent treatments:		
	aripiprazole		analgesics and antipyretics (9),		
			anxiolytics (3), hypnotics and		
			sedatives (2), propranolol (1)		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Martin et al., 2000	Recruitment dates: 1998	Enrolled: NA Analyzed: 70 Completed: 70	Treatment duration: ≥6 mo Run-in phase: Yes Run-in phase duration: 4 wk	Benefits: NR Harms: Weight (BMI,	Studies of children and adolescents are needed to
Country: USA	Study design: Retrospective	GROUP 1	Permitted drugs: NR	BMI z-score)	prospectively monitor weight
Condition	Renospeenve	N: 37			change (as well as
category: Mixed conditions	Setting: Inpatient	Age, mean±SD (range): 12.5±2.4 yr	Prohibited drugs: NR		serum glucose, liver enzyme, and
	Diagnostic criteria:	Males %: 76	GROUP 1		triglyceride levels)
Funding: Non industry	NR	Caucasian %: 64 Diagnostic breakdown	Drug name: Risperidone Dosing variability: NR		during chronic exposure to
	Inclusion criteria: All	(n): Psychotic (9),	Target dose (mg/day): NR		risperidone and
Newcastle-Ottawa	children and	affective (11), anxiety	Daily dose (mg/day), mean±SD		other atypical
Scale: 6/8 stars	adolescents admitted to Riverview Hospital	(12), disruptive (30), PDD/MR (10),	(range): 2.8±1.9 Concurrent treatments: Valproate		neuroleptics. Long-
	in 1998, (2) started on	polysubstance (0), ED (0)	(12), SSRI (8), stimulant (8), α_2		term effects, as well as changes
	risperidone during their	Treatment naïve (n): NR	agonist (8), traditional neuroleptic		following drug
	hospital stay, (3) no	Inpatients (n): 37	(0)		discontinuation are
	previous neuroleptic	First episode psychosis	(0)		likewise needed.
	exposure, (4) no	(n): NR	GROUP 2		Until those empirical
	change in other	Comorbidities: NR	Drug name: Control		data become
	psychotropic drugs		Dosing variability: NR		available, it seems
	used for 4 wk prior to	GROUP 2	Target dose (mg/day): NR		prudent to
	risperidone	N: 33	Daily dose (mg/day), mean±SD		recommend careful
	introduction, (5)	Age, mean±SD (range):	(range): NR		monitoring of height,
	maintained on	13.5±2.9 yr	Concurrent treatments: Valproate		weight, and BMI of
	risperidone for ≥6	Males %: 49	(10), SSRI (9), stimulant (6), α_2		all children treated
	consecutive mo	Caucasian %: 61	agonist (6), traditional neuroleptic		with atypical
	Exclusion criteria:	Diagnostic breakdown (n): Psychotic (2),	(9)		antipsychotics, as well as to consider
	NR	affective (19), anxiety			glucose, liver
		(11), disruptive (27),			enzyme, and lipid
		PDD/MR (8),			levels as part of their
		polysubstance (2), ED (2)			routine safety
		Treatment naïve (n): NR			monitoring.
		Inpatients (n): 33			0
		First episode psychosis			
		(n): NR			
		Comorbidities: NR			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Masi et al., 2015 55	Recruitment dates:	Enrolled: 24	Treatment duration: 12 wk	Benefits: YMRS,	Risperidone and
	Jan 2013 to Jan 2014	Analyzed: 22	Run-in phase: NR	CGI-S, CGAS,	quetiapine did not
Country: Italy		Completed: 22	Run-in phase duration: NR (all	HDRS, HAM-A,	differ in BMI
	Study design: RCT		treatment naïve)	MOAS, response	increase according
Condition	(parallel)	GROUP 1			to the main analysis,
category: Bipolar		N: 12	Permitted drugs: Methyphenidate	Harms: BMI,	although the post
II (hypomanic)	Setting:	Age, mean±SD (range):	at stable dose in 1 patient in	prolactin,	hoc analysis
Funding: Industry	Inpatient/outpatient	14.9±1.1 Males %: 41.7	risperidone group	somnolence, fatigue, EPS, ECG	suggests a possible BMI increase with
	Diagnostic criteria:	Caucasian %: 100	Prohibited drugs:		risperidone but not
Risk of bias: High	DSM-IV-TR, K-SADS-	Diagnostic breakdown	Psychotropics≤6mo		with quetiapine.
(subjective), High	PL	(n): hypomanic (all) Treatment naïve (n): 12	GROUP 1		Data on higher
(objective)	Inclusion criteria: (1)	Inpatients (n): 3	Drug name: Quetiapine		prolactin increase
	diagnosis of Bipolar II	First episode psychosis	Dosing variability: variable		during risperidone treatment, compared
	hypomanic episode as	(n): NR	Target dose (mg/day): NR		with quetiapine, are
	confirmed by DSM-IV-	Comorbidities: CD (all)	Daily dose (mg/day), mean±SD		in line with previous
	TR, K-SADS-PL and	ADHD (2), anxiety	(range): 163.30±55.20		studies. However,
	YMRS total score of	disorders (3), substance	Concurrent treatments: NR		our findings about
	≥17 at baseline, (2)	use disorder (1), eating			safety, namely, the
	CGI-S≥4, (3)	disorder NOS (1)	GROUP 2		modest BMI
	CGAS≤50		Drug name: Risperidone		increase and the
		GROUP 2	Dosing variability: variable		absence ofQTc
	Exclusion criteria:	N: 10	Target dose (mg/day): NR		prolongation, should
	NR	Age, mean±SD (range):	Daily dose (mg/day), mean±SD		be cautiously
		15.1±1.8	(range): 1.90±0.60		considered in the
		Males %: 70	Concurrent treatments: NR		context of the limited
		Caucasian %: 100			time of the study.
		Diagnostic breakdown			
		(n): hypomanic (all)			
		Treatment naïve (n): 12			
		Inpatients (n): 3			
		First episode psychosis			
		(n): NR			
		Comorbidities: CD (all),			
		ADHD (3), anxiety disorders (2), substance			
		use disorder (2), substance			
		disorder NOS (1)			
Masi et al., 2013 54	Recruitment Dates:	Enrolled: 69	Treatment duration: ≥ 12 wk	Benefits: C-GAS,	In tic-related
	NR	Analyzed: 69	Run-in phase: NR	CGI-S, CGI-I,	pediatric OCD,
Country: Italy		Completed: 69	Run-in phase duration: NR	response	augmentation of

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	Study design: NRCT				SSRIs with
Condition	(parallel)	GROUP 1:	Permitted drugs: SSRI	Harms: Weight,	risperidone or
category: OCD	.	N: 35		sedation, tremors	aripiprazole was
E	Diagnostic criteria:	Age, mean±SD (range):	Prohibited drugs: NR		tolerated and
Funding: No	DSM-IV, K-SADS-PL	13.3±2.2 yr			effective in about
funding provided	(OCD), DSM-IV-TR	Males %: 94.3% Caucasian %: NR	GROUP 1 Drug name: Risperidone		half of the patients
Risk of Bias: High	(Tic)	Diagnostic breakdown	Dosing variability: Variable		who did not respond to SSRIs alone.
(subjective),	Setting: Outpatient	(n): OCD with comorbid	Target dose (mg/day): 3 mg/day		to SSRIS alone.
Medium (objective)	Setting. Outpatient	tic disorder (35)	Daily dose (mg/day), mean±SD		
	Inclusion criteria:	Treatment naïve (n): 0	(range): 1.7±0.8 (0.5-3) mg/day		
	Diagnosis of OCD, CGI	Inpatients (n): NR	Concurrent treatments: SSRI (35),		
	score \geq 4 and C-GAS	First episode psychosis	mood stabilizers (3), stimulants (1),		
	score \leq 60. Comorbid	(n): NR	psychotherapy (20)		
	tic disorder, ≥ 40 on	Comorbidities (n): GAD			
	YGTSS, non-	(7), separation AD (4),	GROUP 2:		
	responder to SSRI	panic disorder (2), social	Drug name: Aripiprazole		
		phobia (13), simple phobia	Dosing variability: Variable		
	Exclusion criteria:	(4), depression (8), BP	Target dose (mg/day): 12.5		
	Diagnosis of mental	(6), ADHD (6), ODD (9)	mg/day		
	retardation, PDD,		Daily dose (mg/day), mean±SD		
	schizophrenia	GROUP 2:	(range): 8.9±3.1 (2.5-12.5) mg/day		
		N: 34	Concurrent treatments: SSRI (34),		
		Age, mean±SD (range):	mood stabilizers (1), stimulants (1),		
		13.9±2.5 yr	psychotherapy (14)		
		Males %: 85.3%			
		Caucasian %: NR			
		Diagnostic breakdown			
		(n): OCD with comorbid			
		tic disorder (34)			
		Treatment naïve (n): 0			
		Inpatients (n): NR First episode psychosis			
		(n): NR			
		Comorbidities (n): GAD			
		(1), separation AD (1),			
		panic disorder (1), social			
		phobia (6), depression (4),			
		BP (2), ADHD (14), ODD			
		(7)			
McCracken et al.,	Recruitment dates:	Enrolled: 101	Treatment duration: 8 wk	Benefits: ABC,	Risperidone was
2002 56	Jun 1999 to Apr 2001	Analyzed: 101	Run-in phase: Yes	CYBOCS, CGI-I,	effective and well

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Country: USA	Study design: RCT	Completed: 80 GROUP 1	Run-in phase duration: 1–4 wk	CGI-S, RFRLRS, VAS, AIMS, Cognitive, medication	tolerated for the treatment of
Condition	(parallel)	N : 49	Permitted drugs: anticonvulsants (constant dose ≥4 wk and seizure-	adherence, patient,	tantrums, aggression, or self-
category: ASD	Setting: Inpatient and outpatient	Age, mean±SD (range): NR	free for ≥ 6 mo), benztropine	parent/care provider reported outcomes	injurious behavior in children with autisti
Funding: Industry,		Males %: 80	Prohibited drugs: antihistamines,	(diet/intake, sleep),	disorder.
Government,	Diagnostic criteria:	Caucasian %: NR	ceterazine, erythromycin,	response	Discontinuation,
Foundation	DSM-IV, ADI-R	Treatment naïve (n): 45	metoclopromide, pseudoephedrine,		after 6 month of
		Inpatients (n): NR	and any drug that may impact	Harms:	treatment, was
Risk of bias:	Inclusion criteria: (1)	First episode psychosis	risperidone concentrations or lead to	Behavioral issues,	associated with
Medium	ASD (DSM-IV), (2) 5–	(n): NR	drug interactions; psychotropics	blood cells, BMI,	rapid return of
(subjective),	17 yr, (3) weight ≥15	Comorbidities: MR		constipation,	disruptive and
Medium (objective)	kg, (4) score ≥18 on	(average/above average	GROUP 1	dyskinesia,	aggressive behavio
	the Irritability subscale	IQ (3), borderline IQ (8),	Drug name: Risperidone	dermatologic AE,	in most subjects.
	of the ABC at baseline,	mild/ moderate retardation	Dosing variability: variable	ECG changes, EPS	
	(5) free of serious	(20), severe retardation	Target dose (mg/day): NR	(AIMS, SAS), fatigue,	
	medical disorders and	(15))	Daily dose (mg/day), mean±SD	liver function,	
	of other psychiatric		(range): 1.8±0.7 (0.5-3.5)	prolactin, prolactin-	
	disorders requiring	GROUP 2	Concurrent treatments:	related AE, SAE,	
	medication, (6)	N: 52	anticonvulsants (2)	seizure, tachycardia,	
	medication free for at	Age, mean±SD (range):	()	WAE, weight change	
	least 2 wk for all	NR	GROUP 2	ý 8 8	
	psychotropic	Males %: 83	Drug name: Placebo		
	medications (4 wk for	Caucasian %: NR	Dosing variability: variable		
	fluoxetine or depot	Treatment naïve (n): 51	Target dose (mg/day): NR		
	neuroleptics), (7)	Inpatients (n): NR	Daily dose (mg/day), mean±SD		
	anticonvulsants used	First episode psychosis	(range): 2.4±0.6 (0.5–3.5)		
	for the treatment of a	(n): NR	Concurrent treatments:		
	seizure disorder were	Comorbidities: MR	anticonvulsants (2)		
	permitted if the dosage	(average/above average			
	had been stable for 4	IQ (2), borderline IQ (4),			
	wk and the patient had	mild/ moderate retardation			
	been seizure free for	(23), severe retardation			
	≥6 mo, (8) CGI-S score	(16))			
	\geq 4 at baseline, (9)				
	≥ 4 at baseline, (9) mental age ≥18 mo as				
	measured by the age-				
	appropriate form of the				
	IQ test, (10) inpatients or outpatients				
	or outpotionte				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	Exclusion criteria: (1)				
	receiving a				
	psychotropic drug that				
	was deemed effective				
	for the treatment of				
	aggression, tantrums,				
	or self-injurious				
	behavior, (2) positive				
	β-HCG pregnancy test,				
	(3) evidence of a prior				
	adequate trial with				
	risperidone, (4)				
	evidence of				
	hypersensitivity to				
	risperidone, (5) past				
	history of NMS, (6)				
	DSM-IV dx of				
	schizophrenia, another				
	psychotic disorder, or				
	substance abuse, (7)				
	significant medical				
	condition, (8) weight				
	<15 kg				
McGorry et al.,	Recruitment dates:	Enrolled: 87	Treatment duration: 52 wk	Benefits: BPRS,	The equivalent
2013 57	August 2000 to May	Analyzed: NR	Run-in phase: NA	SANS, GAF, HDRS,	transition rates fail to
	2006	Completed: 56	Run-in phase duration: NA	quality of life,	provide
Country: Australia				transition rates	support for the first-
	Study design: RCT	GROUP 1	Permitted drugs: NR		line use of
Condition	(parallel)	N: 43		Harms: UKU	antipsychotic
category:		Age, mean±SD (range):	Prohibited drugs: mood-stabilizing		medications in
Schizophrenia and	Setting: Outpatient	17.6±3.0	medications		patients at ultra-high
related		Males %: 35			risk of psychosis,
	Diagnostic criteria:	Caucasian %: NR	GROUP 1		and an initial
Funding: Industry	Ultra-high risk: (1) the	Treatment naïve (n): 100	Drug name: Cognitive therapy +		approach with
	presence of attenuated	Inpatients (n): 0	risperidone		supportive therapy is
Risk of bias: High	(subthreshold)	First episode psychosis	Dosing variability: variable		likely to be effective
(subjective), High	psychotic symptoms	(n): UHR	Target dose (mg/day): up to		and carries fewer
(objective)	within the previous 12		2mg/day		risks.
	months; (2) a history of	GROUP 2	Daily dose (mg/day), mean±SD		
	brief self-limited	N: 44	(range): NR		
	psychotic symptoms,	Age, mean±SD (range):	Concurrent treatments: NR		
	which spontaneously	18.0±2.7			

	Characteristics	Treatment Characteristics	Outcomes Reported	Conclusions
resolve, within the previous 12 months; and (3) a presumed genetic vulnerability to psychotic disorder plus persistent low functioning for at least 1 month within the previous 12 months Inclusion criteria: 14- 30 yrs; see above criteria Exclusion criteria: (1) known history of a previous psychotic or manic episode, (2) history of a medical condition that may account for symptoms leading to initial referral (eg, epilepsy), (3) clinically relevant neurologic, biochemical, or hematologic abnormalities, (4) serious coexisting illnesses, (5) lifetime antipsychotic dose of 15mg of haloperidol (or equivalent) or greater, (6) any previous or	Males %: 39 Caucasian %: NR Treatment naïve (n): 100 Inpatients (n): 0 First episode psychosis (n): UHR	GROUP 2 Drug name: Cogntive therapy + placebo Dosing variability: NR Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 0 Concurrent treatments: NR		Conclusions
current use of mood- stabilizing medication, (7) history of severe				
drug allergy, (8) intellectual disability (IQ < 70), (9) pregnancy or lactation,				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	(10) insufficient English language				
Migliardi et al., 2009 ¹²⁰ Country: Italy Condition category: Mixed conditiopns Funding: NR Risk of bias: 7/8 stars	Recruitment dates: NR Study design: Retrospective cohort Setting: Outpatient/community Diagnostic criteria: DSM-IV Inclusion criteria: (1) children and adolescents seen at the Division of Child and Neurology at the University of Messina, Italy, (2) not previously treated with antipsychotics for various psychiatric disorders, (3) completed at least 12 months of treatment on only one antipsychotic and no co-medication Exclusion criteria: NR	Enrolled: 42 Analyzed: 41 Completed: 42 GROUP 1 N: 13 Age, mean±SD (range): 14.1 Males %: 53.8 Caucasian %: NR Treatment naïve (n): all Diagnostic breakdown (n): DBD (4), early-onset schizophrenia (3), BD (2), autism/PDD (2), OCD (1) Inpatients (n): 0 First episode psychosis (n): NR Comorbidities: NR GROUP 2 N: 29 Age, mean±SD (range): 10.7 Males %: 78.6 Caucasian %: NR Treatment naïve (n): all Diagnostic breakdown (n): Autism/PDD (13), DBD (9), early-onset schizophrenia (2), OCD (2), Tic disorder (2) Inpatients (n): 0 First episode psychosis (n): NR Comorbidities: NR	Treatment duration: 12 mo Run–in phase: No Run–in phase duration: NA Permitted drugs: NR Prohibited drugs: NR GROUP 1 Drug name: Olanzapine Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 8.1 Concurrent treatments: NR GROUP 2 Drug name: Risperidone Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 1.8 Concurrent treatments: NR	Benefits: NA Harms: prolactin- related AE, prolactin	After adjusting for dose and greater potency of risperidone, the increase in prolactin levels during risperidone treatment was 10.3 times higher than during olanzapine treatment.
Miral et al., 2008 58	Recruitment dates:	Enrolled: 30	Treatment duration: 24 wk	Benefits: ABC, CGI,	Risperidone was
·	NR	Analyzed: 28	Run-in phase: Yes	RFRLRS	more effective than
Country: Turkey		Completed: 28	Run-in phase duration: 1–2 wk		haloperidol, showing
-	Study design: RCT	-	•	Harms: Blood	improvements in
Condition	(parallel)	GROUP 1	Permitted drugs: antianalgesics,	pressure,	behavioral

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
category: ASD		N: 15	antibiotics, anticholinergics,	constipation, EPS	symptoms and
	Setting: NR	Age, mean±SD (range):	antipyretics, decongestants	(ESRS, UKU), height,	social skills.
Funding: Industry		10.9±2.9 (7–17)		parkinsonism/	
	Diagnostic criteria:	Males %: 86.7	Prohibited drugs:	dystonia/ dyskinesia	
Risk of bias:	DSM-IV	Caucasian %: NR	benzodiazepines/other sedatives	(ESRS), prolactin-	
Medium	Inclusion criteria: (1)	Treatment naïve (n): NR	GROUP 1	related AE, SAE,	
(subjective), Medium (objective)	Inclusion criteria: (1) 8–18 yr, (2) parental	Inpatients (n): NR First episode psychosis	Drug name: Haloperidol	weight	
	informed consent, (3)	(n): NR	Dosing variability: variable		
	agree to followup	Comorbidities: ADHD	Target dose (mg/day): 0.08		
	agree to renewup	(0), psychosis (0)	mg/kg/day		
	Exclusion criteria: (1)		Daily dose (mg/day), mean±SD		
	epilepsy, (2)	GROUP 2	(range): 2.6±1.3 (1–5.7)		
	concomitant	N: 15	Concurrent treatments: NR		
	neuropsychiatric	Age, mean±SD (range):			
	illness, (3) psychotic	10±2.7 (7–17)	GROUP 2		
	disorder or symptoms,	Males %: 73.3	Drug name: Risperidone		
	(4) other PDDs	Caucasian %: NR	Dosing variability: variable		
		Treatment naïve (n): NR	Target dose (mg/day): 0.08		
		Inpatients (n): NR	mg/kg/day		
		First episode psychosis	Daily dose (mg/day), mean±SD		
		(n): NR	(range): 2.6±0.8 (1.2–4.0)		
		Comorbidities: ADHD	Concurrent treatments: NR		
Manage at al. 2000	Recruitment dates:	(0), psychosis (0) Enrolled: 25	Treatment duration: 2.8 mo	Panafita: DDDC	Dianaridana and
Mozes et al., 2006	NR	Analyzed: 25	Run-in phase: No	Benefits: BPRS, CGAS, PANSS,	Risperidone and olanzapine were
		Completed: 20	Run-in phase duration: NR	response	efficacious and well
Country: Israel	Study design: RCT	Completed: 20	Run-in phase duration. NR	response	tolerated in pediatric
Country. Israel	(parallel)	GROUP 1	Permitted drugs: biperiden, prior	Harms: BAS, SAS	inpatients with child-
Condition	(parallel)	N: 12	nonantipsychotics (continued for 2–	akathisia, prolactin,	onset schizophrenia.
category:	Setting: Inpatient	Age, mean±SD (range):	12 wk)	WAE, weight change	onoor oomzopmonia.
Schizophrenia and		11.5±1.6 (8.5–14)	,	····	
related	Diagnostic criteria:	Males %: 41.7	Prohibited drugs: NR		
	DSM-IV, K-SADS	Caucasian %: NR	C C		
Funding: No	·	Diagnostic breakdown	GROUP 1		
funding	Inclusion criteria: (1)	(n): disorganized	Drug name: Olanzapine		
	hospitalized childhood-	schizophrenia (3),	Dosing variability: variable		
Risk of bias: High	onset schizophrenic	paranoid schizophrenia	Target dose (mg/day): NR		
(subjective), High	children	(2), schizophreniform	Daily dose (mg/day), mean±SD		
(objective)		disorder (6), unspecified	(range): 8.2±4.4 (2.5–20)		
	Exclusion criteria: (1)	schizoprehenia (1)	Concurrent treatments: biperiden		
	MR	Treatment naïve (n): NR	(2), carbamazepine (2), citalopram		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Inpatients (n): all First episode psychosis (n): NR Comorbidities: ADHD (2), familial mediterranean fever (1), MR (0), tic disorder (1) GROUP 2 N: 13 Age, mean±SD (range): 10.7±1.4 (8.8–13.3) Males %: 38.5 Caucasian %: NR Diagnostic breakdown (n): disorganized schizophrenia (4), paranoid schizophrenia (4), schizophreniform disorder (4), unspecified schizoprehenia (1) Treatment naïve (n): NR Inpatients (n): all First episode psychosis (n): NR Comorbidities: ADHD (1), epilepsy (2), MR (0), neurofibromatosis (1), OCD (3)	 (1), colchicine (1), methylphenidate (2), promethizine (2), valproic acid (1) GROUP 2 Drug name: Risperidone Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 1.6±1 (0.3–4.5) Concurrent treatments: biperiden (4), citalopram (2), fluoxetine (1), phenytoin (1), promethizine (1), valproic acid (1) 		
Nagaraj et al., 2006 ⁶⁰	Recruitment dates: Jan 2002 to Dec 2003	Enrolled: 40 Analyzed: 39 Completed: 39	Treatment duration: 6 mo Run-in phase: Yes Run-in phase duration: ≥1 mo	Benefits: CARS, CGAS, response (CARS, CGAS,	Risperidone improved global functioning and
Country: India	Study design: RCT (parallel)	GROUP 1	Permitted drugs: antiepileptics	Global Impression of Parents)	social responsiveness,
Condition		N: 19			reduced
category: ASD	Setting: Outpatient/community	Age, mean±SD (range): 4.8±1.7	Prohibited drugs: no other drugs permitted	Harms: Dyskinesia, sedation, weight	hyperactivity and aggression, and was
Funding: Industry,	- · · ·	Males %: 84.2		change	well tolerated in
Academic	Diagnostic criteria: DSM-IV	Caucasian %: NR Treatment naïve (n): 15	GROUP 1 Drug name: Risperidone	J.	children with autism.
Risk of bias: Low (subjective), Low	Inclusion criteria: (1)	Inpatients (n): 0 First episode psychosis	Dosing variability: fixed Target dose (mg/day): NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
(objective)	≤12 yr, (2) autism	(n): NR	Daily dose (mg/day), mean±SD		
	(DSM-IV)	Comorbidities:	(range): 1 (0.5–1)		
		aggression (9), irritability	Concurrent treatments: NR		
	Exclusion criteria: (1)	(17), seizures (5), self-			
	severe MR, (2) any	injurious behavior (7)	GROUP 2		
	significant coexisting		Drug name: Placebo		
	disease or illness, (3)	GROUP 2	Dosing variability: fixed		
	severe malnutrition	N: 21	Target dose (mg/day): NR		
		Age, mean±SD (range):	Daily dose (mg/day), mean±SD		
		5.3±1.7	(range): 1 (0.5–1)		
		Males %: 90	Concurrent treatments: NR		
		Caucasian %: NR			
		Treatment naïve (n): 16 Inpatients (n): 0			
		First episode psychosis			
		(n): NR			
		Comorbidities:			
		aggression (11), irritability			
		(19), seizures (3), self-			
		injurious behavior (5)			
NCT00194012,	Recruitment dates:	Enrolled: 59	Treatment duration: 12 wk, plus 6	Benefits: YMRS	NR
2013 ⁶¹	August 2004-May	Analyzed: NR	wk open label extension		
	2012	Completed: 21 (15 Group	Run-in phase: NR	Harms: AEs (major	
Country: USA		1; 6 Group 2)	Run-in phase duration: NR	and minor)	
-	Study design:		-	,	
Condition	RCT	GROUP 1	Permitted drugs: NR		
category:		N: 30			
Bipolar	Setting:	Age, mean±SD (range):	Prohibited drugs: psychotropic		
	Outpatient	<18 yr (all)	agents taken <1 wk of baseline (2		
Funding:		Males %: 66.7	wk for fluoxetine; 3 days for		
Industry, Institution	Diagnostic criteria:	Caucasian %: NR	psychostimulants)		
(hospital)	DSM-IV criteria for	Treatment naïve (n): NR			
	either cyclothymia, or	Inpatients (n): None	GROUP 1		
Risk of bias: High	BP NOS based on K-	First episode psychosis	Drug name: Abilify (aripiprazole)		
(subjective). High	SADS-PL and WASH-	(n): NR	Dosing variability: 2-15 mg		
(objective)	U K-SADS, (2) a		Target dose (mg/day): NR		
	clinical interview with a	GROUP 2	Daily dose (mg/day), mean±SD		
	child and adolescent	N: 29	(range): NR		
	psychiatrist	Age, mean±SD (range):	Concurrent treatments: NR		
	Inclucion culturio	<18 yr (all)			
	Inclusion criteria:	Males %: 51.7	GROUP 2		
	 (1) outpatient, (2) 5-17 	Caucasian %: NR	Drug name: Placebo		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Study	Study Characteristics yr, (3) symptoms of mania, depression, or both <2 wk, (4) offspring of a parent with BP spectrum disorder, (5) another 1st or 2nd degree relative with a mood disorder, (6) participated in ≥4 sessions of psychotherapy and continues to have clinically significant symptomatology		Treatment Characteristics Dosing variability: NR Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: NR	Outcomes Reported	
	intervention <4 wk prior to randomization, (10) general medical or				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	neurological condition				
	that: i) may be the				
	etiology of the pts				
	mood disorder, ii)				
	contraindicate tx with				
	an AAP, iii) may				
	interfere with the				
	interpretation of clinical				
	response to APZ; (11)				
	other psychotropic				
	agents <1 wk of				
	baseline (2 wk for				
	fluoxetine; 3 days for				
	psychostimulants); (12)				
	<6 mo prior to				
	randomization: i) a				
	suicide attempt				
	requiring medical/				
	psychiatric, ii) met				
	DSM-IV criteria for SA,				
	(13) pt who are				
	pregnant or lactating,				
	(14) sexually active				
	females, not using an				
	adequate birth control				
NCT00619190,	Recruitment dates:	Enrolled: 30	Treatment duration: 12 wk	Benefits: ABC-I,	
2013 ¹²¹	NR	Analyzed:	Run-in phase: NR	CGI-S, ABC-	
0		Completed: 29	Run-in phase duration: NR	Lethargy/Social	
Country: USA	Study design: Controlled before-after	GROUP 1	Permitted drugs: NR	Withdrawal	
Condition	Study	N: 21	remitted drugs: NR	Harms: AEs (major	
category:	Study	Age, mean±SD (range):	Prohibited drugs: NR	and minor)	
ASD	Setting: NR	8.3±3.75			
		Males %: 90.5	GROUP 1		
Funding:	Diagnostic criteria:	Caucasian %: NR	Drug name: Apriprazole		
Institution	NR	Treatment naïve (n): NR	Dosing variability: 1-30 mg		
(University)		Inpatients (n): NR	Target dose (mg/day): NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	Inclusion criteria: NR	First episode psychosis	Daily dose (mg/day), mean±SD		
Newcastle-Ottawa		(n): NR	(range): NR		
Scale: 4/8	Exclusion criteria:		Concurrent treatments: NR		
	NR	GROUP 2			
		N : 9	GROUP 2		
		Age, mean±SD (range):	Drug name: No medication		
		11.1±4.5	Dosing variability: NR		
		Males %: 88.9	Target dose (mg/day): NR		
		Caucasian %: NR	Daily dose (mg/day), mean±SD		
		Treatment naïve (n): NR	(range): NR		
		Inpatients (n): NR	Concurrent treatments: NR		
		First episode psychosis			
	Recruitment dates:	(n): NR Enrolled: 146	Treatment duration: 52 wk	Panafita: Palanas	
NCT01149655, 2014 ⁶²				Benefits: Relapse	
2014	July 2011-Dec 2013	Analyzed:	Run-in phase: Yes (stabilized on	Rate (CGI-I/S,	
Country Multiple	Ctudy design, DCT	Completed: 21 (15 (group	10-30 mg/day of aripiprazole prior to	PANSS,	
Country: Multiple countries	Study design: RCT	1), 6 (groupd 2))	randomization) Run-in phase duration: NR	hospitalization,	
countries	Setting: Outpatient	GROUP 1	Run-in phase duration: NR	suicide ideation, violent/aggressive	
Condition	Setting. Outpatient	N: 98	Permitted drugs: NR	behavior), %	
category:	Diagnostic criteria:	Age, mean±SD (range):	remitted drugs. NR	exacerbation or	
Schizophrenia and	Diagnostic criteria.	15.3±1.3 (male); 15.4±1.1	Prohibited drugs: NR	relapse/impending	
related	DSM-IV-TR diagnosis	(female)	Fromblied drugs. NR	relapse, %	
Telaleu	of schizophrenia	Males %: 63.3	GROUP 1	responders, %	
Funding: Industry	orsenizophrenia	Caucasian %: NR	Drug name: Apriprazole	achieved remission,	
(pharmaceutical)	Inclusion Criteria:	Treatment naïve (n): 0	Dosing variability: 10-30 mg/day	% discontinued,	
(phamaceutical)	(1) schizophrenia, (2)	Inpatients (n): NR	Target dose (mg/day): NR	CGAS	
	hx of illness ≥ 6 mo	First episode psychosis	Daily dose (mg/day), mean±SD	COAS	
Risk of bias: High	prior to screening, (3)	(n): NR	(range): NR	Harms: AEs (minor	
(subjective). High	shown previous		Concurrent treatments: NR	and serious)	
(objective)	response to	GROUP 2	Concurrent acadinents. Nix		
	antipsychotic tx (other	N: 48	GROUP 2		
	than clozapine), (4)	Age, mean±SD (range):	Drug name: Placebo		
	currently being treated	15.6±1.1 (males),	Dosing variability: NR		
	with oral or depot	15.3±1.0 (females)	Target dose (mg/day): NR		
	antipsychotics other	Males %: 70.8	Daily dose (mg/day), mean±SD		
	than clozapine, (5) hx	Caucasian %: NR	(range): NR		
	of relapse and/or	Treatment naïve (n): 0	Concurrent treatments: NR		
	exacerbation of	Inpatients (n): NR			
	symptoms when off	First episode psychosis			
	antipsychotic tx.	(n): NR			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	Exclusion criteria:				
	(1) dx other than				
	schizophrenia, (2)				
	delirium, dementia,				
	amnesia or other				
	cognitive disorders, (3)				
	psychotic symptoms				
	better accounted for by				
	another medical				
	condition(s) or direct				
	effect of a substance,				
	(4)comorbid dx of ADD				
	or ADHD, (5) tx with				
	stimulants at any time				
	over the last 1 yr prior				
	to screening, (6) any				
	neurodevelopmental				
	disorder, except				
	Tourette's syndrome,				
	(7) acute depressive				
	symptoms ≤30 days				
	prior to screening, (8)				
	DSM-IV-TR criteria for				
	substance dependence				
	≤180 days prior to				
	screening, (9) Hx of: epilepsy,				
	seizures, severe head				
	trauma, stroke, or				
	other unstable medical				
	conditions, subclinical				
	hypothyroidism (TSH ≥				
	4.0 mIU/L), known				
	hypothyroidism or				
	hyperthyroidism				
	(unless stabilized with				
	medication for ≥ 90				
	days prior to entry into				
	Phase 1 or Phase 2),				
	uncontrolled diabetes,				
	labile or unstable				
	diabetes (brittle				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	diabetes), newly diagnosed diabetes, or clinically significant abnormal blood glucose levels				
Norris et al., 2011	Recruitment dates: Jan 2000 to Dec 2006	Enrolled: 86 Analyzed: 86 Completed: 86	Treatment duration: 2 wk for weight outcomes Run-in phase: NR	Benefits: CDI, MASC, EDI-2DT, EDI-2BD	Patients treated with olanzapine presented with
Country: Canada	Study design: Retrospective	GROUP 1	Run-in phase duration: NR	Harms: change in	greater acuity and more complex
Condition		N: 43	Permitted drugs: SSRI/SNRI (17),	body composition	psychopathology
category: Eating disorders (Anorexia nervosa)	Setting: inpatient and outpatient	Age, mean±SD (range): 14.4±1.9 yr Males %: 0	benzodiazepine (3) (at the time of olanzapine initiation)	(weight, BMI), dyslipidemia, liver function test,	than those patients not treated with olanzapine, which
Funding: Non- industry	Diagnostic criteria: DSM-IV	Caucasian %: NR Diagnostic breakdown (n): ANR (29), ANBP (2),	Prohibited drugs: NR GROUP 1	sedation, rebound weight loss and increased	made comparisons regarding efficacy of the drug impossible
-	Inclusion criteria: (1)	EDNOS-R (12)	Drug name: Olanzapine	psychological stress	The observed side-
Newcastle-Ottawa Scale: 7/8 stars	10-17 yr, (2) female, (3) diagnosed with AN or EDNOS according to DSM-IV	Treatment naïve (n): NR Inpatients (n): 35 First episode psychosis (n): NR Comorbidities: Anxiety	Dosing variability: flexible Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): [median (IQR)] 5.0 (3.75- 7.5)	after initial discontinuation of olanzapine	effect profile noted in patients treated with olanzapine indicates the need for close monitoring
	Exclusion criteria: (1) males, (2) concurrent diagnosis of psychosis,	(29), depression (26), obsessive compulsive disorder (3)	Concurrent treatments: SSRI/SNRI (17), benzodiazepine (3)		during the entire course of treatment regardless of the
	or a concurrent illness	GROUP 2	GROUP 2 Drug name: Not olanzapine		patient's absolute
	with psychotic features, or whose	N: 43	Dosing variability: NR		weight.
	primary treatment was not under the direction of the eating disorder	Age, mean±SD (range): 14.8±1.6 yr Males %: 0	Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR		
team		Caucasian %: NR Diagnostic breakdown (n): ANR (29), ANBP (2), EDNOS-R (12)	Concurrent treatments: NR		
		Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR			
		Comorbidities: Anxiety (13), depression (15),			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		obsessive compulsive disorder (1)			
Novaes et al., 2008	Recruitment dates:	Enrolled: NA	Treatment duration: 17 mo (mean)	Benefits:	SGAs appeared to
	Jan 2001 to June 2006	Analyzed: 26 Completed: 26	Run-in phase: No Run-in phase duration: NR	Response (CGI-I)	reduce agitation and aggression in
Country: Brazil	Study design:	Completed. 20	Null-in plase duration. MN	Harms: NR	patients with ASD.
oouniny. Drazin	Retrospective cohort	GROUP 1	Permitted drugs: NR		patiente marrieb.
Condition		N: 1			
category: ASD	Setting: Outpatient/community	Age, mean±SD (range): NR	Prohibited drugs: NR		
Funding:		Males %: NR	GROUP 1		
Foundation	Diagnostic criteria:	Caucasian %: NR	Drug name: Typical antipsychotic		
Newcastle-Ottawa	DSM-IV	Treatment naïve (n): NR	Dosing variability: variable Target dose (mg/day): NR		
Scale: 8/8 stars	Inclusion criteria: (1)	Inpatients (n): 0 First episode psychosis	Daily dose (mg/day), mean±SD		
	ASD, (2) behavioral	(n): NR	(range): NR		
	disturbances	Comorbidities:	Concurrent treatments: NR		
	(psychomotor	Aggression/Agitation (26),			
	agression or agitation)	MR (20)	GROUP 2		
			Drug name:		
	Exclusion criteria:	GROUP 2	Risperidone/Risperidone + Typical		
	NR	N: 13 and 5 Age, mean±SD (range):	antipsychotic Dosing variability: variable		
		NR	Target dose (mg/day): NR		
		Males %: NR	Daily dose (mg/day), mean±SD		
		Caucasian %: NR	(range): NR		
		Treatment naïve (n): NR Inpatients (n): 0	Concurrent treatments: NR		
		First episode psychosis	GROUP 3		
		(n): NR	Drug name: Atypical antipsychotic		
		Comorbidities: see group	(not risperidone)		
		1	Dosing variability: variable		
		GROUP 3	Target dose (mg/day): NR Daily dose (mg/day), mean±SD		
		N: 4	(range): NR		
		Age, mean±SD (range): NR	Concurrent treatments: NR		
		Males %: NR	GROUP 4		
		Caucasian %: NR	Drug name: Typical + atypical		
		Treatment naïve (n): NR	antipsychotic		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Inpatients (n): NR First episode psychosis (n): NR Comorbidities: see group 1	Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: one treatment (12), ≥2 treatments (7)		
		GROUP 4 N: 3 Age, mean±SD (range): NR Males %: NR Caucasian %: NR Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: see group			
O'Donoghue et al.,	Recruitment dates:	Enrolled: 44	Treatment duration: mean 31 wk	Benefits: NR	One-third of children
2014 ¹²⁴	January 2001 to	Analyzed: 36	Run-in phase: No	Bononto. Mit	and adolescents
Country: Austria	August 2005	Completed: 36	Run-in phase duration: NA	Harms: triglycerides, BMI, cholesterol	had abnormal serum triglycerides and
•	Study design:	GROUP 1	Permitted drugs: SSRI		cholesterol;
Condition	Prospective cohort	N : 16			however, a dose-
category:		Age, mean±SD (range):	Prohibited drugs: NR		response was not
Schizophrenia and	Setting: NR	15.9±1.2 (all groups) Males %: 58	GROUP 1		demonstrated.
related	Diagnostic criteria:	Caucasian %: NR	Drug name: Olanzapine &		Olanzapine and quetiapine had a
Funding: NR	DSM-III	Treatment naïve (n): 16	quetiapine		greater increase in
		Inpatients (n): NR	Dosing variability: NR		serum triglycerides.
Newcastle-Ottawa Scale: 3/8 stars	Inclusion criteria: (1) 13-17 yr, (2) schizophrenia	First episode psychosis (n): 16	Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR		
	spectrum disorder, (3)	GROUP 2	Concurrent treatments: SSRI		
	no previous	N: 20	(31% all groups)		
	antipsychotic	Age, mean±SD (range):			
	medications	15.9±1.2 (all groups) Males %: 58	GROUP 2 Drug name: Risperidone		
	Exclusion criteria: (1)	Caucasian %: NR	Dosing variability: NR		
	Q < 70	Treatment naïve (n): 20	Target dose (mg/day): NR		
		Inpatients (n): NR	Daily dose (mg/day), mean±SD		
		First episode psychosis	(range): NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		(n): 20	Concurrent treatments: SSRI (31% all groups)		
Oh et al., 2013 ¹²⁵	Recruitment dates: Jan 2010 to Oct 2011	Enrolled: 183 Analyzed: 127	Treatment duration: 7-8 mo Run–in phase: NR	Benefits: ADHD RS- IV, CGI-S, CGI-I	The early treatmen effects and long-
Country: South		Completed: 32	Run-in phase duration: NR	· ·	term tolerability of
Korea	Study design:	·	•	Harms: Akathisia,	aripiprazole were
	Retrospective	GROUP 1	Permitted drugs: NR	sedation, nausea	found to be
Condition	·	N: 62	-		excellent compare
category: Bipolar , II, NOS	Setting: Outpatient	Age, mean±SD (range): 13.16±2.80 yr	Prohibited drugs: NR		with those of other atypical
	Diagnostic criteria:	Males %: 66.1	GROUP 1		antipsychotics. The
Funding: NR	DSM-IV	Caucasian %: NR	Drug name: Aripiprazole		superior treatment
		Diagnostic breakdown	Dosing variability: NR		effects of
Newcastle-Ottawa	Inclusion criteria: (1)	(n): NR	Target dose (mg/day): NR		aripiprazole, which
Scale: 6/8 stars	Male and female	Treatment naïve (n): NR	Daily dose (mg/day), mean±SD		was also associate
	outpatients, (2) aged 4	Inpatients (n): 0	(range): 9.58±5.38		with comparatively
	to 18 years, (3) DSM-	First episode psychosis	Concurrent treatments: See below		mild side effects,
	IV diagnosis of bipolar	(n): NR			may enhance the
	l disorder, bipolar II	Comorbidities: See	GROUP 2		treatment
	disorder, bipolar	below	Drug name: Others		compliance of
	disorder, and bipolar		Dosing variability: NR		pediatric patients
	affective disorder	GROUP 2	Target dose (mg/day): NR		and their guardians
		N: 65	Daily dose (mg/day), mean±SD		However, these
	Exclusion criteria: (1)	Age, mean±SD (range):	(range): Risperidone (1.46±1.08),		results must be
	Another diagnosis as	11.46±3.95 yr	quetiapine (207.46±200.53),		confirmed in the
	main reason for	Males %: 76.9	paliperidone (4.50±2.12)		future through mult
	treatment (eg: tic	Caucasian %: NR	Concurrent treatments: See below		center, double-blin
	disorder, ADHD), (2)	Diagnostic breakdown			placebo-control
	who visited the clinic	(n): NR	Overall concurrent treatments:		studies.
	only once or did not	Treatment naïve (n): NR	mood stabilizers (20),		
	take medication	Inpatients (n): 0	methyphenidate (34), atomoxetine		
		First episode psychosis	(12), antidepressants (27)		
		(n): NR			
		Comorbidities: See below			
		Overall comorbidities: ADHD (50), tic related disorders (17), conduct disorders and ODD (5),			
		autism spectrum disorder			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		(12)			
Olfson et al., 2012	Recruitment dates:	Enrolled: 1745	Treatment duration:	Benefits: Medication	The results sugges
126	Medicaid claims file 2001-2005	Analyzed: 1745 Completed: NA	Run-in phase: Run-in phase duration:	adherence (all-cause discontinuation),	that rapid antipsychotic
Country: USA		•	-	psychiatric hospital	medication
Condition	Study design: Retrospective cohort	GROUP 1 N: 805	Permitted drugs: None	admission	discontinuation and psychiatric hospital
category:		Age, mean±SD (range):	Prohibited drugs: None	Harms: NR	admission are
Schizophrenia and related	Setting: Inpatients (<10%) and	NR Males %: 62	GROUP 1		common in the community
	outpatients	Caucasian %: 38	Drug name: Risperidone		treatment of early-
Funding: Government	Diagnostic criteria:	Treatment naïve (n): 805 Inpatients (n):	Dosing variability: Target dose (mg/day):		onset schizophreni
Government	ICD-9-CM	First episode psychosis	Daily dose (mg/day), mean±SD		
Newcastle-Ottawa Scale:	Inclusion criteria: (1)	(n): NR	(range): Concurrent treatments:		
7/8 stars	6-17 yr, (2) eligible for	GROUP 2	concurrent treatments.		
	Medicaid (fee-for- service plans) for	N: 382 Age, mean±SD (range):	GROUP 2 Drug name: Olanzapine		
	≥180 days after	NR	Dosing variability:		
	antipsychotic	Males %: 69 Caucasian %: 38	Target dose (mg/day):		
	Initiation, (3) schizophrenia and	Treatment naïve (n): 382	Daily dose (mg/day), mean±SD (range):		
	related disorders	Inpatients (n): First episode psychosis	Concurrent treatments:		
	Exclusion criteria: (1)	(n): NR	GROUP 3		
	not enrolled in Medicare, (2) free of	GROUP 3	Drug name: Quetiapine Dosing variability:		
	any antipsychotic	N: 260	Target dose (mg/day):		
	prescriptions for at least 180 continuous	Age, mean±SD (range): NR	Daily dose (mg/day), mean±SD (range): Concurrent treatments:		
	days before filling a	Males %: 52			
	risperidone, olanza- pine, aripiprazole,	Caucasian %: 48 Treatment naïve (n): 260	GROUP 4 Drug name: Aripiprazole		
	quetiapine, or	Inpatients (n):	Dosing variability:		
	ziprasidone prescrip- tion of ≤30 days supply	First episode psychosis (n): NR	Target dose (mg/day): Daily dose (mg/day), mean±SD (range): Concurrent treatmenter		
		GROUP 4	(range): Concurrent treatments:		
		N: 173	GROUP 5		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Age, mean±SD (range): NR Males %: 55 Caucasian %: 42 Treatment naïve (n): 173 Inpatients (n): First episode psychosis (n): NR	Drug name: Ziprasidone Dosing variability: Target dose (mg/day): Daily dose (mg/day), mean±SD (range): Concurrent treatments:		
		GROUP 5 N: 125 Age, mean±SD (range): NR Males %: 57 Caucasian %: 44 Treatment naïve (n): 125 Inpatients (n): First episode psychosis (n): NR			
Omranifard et al, 2013 ⁶³	Recruitment dates: 2009	Enrolled: 90 Analyzed: 87 Completed: 87	GROUP 1 Drug name: risperidone Dosing variability: 0.25-1 mg/d	Benefits: Efficacy (frequency of masturbation)	In contrast to the behavioral treatment which was only
Country: Iran	Study design: RCT	GROUP 1	Target dose (mg/day): NR Daily dose (mg/day), mean±SD	Harms: None	effective in younger ages in the control
Condition category:	Setting: Outpatient	N: 42 Age, mean±SD (range):	(range): NR Concurrent treatments: NR		group, the addition of risperidone to the
Behavioral issues	Diagnostic criteria: NR	5.3±1.1 Males %: 52.3	GROUP 2		behavioral treatment was effective in all
Funding: Institution (University)	Inclusion criteria: (1) informed consent; (2) boys and girls 3-7 yr;	Caucasian %: NR Diagnostic breakdown (n): Treatment naïve (n): NR	Drug name: placebo Dosing variability: NR Target dose (mg/day): NR Daily dose (mg/day), mean±SD		ages.
Risk of bias: High (subjective), NA (objective)	(3) dx masturbation problem by a psychiatrist; (4) masturbates as a daily	Inpatients (n): NR First episode psychosis (n): NR	(range): NR Concurrent treatments: NR		
	habit	GROUP 2 N: 45			
	Exclusion criteria: (1) any condition that would interfere with the safe study	Age, mean±SD (range): 49.9±1.1 Males %: 57.7 Caucasian %: NR			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	participation; (2) any current neurological or axis I psychiatric disorders that needs chronic drug treatment; (3) treated for masturbation in the last month; (4) infection of genitalia.	Diagnostic breakdown (n): NR Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: NR			
Owen et al., 2009 64	Recruitment dates: June 2006 to April 2008	Enrolled: 164 Analyzed: 98 Completed: 75	Treatment duration: 8 wk Run-in phase: Yes Run-in phase duration: ≤6 wk	Benefits: ABC, CYBOCS, CGI-I, CGI-S, PedsQL,	During an 8-week period, aripiprazole was efficacious and
Country: USA				CGSQ, response	generally well
Condition category: ASD	Study design: RCT (parallel)	GROUP 1 N: 47 Age, mean±SD (range):	Permitted drugs: anxiolytics, benztropine or propranolol, diphenhydramine (≤50 mg/day),	(ABC-I, CGI-I), suicide	tolerated in the treatment of irritability associated
Funding: Industry	Setting: NR	9.7±3.2 Males %: 89.4	psychotropic medication, sleep aids	Harms: EPS (AIMS, BAS, SAS), fatigue,	with autistic disorder in children and
Risk of bias: Medium (subjective), Low	Diagnostic criteria: DSM-IV-TR, ADI-R, CGI-S, ABC-I	Caucasian %: 68.1 Treatment naïve (n): NR Inpatients (n): NR First episode psychosis	Prohibited drugs: antidepressants, antipsychotics, anxiolytics, mood stabilizers, neuroleptics, psychostimulants (washout ≥4 day),	glucose, lipid profile, prolactin, LDL, total cholesterol, HDL, somnolence,	adolescents who may be experiencing tantrums, aggression, self-
(objective)	Inclusion criteria: (1) 6–17 yr, (2) DSM-IV- TR criteria for autistic	(n): NA GROUP 2	fluoxetine, olanzapine/fluoxetine (washout ≥4 wk before screen visit)	aggression, total AE, weight change	injurious behavious, or a combination ofthese symptoms.
	disorder and behaviors	N: 51	GROUP 1		on loce of inpreme
	such as tantrums, aggression, self-injury,	Age, mean±SD (range): 8.8±2.6	Drug name: Aripiprazole Dosing variability: flexible		
	or a combination, with a dx corroborated by ADI-R certified trainer,	Males %: 86.3 Caucasian %: 80.4	Target dose (mg/day): 5, 10, 15 Daily dose (mg/day), mean±SD		
	(3) CGI-S score ≥4 and ABC Irritability	Treatment naïve (n): NR Inpatients (n): NR First episode psychosis	(range): NR Concurrent treatments: analgesics and antipyretics hypnotics and		
	subscale score ≥18 at screening and	(n): NA	sedatives GROUP 2		
	baseline, (4) ≥15 kg, (5) stable nonpharmacologic therapy		Drug name: Placebo Dosing variability: flexible Target dose (mg/day): 5, 10, 15		
	Exclusion criteria: (1) bipolar disorder,		Daily dose (mg/day), mean±SD (range): NR Concurrent treatments:		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	psychosis, schizophrenia, major depression, fragile X syndrome, or another ASD, (2) history of NMS, (3) significant risk of committing suicide, (4) seizure in the past yr, (5) history of severe head trauma or stroke, (6) history or current evidence of any unstable medical condition or or an abnormal laboratory test result considered clinically significant, (7) antipsychotic treatment resistant, (8) known allergy or hypersensitivity to aripiprazole		analgesics and antipyretics, hypnotics and sedatives		
Pandina et al., 2007 ¹²⁷ (see Aman 2002, Snyder 2002) Country: Canada, South Africa, USA Condition category: ADHD Funding: NR Newcastle-Ottawa Scale: 6/8 stars	Study design: Observational (pooled analysis)	Enrolled: NA Analyzed: 228 Completed: NA GROUP 1 N: 108 Age, mean±SD (range): 8.6 yr Males %: 81 Caucasian %: 64 Diagnostic breakdown (n): CD (40), ODD (29), Axis 1 (34), BD NOS (5) Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: ADHD (78)	GROUP 1 Drug name: Risperidone Dosing variability: Variable Target dose (mg/day): NR Daily dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 1.3±0.7 mg/day Concurrent treatments: See Aman 2002 and Snyder 2002 GROUP 2 Drug name: Placebo Dosing variability: Variable Target dose (mg/day): NR Daily dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: See Aman 2002 and Snyder 2002	Benefits: continuous performance task (CPT), VLT-C Harms: NA	Cognitive function was not altered by risperidone in shor term studies.

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		GROUP 2			
		N: 88			
		Age, mean±SD (range):			
		8.4 yr			
		Males %: 77			
		Caucasian %: 68			
		Diagnostic breakdown			
		(n): CD (48), ODD (30),			
		Axis 1 (37), BD NOS (5)			
		Treatment naïve (n): NR			
		Inpatients (n): NR			
		First episode psychosis			
		(n): NR			
		Comorbidities: ADHD			
	Desmilterent	(77) F arralla de 00.4	The stress of shared in the second	Banafitas 0040	Overtient 1.400
Pathak et al., 2013	Recruitment dates:	Enrolled: 284	Treatment duration: 3 wk	Benefits: CGAS,	Quetiapine at 400
	Aug 2004 to Jul 2006	Analyzed: 277	Run-in phase: Yes	CGI-BP-S, CGI-BP-I,	mg/d and 600 mg
C ountry (110.)		Completed: 222	Run-in phase duration: 1–28 day	YMRS,CDRS-R,	was significantly
Country: USA	Study design: RCT	GROUP 1	Dermitted drugs	OAS-M, CGSQ,	more effective that
Condition	(parallel)	N: 93	Permitted drugs: Psychostimulants,	response, remission, suicidal ideation,	placebo for treatin
category: Bipolar I	Setting:	Age, mean±SD (range):	diphenhydramine, hydroxyzine,	aggression, bipolar	acute manic
(manic)	Inpatient/outpatient	13.1±2.2	lorazepam, benztropine	disorder exacerbation	symptoms in youth with bipolar I
(manic)	inpatient/outpatient	Males %: 50.5	lorazepani, benziropine		disorder. Quetiapi
Funding: Industry	Diagnostic criteria:	Caucasian %: 78.5	Prohibited drugs: Prophylactic use	Harms: EPS (AIMS,	at these doses wa
anding. madoli y	DSM-IV, KID-SCAD-	Diagnostic breakdown	of benztropine	BAS, SAS), akathisia,	generally well
Risk of bias: High	PL	(n): manic (92), mixed (1)	or benziropine	mortality, weight gain,	tolerated and AE
(subjective), High	1 2	Treatment naïve (n): 68	GROUP 1	somnolence, fatigue,	were consistent w
(objective)	Inclusion criteria: (1)	Inpatients (n): NR	Drug name: Quetiapine	glucose measures,	the profile of
(00)00110)	Male and female	First episode psychosis	Dosing variability: variable	lipid values, liver	quetiapine in adult
	inpatients and	(n): 6	Target dose (mg/day): 400	function, thyroid	with bipolar disord
	outpatients, (2) aged	Comorbidities: ADHD	Daily dose (mg/day), mean±SD	function, prolactin,	
	10 to 17 years, (3)	(49)	(range): NR	tachycardia, pulse,	
	DSM-IV diagnosis of		Concurrent treatments: NR	heart rate, ECG	
	Bipolar I mania as	GROUP 2		changes, hematology	
	confirmed by K-SADS-	N: 95	GROUP 2	values,	
	PL, (4) YMRS total	Age, mean±SD (range):	Drug name: Quetiapine		
	score of ≥20 at both	13.2±2.2	Dosing variability: variable		
	screening and	Males %: 57.9	Target dose (mg/day): 600		
	randomization, (5)	Caucasian %: 76.8	Daily dose (mg/day), mean±SD		
	permitted to have	Diagnostic breakdown	(range): NR		
	secondary diagnosis of	(n): manic (91), mixed (4)	Concurrent treatments: NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	ADHD Exclusion criteria: (1) Current DSM-IV- diagnosed Axis I disorder other than bipolar I disorder or ADHD, (2) history of serious suicide attempts, (3) current risk for suicide or homicide in the judgment of investigators	Treatment naïve (n): 79 Inpatients (n): NR First episode psychosis (n): 6 Comorbidities: ADHD (40) GROUP 3 N: 89 Age, mean±SD (range): 13.3±2.1 Males %: 60.7 Caucasian %: 74.2 Diagnostic breakdown (n): manic (all) Treatment naïve (n): 74 Inpatients (n): NR First episode psychosis (n): 7 Comorbidities: ADHD	GROUP 3 Drug name: Placebo Dosing variability: NR Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: NR		
Perry et al., 1989 ⁶⁶ Country: USA	Recruitment dates: NR	(35) Enrolled: 70 Analyzed: 60 Completed: 52	Treatment duration: 6 mo Run-in phase: Yes Run-in phase duration: 2 wk	Benefits: CGI-I, Response (CGI-I, CGI-S)	Haloperidol, administered on a long-term basis,
Sound y. OOA	Study design: RCT	Completed: 52		CGI-3)	effectively reduced
Condition category: ASD	(parallel)	GROUP 1 N: 34	Permitted drugs: NR	Harms: Dyskinesia, parkinsonism,	maladaptive symptoms in austic
Funding: Industry, Government,	Setting: Outpatient/community	Age, mean±SD (range): NR Males %: NR	Prohibited drugs: NR GROUP 1	sedation	children. Drug efficacy was not deminished by
Foundation	Diagnostic criteria: DSM-III-TR	Caucasian %: NR Treatment naïve (n): NR	Drug name: Haloperidol (continuous)		discontinuous drug administration.
Risk of bias: High		Inpatients (n): NR	Dosing variability: variable		
(subjective), High	Inclusion criteria: (1)	First episode psychosis	Target dose (mg/day): NR		
(objective)	dx of infantile autism,	(n): NR	Daily dose (mg/day), mean±SD		
	full syndrome present, (2) only children with	GROUP 2	(range): 1.2 (0.5–4) Concurrent treatments: NR		
	good response to	N: 36	concurrent treatments. WK		
	haloperidol and	Age, mean±SD (range):	GROUP 2		
	requiring further drug	NR	Drug name: Haloperidol		
	treatment were	Males %: NR	(discontinuous)		
	accepted into the study	Caucasian %: NR	Dosing variability: variable		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	Exclusion criteria: (1) identifiable cause for autism, (2) seizure disorder, (3) preexisting movement disorder	Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR	Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 1 (0.5–4.0) Concurrent treatments: NR		
Pogge et al., 2005	Recruitment dates:	Enrolled: 86 Analyzed: 86	Treatment duration: 12 wk -18 mo follow up	Benefits: NA	The general lack of significant
Country: USA	Study design: Prospective	Completed: 86 GROUP 1	Run-in phase: NA Run-in phase duration: NA	Harms: Weight	relationships between symptoms or diagnosis, other
Condition category: Mixed	Setting: Inpatient	N: 43 Age, mean±SD (range):	Permitted drugs: NR		than substance abuse, and
conditions	Diagnostic criteria:	See below Males %: See below	Prohibited drugs: NR		non adherence is not surprising, giver
Funding: NR	NR	Caucasian %: See below Diagnostic breakdown	GROUP 1 Drug name: Olanzapine		heterogeneity of the sample and the
Newcastle-Ottawa Scale: 6/8 stars	Inclusion criteria: All adolescent inpatients discharged from a private psychiatric hospital during a 2 yr period who received 1 of the medications (olanzapine, risperidone) as an inpatient and a follow up prescription	(n): Depressive disorder (11), mood disorder NOS (10), SUD (8), DBD (7), psychotic disorder (9), anxiety disorder (7), BP (8), ADHD (4), ED (1) Treatment naïve (n): 0 Inpatients (n): 43 First episode psychosis (n): NR Comorbidities: NR	Dosing variability: NR Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: NR GROUP 2 Drug name: Risperidone Dosing variability: NR Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR		general tendencies toward non adherence on the part of adolescents with both medical and psychiatric conditions.
	Exclusion criteria: NR	GROUP 2 N: 43 Age, mean±SD (range): See below Males %: See below Caucasian %: See below Diagnostic breakdown (n): Depressive disorder (26), mood disorder NOS (7), SUD (7), DBD (8), psychotic disorder (3), anxiety disorder (5), BP	Concurrent treatments: NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		(2), ADHD (3), ED (1)			
		Treatment naïve (n): 0			
		Inpatients (n): 43			
		First episode psychosis			
		(n): NR			
		Comorbidities: NR			
		Overall age, mean±SD			
		(range): 14.9±1.3 yr			
		Overall males %: 41.9 Overall Caucasian %:			
		65.1			
		00.1			
Ratzoni et al., 2002	Recruitment dates:	Enrolled: 50	Treatment duration: 2.8 mo	Benefits: PANSS,	Adolsecents
129	Jan 2000 to Aug 2000	Analyzed: 50	Run-in phase: Yes	medication	experienced greate
		Completed: 36	Run-in phase duration: 5.2 day	adherence	weight gain when
Country: Israel	Study design:		(mean)		taking olanzapine o
	Prospective cohort	GROUP 1		Harms: Akathisia,	risperidone
Condition		N: 8	Permitted drugs: anticholinergics,	behavioral issues,	compared to effects
category:	Setting: Inpatient	Age, mean±SD (range):	lorazepam	BMI, constipation,	reported in adults.
Schizophrenia and		17.3±1.3 (15–19)		dermatologic AE,	
related	Diagnostic criteria:	Males %: 62.5	Prohibited drugs: antipsychotics,	dystonia, any EPS,	
F	DSM-IV, K-SADS-PL	Caucasian %: NR	heterocyclic antidepressants,	fatigue, hypokinesia-	
Funding:	(Hebrew version),	Treatment naïve (n): 1	lithium, medications that can cause	akinesia, sedation,	
Government,	consensus of 2 child	Inpatients (n): all	weight gain/loss, SSRIs, valproic	seizure, sexual	
Foundation	psychiatrists	First episode psychosis	acid	desire, tachycardia,	
Newcastle-Ottawa	Inclusion oritoria. (1)	(n): NR	GROUP 1	WAE, weight	
Scale: 3/8 stars	Inclusion criteria: (1) adolescent patients	GROUP 2	Drug name: Haloperidol		
	who started treatment	N: 21	Dosing variability: variable		
	with olanzapine,	Age, mean±SD (range):	Target dose (mg/day): NR		
	risperidone, or	17±1.6 (14–19)	Daily dose (mg/day), mean±SD		
	haloperidol from Jan to	Males %: 66.7	(range): 7.6±4 (3–15)		
	Aug 2000	Caucasian %: NR	Concurrent treatments: biperiden		
		Treatment naïve (n): 2	(6), lorazepam (5), trihexyphenidyl		
	Exclusion criteria: (1)	Inpatients (n): all	(2)		
	receiving other	First episode psychosis			
	medications that cause	(n): NR	GROUP 2		
	weight gain/loss, (2)		Drug name: Olanzapine		
	alcohol/substance	GROUP 3	Dosing variability: variable		
	abuse, (3) medical	N: 21	Target dose (mg/day): NR		
	illnesses affecting body	Age, mean±SD (range):	Daily dose (mg/day), mean±SD		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	weight	17.1±2.1 (13–20.5) Males %: 57.1 Caucasian %: NR Treatment naïve (n): 3 Inpatients (n): all First episode psychosis (n): NR	(range): 12.7±3.1 (7.5–20) Concurrent treatments: biperiden (6), lorazepam (5), trihexyphenidyl (2) GROUP 3 Drug name: Risperidone Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 3.2±1.1 (1–5) Concurrent treatments: biperiden (6), lorazepam (5), trihexyphenidyl (2)		
Remington et al., 2001 ⁶⁷	Recruitment dates: NR	Enrolled: 37 Analyzed: 33 Completed: 23/33 (H),	Treatment duration: 7 wk Run-in phase: Yes Run-in phase duration: 1 wk	Benefits: ABC, CARS Harms: fatigue,	Results favor haloperidol over clomipramine in the
Country: Canada	Study design: RCT (crossover)	12/32 C, 21/32 (P)	before and between each arm of the treatment regimen	ESRS, dystonia, depression, ECG,	treatment of autistic disorder. The two
Condition		GROUP 1		arrythmias	agents
category: ASD	Setting: NR	N: 33 Age, mean±SD (range):	Permitted drugs: benztropine		demonstrated comparable
Funding: Non- industry	Diagnostic criteria: DSM-IV	16.3 (10–36) yr Males %: 83.3 Caucasian %: NR	Prohibited drugs: no other antipsychotic medications		improvement when compared with baseline if there was
Risk of bias: High (subjective), High (objective)	Inclusion criteria: (1) DSM-IV diagnosis of autism confirmed independently bt two investigators, (2) evidence that haloperidol or clomipramine had not been used previously, or, if so, that an adequate therapeutic trial was not completed Exclusion criteria:	Diagnostic breakdown (n): NR Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: NR	GROUP 1 Drug name: Chlomipramine- Placebo-Haloperidol (CPH), PHC, HCP Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 1-1.5 Concurrent treatments: NR		a full therapeutic trial; however, significantly fewer individuals treated with clomipramine were able to do this, for reasons related both to side effects and efficacy.
Reyes et al., 2006	NR Recruitment dates: Aug 2001 to Sep 2003	Enrolled: 335 Analyzed: 335	Treatment duration: 7.4 mo Run-in phase: Yes	Benefits: CGAS, CGI-I, CGI-S,	Patients who responded to initial

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Completed: 162	Run-in phase duration: 6 wk	NCBRF, VAS-MS	treatment with
Country: Belgium,	Study design: RCT			Cognitive (MVLT,	risperidone
Germany, Great	(parallel)	GROUP 1	Permitted drugs: medication for	CPT), growth (tannar	benefited from
Britain, Israel,		N: 172	EPS (only after dose reduction	stages), response	continued, long-terr
Netherlands,	Setting: NR	Age, mean±SD (range):	attempted), psychostimulants	(relapse, symptom	treatment.
Poland, South		10.9±2.9		recurrence)	Risperidone was
Africa, Spain	Diagnostic criteria:	Males %: 82	Prohibited drugs: anticonvulsants,		safe and well
•	DSM-IV, K-SADS-PL	Caucasian %: NR	antidepressants, antipsychotics,	Harms: Akathisia,	tolerated during a 1
Condition		Diagnostic breakdown	lithium	BMI, dystonia, EPS,	year extension.
category: ADHD	Inclusion criteria: (1)	(n): CD (62), DBD NOS		fatigue, parkinsonism,	,
	5–17 yr, (2) no	(3), ODD (107)	GROUP 1	prolactin, prolactin-	
Funding: Industry	moderate or severe	Treatment naïve (n): NR	Drug name: Risperidone	related AE, SAE,	
i unungi maaany	intellectual impairment	Inpatients (n): NR	Dosing variability: variable	somnolence, tardive	
Risk of bias: High	(IQ ≥55), (3) CD	First episode psychosis	Target dose (mg/day): NR	dyskinesia, total AE,	
(subjective), High	serious enough to	(n): NR	Daily dose (mg/day), mean±SD	WAE, weight change	
(objective), riight	warrant clinical	Comorbidities: ADHD	(range): 0.8±0.3 (<50 kg), 1.2±0.4	WAE, weight change	
(ODJECTIVE)	treatment, (4) score	(117)	(≥50 kg)		
	≥24 on the conduct	(117)	Concurrent treatments: analgesics		
		GROUP 2	0		
	problem subscale of		(26), psychostimulants (36)		
	the NCBRF, (5)	N: 163			
	responsible caregiver	Age, mean±SD (range):	GROUP 2		
		10.8±2.9	Drug name: Placebo		
	Exclusion criteria: (1)	Males %: 91	Dosing variability: variable		
	schizophrenia and	Caucasian %: NR	Target dose (mg/day): NR		
	bipolar disorder	Diagnostic breakdown	Daily dose (mg/day), mean±SD		
		(n): CD (61), DBD NOS	(range): NR		
		(5), ODD (97)	Concurrent treatments:		
		Treatment naïve (n): NR	analgesics (20), psychostimulants		
		Inpatients (n): NR	(36)		
		First episode psychosis			
		(n): NR			
		Comorbidities: ADHD			
		(110)			
Rizzo et al., 2012	Recruitment Dates:	Enrolled: 75	Treatment duration: 24 mo	Benefits: NR	Pimozide and
69	NR	Analyzed: 75	Run-in phase: Yes		aripiprazole have
		Completed: 75	Run-in phase duration: 4 wk	Harms: BMI,	slightly different
Country: Italy	Study design: NRCT			glycemia,	contraindications fo
	(parallel)	GROUP 1:	Permitted drugs: NR	triglyceridemia,	use in children with
Condition	(parallol)	N: 25		cholesterolemia	Tourette syndrome.
category: Tic	Diagnostic criteria:	Age, mean±SD (range):	Prohibited drugs: NR	Cholesterolernia	Pimozide may be
disorders	DSM-IV-TR	11.6 ±2.2 yr	rionisited drugs. Mix		less well-suited to
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Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Study Funding: Non- industry Risk of Bias: High (subjective), High (objective)	Study Characteristics Setting: Outpatients Inclusion criteria: TS according to DSM-IV- TR, from Neurology Unit of Catania University Exclusion criteria: NR		Treatment Characteristics Drug name: Aripiprazole Dosing variability: Variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 1.25-15 mg/day Concurrent treatments: Fluoxetine (10), Biperiden cloridrate (7) GROUP 2: Drug name: Pimozide Dosing variability: Variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 1-4 mg/day Concurrent treatments: Fluoxetine (7), Biperiden cloridrate (12) GROUP 3: Drug name: No medication Dosing variability: NR Target dose (mg/day): NR Daily dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: NR	Outcomes Reported	
		(n): NR Comorbidities (n): OCD (0), ADHD (2)			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Ronsley et al., 2015 ¹³⁰	Recruitment dates: Feb 2009 to Mar 2012	Enrolled: 130 Analyzed: 37 Completed: 37	Treatment duration: 12 months Run-in phase: NR Run-in phase duration: NR	Benefits: NR Harms: weight, BMI,	Children treated with risperidone or quetiapine are at a
Country: Canada	Study design: Prospective Cohort	GROUP 1	Permitted drugs: NR	waist circumference, blood pressure,	significant risk for developing obesity,
Condition category: Mixed	Setting: Outpatient	N: 20 Age, mean±SD (range):	Prohibited drugs: NR	laboratory parameters	elevated waist circumference, and
conditions	Diagnostic criteria:	14 Males %: 50	GROUP 1		dyslipidemia during 12 months of
Funding: Industry	DSM-IV-TR	Caucasian %: 40 Diagnostic breakdown	Drug name: Risperidone Dosing variability: NR		treatment. These data emphasize the
Newcastle-Ottawa Scale: 4/8 stars	Inclusion criteria: (1) 2-18 years of age (2) having a mental health condition diagnosed based on the DSM-IV- TR, (3) SGA treatment with either risperidone or quetiapine independently initiated by a psychiatrist less than 7 days before study consent; and never previously exposed to an SGA. Exclusion criteria: pre-existing DM (types 1 or 2), diagnosis of an eating disorder, treatment with more than 1 antipsychotic, ortreatment with other medications known to affect meatbolism.	 (n): Psychotic disorders (5), mood disorder (1), depressive disorder (3), bipolar disorder(3), ADHD(4), ODD(4), Anxiety disorder(6), adjustment disorder(1), mental retardation or personality disorder(2) Treatment naïve (n): all Inpatients (n): NR First episode psychosis (n): NR GROUP 2 N: 17 Age, mean±SD (range): 14.1 Males %: 47.1 Caucasian %: 52.9 Diagnostic breakdown (n): Psychotic disorders (4), mood disorder (3), depressive disorder (5), bipolar disorder(3), ADHD(4), PDD(1), Anxiety disorder(7), reactive attachment disorder(2), 	Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: NR GROUP 2 Drug name: Quetiapine Dosing variability: NR Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: NR		importance for early idenification and treatment of metabolic side effects.

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Treatment naïve (n): all Inpatients (n): NR First episode psychosis (n): NR			
RUPP et al., 2005	Recruitment dates: NR	Enrolled: 38 Analyzed: NR	Treatment duration: 8 wk Run-in phase: No	Benefits: Relapse, ABC	Risperidone showed persistent efficacy
Country: USA	Study design: RCT	Completed: 32	Run-in phase duration: NR	Harms: NR	and good tolerability for intermediate-
country. USA	(parallel)	GROUP 1	Permitted drugs: anticonvulasant		length treatment of
Condition	(parallol)	N : 16	treatment if child had been taking		children with autism
category: ASD	Setting: NR	Age, mean±SD (range): see below	stable dose for 4 wk and had been free of seizures for 6 mo		characterized by tantrums,
Funding: Industry/	Diagnostic criteria:	Males %: see below			aggression, and/or
Non-industry	DSM-IV	Caucasian %: see below Diagnostic breakdown	Prohibited drugs: other psychotropic medication		self-injurious behavior.
Risk of bias:	Inclusion criteria: (1)	(n): NR			Discontinuation after
Medium	responders at the end of 4 mo extension	Treatment naïve (n): see below	GROUP 1 Drug name: Risperidone		6 months was associated with a
(subjective), Medium (objective)	study. For initial	Inpatients (n): NR	Dosing variability: fixed		rapid return of
	inclusion criteria refer	First episode psychosis	Target dose (mg/day): NR		disruptive and
	to McCracken 2002	(n): NR	Daily dose (mg/day), mean±SD		aggressive behavio
		Comorbidities: see	(range): 3.5 (15-45 kg), 4.5 (>45 kg)		in most subjects.
	Exclusion criteria: NR. For initial	below	Concurrent treatments: NR		···· , ····
	exclusion criteria refer	GROUP 2	GROUP 2		
	to McCracken 2002	N: 16	Drug name: Placebo		
		Age, mean±SD (range):	Dosing variability: variable		
		see below	Target dose (mg/day): NR		
		Males %: see below	Daily dose (mg/day), mean±SD		
		Caucasian %: see below	(range): 25% dosage reduction/wk		
		Diagnostic breakdown	Concurrent treatments: NR		
		(n): NR			
		Treatment naïve (n): see			
		below			
		Inpatients (n): NR First episode psychosis			
		(n): NR			
		Comorbidities: see			
		below			
		Overall age, mean±SD			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		(range): 9.0±2.5 yr			
		Overall males %: 86.8			
		Caucasian %: 60.5			
		Overall treatment naïve			
		(n): 7			
		Overall comorbidities:			
		IQ average (2), IQ			
Soite et al. 2004	Recruitment dates:	borderline (5), MR (27) Enrolled: 40	Treatment duration: 11.2 wk	Benefits: NA	Droloctin lovele wer
Saito et al., 2004		Analyzed: 40	Run–in phase: Yes	Benefits: NA	Prolactin levels wer
	Sept 2001 to Mar 2003	Completed: 40	Run–in phase duration: 1 mo.	Harme: prolactin	significantly increased in childrer
Country: USA	Study design:	Completed. 40	Run-in phase duration. Thio.	Harms: prolactin, prolactin-related AEs	and adolescents
Country. 00A	Prospective cohort	GROUP 1	Permitted drugs: NR	protactin-related AES	treated with
Condition	r rospective conort	N : 13	r ennitieu urugs. Mit		risperidone,
category: Mixed	Setting:	Age, mean±SD (range):	Prohibited drugs: NR		compared to those
conditions	Inpatient/outpatient	all groups: 13.4±3.4 (5–			treated with
		18)	GROUP 1		olanzapine or
Funding:	Diagnostic criteria:	Males %: all groups: 55	Drug name: Olanzapine		quetiapine.
Government	NR	Caucasian %: NR	Dosing variability: variable		
		Diagnostic breakdown	Target dose (mg/day): NR		
Newcastle-Ottawa	Inclusion criteria: (1)	(n): all groups:	Daily dose (mg/day), mean±SD		
Scale: 6/8 stars	male and females, (2)	schizophrenia or other	(range): 7.8±4.2		
	aged 5 to 18 years, (3)	psychosis (14), mood	Concurrent treatments: all groups:		
	treatment naïve or at	disorders (14), DBD (9),	divalproex sodium (7), lithium (5),		
	least a 1-month	intermittent explosive	SSRI (11), stimulants (9),		
	interval since their last	disorder (1), PDD NOS	benzodiazepines (3), alpha-		
	treatment with	(1), eating disorder NOS	adrenergic agonists (3)		
	antipsychotic agents,	(1)			
	(4) inpatients or	Treatment naïve (n): NR	GROUP 2		
	outpatients at a	Inpatients (n): NR First episode psychosis	Drug name: Quetiapine Dosing variability: variable		
	suburban children's	(n): NR	Target dose (mg/day): NR		
	hospital	Comorbidities (n): NR	Daily dose (mg/day), mean±SD		
	Exclusion criteria: (1)		(range): 283.3±222.9		
	females receiving	GROUP 2	Concurrent treatments: see group		
	hormonal	N: 6	1		
	contraception	Age, mean±SD (range):	-		
		see group 1	GROUP 3		
		Males %: see group 1	Drug name: Risperidone		
		Caucasian %: NR	Dosing variability: variable		
		Diagnostic breakdown	Target dose (mg/day): NR		
		(n): see group 1	Daily dose (mg/day), mean±SD		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities (n): NR	(range): 2.2±2 Concurrent treatments: see group 1		
		GROUP 3 N: 21 Age, mean±SD (range): see group 1 Males %: NR Caucasian %: NR Diagnostic breakdown (n): see group 1 Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities (n): NR			
Sallee et al., 2000	Recruitment dates: NR	Enrolled: 28 Analyzed: 27 Completed: 24	Treatment duration: 8 wk Run-in phase: Yes Run-in phase duration: 4–8 wk	Benefits: CGI-TS, CYBOCS, YGTSS	Ziprasidone was well tolerated in children and
Country: USA	Study design: RCT		-	Harms: Akathisia,	adolscents with
	(parallel)	GROUP 1	Permitted drugs: NR	prolactin, prolactin-	Tourette syndrome,
Condition		N : 16	B	related AESAE,	and may also be an
category: Tic disorders	Setting: Outpatient/community	Age, mean±SD (range): 11.3 (7–14)	Prohibited drugs: NR	sedation, somnolence, total AE,	effective anti-tic medication.
013010613	Outpatient/community	Males %: 87.5	GROUP 1	WAE, weight change	medication.
Funding: Industry	Diagnostic criteria:	Caucasian %: NR	Drug name: Ziprasidone	trixe, noight change	
U ,	DSM-IV	Diagnostic breakdown	Dosing variability: variable		
Risk of bias:		(n): NR	Target dose (mg/day): NR		
Medium	Inclusion criteria: (1)	Treatment naïve (n): NR	Daily dose (mg/day), mean±SD		
(subjective),	7–17 yr, (2) DSM-IV dx	Inpatients (n): NR	(range): 28.2±9.6		
Medium (objective)	of Tourette syndrome or chronic tic disorder.	First episode psychosis (n): NR	Concurrent treatments: NR		
	with symptoms severe	Comorbidities: ADHD	GROUP 2		
	enough to warrant	(9), DBD (4), OCD (10; all	Drug name: Placebo		
	medication, (3) not	groups), learning disability	Dosing variability: variable		
	pregnant or breast	(2; all groups)	Target dose (mg/day): NR		
	feeding		Daily dose (mg/day), mean±SD		
		GROUP 2	(range): NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	Exclusion criteria: (1) secondary tic disorder, (2) DSM-IV criteria for major depression, PDD, autism, MR,	N: 12 Age, mean±SD (range): 11.8 (8–16) Males %: 66.7 Caucasian %: NR	Concurrent treatments: NR		
	anorexia nervosa/bulimia, substance abuse, or any psychotic disorder	Diagnostic breakdown (n): NR Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: ADHD			
		(6), DBD (1), OCD (10; all groups), learning disability (2; all groups)			
Sallee et al., 1997	Recruitment dates:	Enrolled: 22	Treatment duration: 6 wk	Benefits: CGAS,	Pimozide is superior
12	NR	Analyzed: 22	Run-in phase: Yes	CGI-S	to haloperidol for
Country: USA	Study design: RCT	Completed: 22	Run-in phase duration: >2 wk	Medication	controlling
Country. USA	(crossover)	GROUP 1	Permitted drugs: diphenhydramine	adherence, response	symptoms of Tourette syndrome
Condition	(610330761)	N: 22 (crossover)	hydrochloride	Harms: Akathisia,	in children and
category: Tic	Setting:	Age, mean±SD (range):	nyaroomonao	akinesia, behavioral	adolescents.
disorders	Outpatient/community	NR Males %: NR	Prohibited drugs: adjunctive treatment, anticholinergics,	issues, electrocardiovascular,	
Funding: Industry, Government	Diagnostic criteria: DSM-III-TR, K-SADS-P	Caucasian %: NR Diagnostic breakdown (n): NR	concomitant medications GROUP 1	EPS (AIMS, ESRS), prolactin, treatment limiting AE, WAE,	
Risk of bias: High (subjective), High	Inclusion criteria: (1) principal DSM-III-R dx	Treatment naïve (n): NR Inpatients (n): NR	Drug name: Haloperidol Dosing variability: variable	weight change	
(objective), riight	of Tourette syndrome;	First episode psychosis	Target dose (mg/day): NR		
(may have multiple Axis	(n): NR	Daily dose (mg/day), mean±SD		
	I and II dx, (2) 7–16 yr, 11 mo, (3) TSGS score >20, (4) previous	Comorbidities: ADHD (13), OCD (5)	(range): 3.5±2.2 (1–8) Concurrent treatments: NR		
	exposure to	GROUP 2	GROUP 2		
	neuroleptics permitted,	N: 22 (crossover)	Drug name: Pimozide		
	but treatment must	Age, mean±SD (range):	Dosing variability: variable		
	have been withdrawn	NR	Target dose (mg/day): NR		
	≥2 wk before baseline	Males %: NR	Daily dose (mg/day), mean±SD		
	Evolution exiteries (4)	Caucasian %: NR	(range): 3.4±1.6 (1–6)		
	Exclusion criteria: (1) chronic motor tic	Diagnostic breakdown (n): NR	Concurrent treatments: NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	disorder or transient tic	Treatment naïve (n): NR	GROUP 3		
	disorder, (2) serious	Inpatients (n): NR	Drug name: Placebo		
	medical illness, (3)	First episode psychosis	Dosing variability: variable		
	abnormal ECG, (4)	(n): NR	Target dose (mg/day): NR		
	inability to perform required	Comorbidities: see G1	Daily dose (mg/day), mean±SD (range): NR		
	measurements, (5) use	GROUP 3	Concurrent treatments: NR		
	of concurrent	N: 22 (crossover)			
	medication that may	Age, mean±SD (range):			
	alter or interact with	NR			
	haloperidol or	Males %: NR			
	pimozide, (6) history of	Caucasian %: NR			
	drug or alcohol abuse,	Diagnostic breakdown			
	(7) autism or childhood	(n): NR			
	schizophrenia	Treatment naïve (n): NR			
		Inpatients (n): NR			
		First episode psychosis			
		(n): NR			
		Comorbidities: see G1			
Sallee et al., 1994	Recruitment dates:	Enrolled: 41	Treatment duration: 6 wk	Benefits: CBCL-	The effect of
71	NR	Analyzed: 41	Run-in phase: No	TRF, cognitive (CPT,	pimozide treatmen
		Completed: NR	Run-in phase duration: NR	MST)	on cognition was
Country: USA	Study design: RCT				superior to
	(parallel)	GROUP 1	Permitted drugs: NR	Harms: NR	haloperidol in
Condition		N: 17			children with
category: Tic	Setting:	Age, mean±SD (range):	Prohibited drugs: NR		Tourette syndrome
disorders	Outpatient/community	10.4			with comorbid
		Males %: NR	GROUP 1		ADHD.
Funding:	Diagnostic criteria:	Caucasian %: NR	Drug name: Haloperidol		
Foundation	DSM-III-TR, TSGS	Diagnostic breakdown	Dosing variability: fixed		
		(n): NR	Target dose (mg/day): NR		
Risk of bias:	Inclusion criteria: (1)	Treatment naïve (n): NR	Daily dose (mg/day), mean±SD		
Medium	consecutive outpatient	Inpatients (n): NR	(range): 1.5±0.6		
(subjective),	children who met	First episode psychosis	Concurrent treatments: NR		
Medium (objective)	DSM-III-R criteria for	(n): NR			
	Tourette syndrome and	Comorbidities: ADHD (6)	GROUP 2		
	severity criteria using		Drug name: Pimozide		
	the TSGS	GROUP 2	Dosing variability: fixed		
	Freelanding outlening	N: 24	Target dose (mg/day): NR		
	Exclusion criteria:	Age, mean±SD (range):	Daily dose (mg/day), mean±SD		
	NR	10.8	(range): 3.7±1.4		
		Males %: NR	Concurrent treatments: NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Caucasian %: NR			
		Diagnostic breakdown			
		(n): NR			
		Treatment naïve (n): NR			
		Inpatients (n): NR			
		First episode psychosis			
		(n): NR Comorbidities: ADHD (7)			
Savitz et al., 2015	Recruitment dates:	Enrolled: 228	Treatment duration: 8wk acute, 18	Benefits: PANSS,	Palirperidone ER did
74	November 2009 to	Analyzed: 226	wk maintenance	maintenance of	not demonstrate
	June 2012	Completed: 174	Run-in phase: Yes	stability, CGI-S,	superiority to
Country: India,			Run-in phase duration: ≤3 wks	response	aripiprazole in
Romania, Russia,	Study design: RCT	GROUP 1	•		treating adolescent
Slovakia, Spain,	(parallel)	N: 112	Permitted drugs: antidepressants,	Harms: AIMS, BAS,	schizophrenia.
Ukraine, and the	u ,	Age, mean±SD (range):	certain benzodiazepines, and non-	SAS, any AE, C-	•
United States	Setting: Inpatient and	15.2±1.5	benzodiazepine hypnotics;	SSRS, prolactin,	
	outpatient	Males %: 65	anticholinergics, topical antifungal	weight, ECG,	
Condition		Caucasian %: 75	agents, antihistamines, anti-	glucose, insulin, lipids	
category:	Diagnostic criteria:	Treatment naïve (n): 13	inflammatory drugs except systemic		
Schizophrenia and	DSM-IV	Inpatients (n): 70 (at	corticosteroids, histamine-2 (H2)		
related		screening)	blockers, and rescue medications		
	Inclusion criteria: (1)	First episode psychosis	for the treatment of restlessness,		
Funding: Industry	12-17 yr, (2) body weight ≥ 29kg, (3)	(n): 0	agitation, insomnia, or extrapyra- midal symptoms		
Risk of bias:	diagnosis of	GROUP 2			
Medium	schizophrenia ≥1yr, (4)	N: 114	Prohibited drugs: antipsychotics,		
(subjective),	Positive and Negative	Age, mean±SD (range):	psychostimulants or other dopamine		
Medium (objective)	Symptom Score	15.4±1.5	agonists, certain sedatives		
	(PANSS) total	Males %: 67	(including barbiturates), hypnotics,		
	score of 60 to 120	Caucasian %: 77	or anxiolytics, mood stabilizers or		
	(inclusive) at screening, (5) ≥1 prior	Treatment naïve (n): 11 Inpatients (n): 68 (at	anticonvulsants, electroconvulsive therapy, inhibitors or inducers of		
	adequate treatment	screening)	CYP3A4 or CYP2D6		
	with antipsychotic	First episode psychosis	CTF3A4 0I CTF2D0		
	medication, (6)	(n): 0	GROUP 1		
	clinician belief that	(1): 0	Drug name: Paliperidone ER		
	suboptimnal current		Dosing variability: variable		
	treatment		Target dose (mg/day): 6 mg		
			per day [days 1–7], flexibly dosed 3,		
	Exclusion criteria: (1)		6, or 9mg per day from day 8 to		
	diagnosis of BD, MDD,		end of study [EOS]		
	schizoaffective		Daily dose (mg/day), mean±SD		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	disorder,		(range): 6.75±1.8		
	schizophreniform		Concurrent treatments: anti-EPS		
	disorder, ASD, MR,		medications or antihistamines (26%)		
	primary substance-				
	induced psychotic		GROUP 2		
	disorder, dissociative		Drug name: Aripiprazole		
	disorder or SUD in		Dosing variability: variable		
	3 months before		Target dose (mg/day): 2 mg per		
	screening, (2) history		day ([days 1 and 2], 5 mg per day		
	of seizure disorder,		[days 3 and 4], 10 mg per day [days		
	neuroleptic malignant		5–7], flexibly dosed 5, 10, or 15 mg		
	syndrome,		per day from day 8 to EOS		
	encephalopathic		Daily dose (mg/day), mean±SD		
	syndrome, tardive		(range): 11.6±3.0		
	dyskinesia, or insulin-		Concurrent treatments: anti-EPS		
	dependent diabetes		medications or antihistamines (25%)		
	mellitus, (3) receiving				
	clozapine (2 months				
	before screening), (4)				
	depot antipsychotic				
	therapy within 2				
	treatment cycles				
	before screening, or				
	electroconvulsive				
	therapy (3 months				
	before baseline visit),				
	(5) sexually				
	nonabstinent girls who				
	were pregnant,				
	nursing, or of				
Cookill at -1, 0000	childbearing capacity.		Treatment durations 0 with	Banafita, COLL	Fou about to we
Scahill et al., 2003	Recruitment dates:	Enrolled: 26	Treatment duration: 8 wk	Benefits: CGI-I,	For short-term
	NR	Analyzed: 26	Run-in phase: Yes	YGTSS	treatment of tics in
Country	Study design: DOT	Completed: NR	Run-in phase duration: 1–2 wk	Response	children, risperidone
Country: USA	Study design: RCT		D ermitted druge ND	Harmo	appeared to be safe
Condition	(parallel)	GROUP 1 N: 12	Permitted drugs: NR	Harms:	and effective.
	Sotting	···· ·=	Prohibited drugs: ND	Weight, EPS, social	
category: Tic	Setting:	Age, mean±SD (range):	Prohibited drugs: NR	phobia	
disorders	Outpatient/community	11.1 (2.20) yrs (whole			
	Diagnastia aritaria:	pediatric sample)	GROUP 1		
Funding: Industry,	Diagnostic criteria:	Males %: 96% (whole	Drug name: Risperidone		
Government	DSM-IV, joint parent	pediatric sample)	Dosing variability: variable		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Risk of bias: Medium (subjective), Medium (objective)	and child interview Inclusion criteria: (1) 7–65 yr, (2) Tourette syndrome (DSM-IV), (3) Total Tic score ≥22 on the YGTSS Exclusion criteria: (1) evidence of current major depression, GAD, separation anxiety disorder, or psychotic symptoms (clinical evaluation or DSM-IV), (2) WISC age-appropriate IQ <70, (3) prior adequate trial of risperidone (dose ≥1.0 mg/day for ≥2 wk), (4) psychotropic medication within 2 wk, (5) significant medical problem, (6) moderate or greater obsessive- compulsive symptoms (YBOCS>15)	Caucasian %: NR Diagnostic breakdown (n): NR Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: ADHD (11), MR (0), OCD (4) GROUP 2 N: 14 Age, mean±SD (range): See group 1 Males %: see group 1 Caucasian %: NR Diagnostic breakdown (n): NR Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: see group 1	Target dose (mg/day): 3 Daily dose (mg/day), mean±SD (range): 2.5±0.9 Concurrent treatments: NR GROUP 2 Drug name: Placebo Dosing variability: variable Target dose (mg/day): 3 Daily dose (mg/day), mean±SD (range): 3.3±0.9 Concurrent treatments: NR		
Schneider et al., 2012 ⁷⁶	Recruitment dates: NR	Enrolled: 23 Analyzed: 17 Completed: 11	Treatment duration: 4 wk Run-in phase: Yes Run-in phase duration: NR	Benefits: YMRS, response, medication adherence	Further research is needed to determine whether
Country: USA	Study design: RCT (parallel)	GROUP 1	Permitted drugs: NR	Harms: NR	treatment related increases in ventral
Condition category: Bipolar I manic, mixed)	Setting: NR	N: 14 Age, mean±SD (range): 14.7±2.3 yr	Prohibited drugs: NR		prefrontal activation are associated with improvements in
unding: Industry	Diagnostic criteria: DSM-IV-TR, K-SADS- PL	Males %: 64 Caucasian %: 86 Diagnostic breakdown	GROUP 1 Drug name: Ziprasidone Dosing variability: variable		sustained attention and other executive function domains, if
Risk of bias: High subjective), High objective)	Inclusion criteria: (1) 10-17 yr, (2) DSM-IV-	(n): mixed (9) Treatment naïve (n): see below	Target dose (mg/day): ≥45kg: 120- 160, <45kg: 60-80 Daily dose (mg/day), mean±SD		there are difference in patterns of change patients

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	TR bipolar I disorder confirmed with K- SADS-PL, (3) YMRS score ≥16 at both screening and baseline Exclusion criteria: (1) dx of substance abuse or dependence in the previous month for any substance other than nicotine or caffeine, (2) being clinically stable on a well-tolerated treatment regimen, (3) prior treatment with ziprasidone, a known allergy to ziprasidone, or a serious suicidal risk, (4) any history of head injury resulting in loss of consciousness for > 10 minutes, or any unstable medical or neurological disorder.	Inpatients (n): NR First episode psychosis (n): NR Comorbidities: ADHD (3) GROUP 2 N: 9 Age, mean±SD (range): 14.5±2.2 yr Males %: 22 Caucasian %: 89 Diagnostic breakdown (n): mixed (9) Treatment naïve (n): see below Inpatients (n): NR First episode psychosis (n): NR Comorbidities: ADHD (7) Overall Treatment naïve (n): 7	(range): 20 [initial dose] Concurrent treatments: all groups: benztropine (1), lorazepam (1) GROUP 2 Drug name: Placebo Dosing variability: NR Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): NR Concurrent treatments: NR		experiencing manic versus mixed episodes, as well as to investigate whether functional alterations in specific regions of ventral prefrontal cortex may be useful as specific biomarkers of ziprasidone response in patients with mania.
Sehgal et al., 1999	Recruitment dates: Oct 1993 to Nov 1995	Enrolled: 10 Analyzed: 10 Completed: 8	Treatment duration: 8 mo Run-in phase: Yes Run-in phase duration: 4 mo	Benefits: Response	In children with Tourette syndrome, longer term
Country: USA	Study design: RCT (parallel)	GROUP 1 N: 4	Permitted drugs: NR	Harms: Tardive dyskinesia, sedation	treatment with pimozide appears to
category: Tic disorders	Setting: NR Diagnostic criteria:	N: 4 Age, mean±SD (range): NR Males %: NR	Prohibited drugs: antidepressants, benzodiazepines, clonidine, stimulants (washout ≥2 wk prior to		be more effective on the course of tics than a short-term course of the drug
Funding: Industry, Government,	DSM-III-TR	Caucasian %: NR Diagnostic breakdown	enrolment)		used to suppress an acute exacerbation
Foundation Risk of bias:	Inclusion criteria: (1) DSM-III-R diagnostic criteria for Tourette	(n): NR Treatment naïve (n): all Inpatients (n): NR	GROUP 1 Drug name: Pimozide (short-term) Dosing variability: variable		of tics.
Medium (subjective), NA	syndrome at participating medical	First episode psychosis (n): NR	Target dose (mg/day): NR Daily dose (mg/day), mean±SD		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
(objective)	centers	Comorbidities (n): NR	(range): 3. 8 (2–6) Concurrent treatments: NR		
	Exclusion criteria:	GROUP 2			
	NR	N: 6	GROUP 2		
		Age, mean±SD (range):	Drug name: Pimozide (long-term)		
		NR	Dosing variability: variable		
		Males %: NR	Target dose (mg/day): NR		
		Caucasian %: NR	Daily dose (mg/day), mean±SD		
		Diagnostic breakdown	(range): 3.5 (1–7)		
		(n): NR	Concurrent treatments: NR		
		Treatment naïve (n): all Inpatients (n): NR			
		First episode psychosis			
		(n): NR			
		Comorbidities (n): NR			
Shaw et al., 2006	Recruitment dates:	Enrolled: 25	Treatment duration: 8 wk	Benefits: BPRS-24,	Clozapine had a
78	Jan 1998 to June 2005	Analyzed: 25	Run-in phase: Yes	CGI-S, SANS, SAPS,	more favorable
		Completed: 24	Run-in phase duration: 3 wk	response	profile of clinical
Country: USA	Study design: RCT				response and
	(parallel)	GROUP 1	Permitted drugs: NR	Harms: Behavioral	adverse events than
Condition		N : 12		issues, blood cells,	olanzapine.
category:	Setting: Inpatient	Age, mean±SD (range):	Prohibited drugs: NR	blood pressure,	
Schizophrenia and	Diagnastia sritaria.	11.7±2.3	GROUP 1	constipation,	
related	Diagnostic criteria: DSM-IV, K-SADS,	Males %: 66.7 Caucasian %: 58.3	Drug name: Clozapine	dermatologic AE, ECG changes,	
Funding: NR	medical and school	Treatment naïve (n): 0	Dosing variability: variable	STESS, AIMS, SAS,	
runung. m	record review,	Inpatients (n): all	Target dose (mg/day): NR	lipid profile, seizure,	
Risk of bias:	interview with child and	First episode psychosis	Daily dose (mg/day), mean±SD	sleepiness,	
Medium	parents	(n): 0	(range): 327±113 (150–500)	somnolence,	
(subjective),		Comorbidities: ADHD	Concurrent treatments:	tachycardia, weight	
Medium (objective)	Inclusion criteria: (1)	(4), anxiety disorders (6),	diphenhydramine hydrochloride (4),	change, BMI change	
	schizophrenia with	MR (0)	guanfacine hydrochloride (1),		
	definite onset of		lorazepam (2), sedatives (4), ≤4 hr		
	symptoms ≤13 yr , (2)	GROUP 2	specialized education, recreational		
	IQ >70, (3) no history	N: 13	and occupational therapy		
	of progressive	Age, mean±SD (range):	CPOUP 2		
	neurological or medical disorders, (4) failure to	12.8±2.4 Males %: 53.8	GROUP 2 Drug name: Olanzapine		
	respond to 2	Caucasian %: 53.8	Dosing variability: variable		
	antipsychotic	Treatment naïve (n): 0	Target dose (mg/day): NR		
	medications (typical or	Inpatients (n): all	Daily dose (mg/day), mean±SD		
	atypical) used at	First episode psychosis	(range): 18.1±4.3		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	adequate doses (>100 mg chlorpromazine equivalents) and for adequate duration (>4 wk unless terminated owing to intolerable adverse effects)	(n): 0 Comorbidities: ADHD (3), anxiety disorders (1), MR (0)	Concurrent treatments: clomipramine hydrochloride (1), diphenhydramine hydrochloride (6), lorazepam (3), sedatives (3), valproate sodium (2), ≤4 hr specialized education, recreational and occupational therapy		
	Exclusion criteria: (1) nonresponse to an adequate trial of olanzapine or clozapine (8 wk of olanzapine at 20 mg/d or of clozapine at 200 mg/d)				
Shea et al., 2004 79	Recruitment dates:	Enrolled: 80	Treatment duration: 8 wk	Benefits: ABC,	In children with
	NR	Analyzed: 79	Run-in phase: No	NCBRF, VAS-MS	ASD, risperidone
Country: Canada	C tudu designs DOT	Completed: 72	Run-in phase duration: NR	Response (ABC-I,	was well tolerated
Condition	Study design: RCT	GROUP 1	Permitted druge antichelinergies	CGI-C)	and efficacious in the treatment of
category: ASD	(parallel)	N: 41	Permitted drugs: anticholinergics, anticonvulsants and/or medications	Harms: Anorexia,	autism associated
calegoly. ADD	Setting:	Age, mean±SD (range):	for sleep or anxiety (constant dose	behavioral issues,	behavioral
Funding: Industry	Outpatient/community	7.6±0 (5–12)	≥30 days before enrolment),	blood pressure,	symptoms.
anding. madoliy	Oupatient/commanity	Males %: 72.5	medications for preexisting organic	constipation, EPS	Symptoms.
Risk of bias:	Diagnostic criteria:	Caucasian %: NR	disorders	(ESRS), fatigue,	
Medium	DSM-IV	Diagnostic breakdown		hyperkinesias, pulse,	
(subjective),	20000	(n): Asperger's disorder	Prohibited drugs: α-2 antagonists,	SAE, somnolence,	
Medium (objective)	Inclusion criteria: (1)	(5), autistic disorder (27),	antidepressants, antipsychotics,	tachycardia, tardive	
	physically healthy	childhood disintegrative	cholinesterase inhibitors, clonidine,	dyskinesia, total AE,	
	outpatients, (2) 5–12	disorder (1), PDD NOS	guanfacine, lithium, naltrexone,	WAE, weight change	
	yr, (3) DSM-IV Axis I	(7), Rett disorder (0)	psychostimulants		
	dx of PDD, (4) a total	Treatment naïve (n): NR			
	score >30 on the	Inpatients (n): NR	GROUP 1		
	CARS with or without	First episode psychosis	Drug name: Risperidone		
	MR	(n): NR Comorbidities: MR (15)	Dosing variability: variable Target dose (mg/day): NR		
	Exclusion criteria: (1)	Comorbiances. Witt (15)	Daily dose (mg/day), mean±SD		
	patients with	GROUP 2	(range): 1.2		
	schizophrenia, other	N: 39	Concurrent treatments: analgesics		
	psychotic disorders,	Age, mean±SD (range):	(15), anti-asthmatics (6), antibiotics		
	clinically relevant	7.3±0 (5–12)	(5), anticholinergics (3), cough and		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	nonneurologic disease,	Males %: 82.1	cold preparations (10),		
	clinically significant	Caucasian %: NR	sedatives/hypnotics (11)		
	laboratory	Diagnostic breakdown			
	abnormalities, or a	(n): Asperger's disorder	GROUP 2		
	seizure disorder for	(7), autistic disorder (28), childhood disintegrative	Drug name: Placebo Dosing variability: variable		
	which they were receiving >1	disorder (0), PDD NOS	Target dose (mg/day): NR		
	anticonvulsant or if	(4), Rett disorder (0)	Daily dose (mg/day), mean±SD		
	they had had a seizure	Treatment naïve (n): NR	(range): NR		
	in the last 3 mo, (2)	Inpatients (n): NR	Concurrent treatments:		
	history of	First episode psychosis	analgesics (7), anti-asthmatics (4),		
	hypersensitivity to	(n): NR	antibiotics (5), anticholinergics (1),		
	neuroleptics, tardive	Comorbidities: MR (12)	cough and cold preparations (4),		
	dyskinesia, NMS, drug		sedatives/hypnotics (9)		
	or alcohol abuse, or				
	HIV infection, (3) used				
	risperidone in the last 3				
	mo or previously				
	unresponsive or				
	intolerant to risperidone, (4) using a				
	prohibited medication				
Sikich et al., 2008	Recruitment dates:	Enrolled:116	Treatment duration: 8 wk (10.1 mo	Benefits: BPRS-C,	Rispiridone and
81	Feb 2002 to May 2006	Analyzed: NR	extension)	CGI-I, CGI-S,	olanzapine failed to
	-	Completed: 70	Run-in phase: Yes	CAFAS, PANSS,	show superior
Country: USA	Study design: RCT		Run-in phase duration: 2 wk	medication	efficacy over
	(parallel)	GROUP 1		adherence, response,	molindone in the
Condition		N: 41	Permitted drugs: antidepressants	suicide	treatment of early-
category:	Setting: Inpatient and	Age, mean±SD (range):	or non-antipsychotic mood		onset schizophrenia
Schizophrenia and	outpatient	NR	stabilizers (≥4 wk prior to study	Harms: Akathisia,	and schizoaffective
related	Diagnastia sritaria.	Males %: 57.5	entry); anticholinergics,	behavioral issues,	disorder.
Funding:	Diagnostic criteria: DSM-IV, KID-SCID	Caucasian %: 70 Diagnostic breakdown	benzodiazepines, propranolol (concomitant); thymoleptics	blood pressure, BMI, constipation,	
Government		(n): schizoaffective	(maintenance phase)	dystonia, ECG	
Coveninent	Inclusion criteria: (1)	disorder (14),	(maintenance phase)	changes, SAS, BAS,	
Risk of bias: Low	8–19 yr (30% or fewer	schizophrenia (26)	Prohibited drugs: NR	AIMS, EPS, glucose,	
(subjective), Low	16 or older), (2) DSM-	Treatment naïve (n): 16		homeostasis, insulin,	
(objective)	IV dx of schizophrenia,	Inpatients (n): 4	GROUP 1	lipid profile, liver	
· · /	schizoaffective	First episode psychosis	Drug name: Molindone	function, prolactin,	
	disorder, or	(n): 35	Dosing variability: variable	prolactin-related AE,	
	schizophreniform	Comorbidities: ADHD	Target dose (mg/day): 140	pulse, SAE, sedation,	
	disorder with current	(12), affective disorder (9),	Daily dose (mg/day), mean±SD	tardive dyskinesia,	

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	positive psychotic	anxiety disorder (6), ASD	(range): 59.9±33.5 (10–140)	total AE, WAE,	
	symptoms of at least	(2), DBD (4), learning	Concurrent treatments:	weight change	
	moderate intensity,	disability (7), MR (0), none	antidepressants (4),		
	(PANSS or BRRS-C),	(14), psychosis (7), SA (4)	benzodiazepines (39%), mood		
	(3) good physical		stabilizers (3), propranolol (13%),		
	health, (4) able to	GROUP 2	benzotropine (45%)		
	provide informed	N: 36			
	consent and guardian's	Age, mean±SD (range):	GROUP 2		
	written informed	NR	Drug name: Olanzapine		
	consent	Males %: 71.4	Dosing variability: variable		
	Consent				
		Caucasian %: 60	Target dose (mg/day): 20		
	Exclusion criteria: (1)	Diagnostic breakdown	Daily dose (mg/day), mean±SD		
	premorbid dx of MR,	(n): schizoaffective	(range): 11.4±5 (2.5–20)		
	(2) current major	disorder (13),	Concurrent treatments:		
	depressive episode,	schizophrenia (22)	antidepressants (4),		
	active substance	Treatment naïve (n): 13	benzodiazepines (20%),		
	abuse, (3) history of	Inpatients (n): 2	benztropine (14%), mood stabilizers		
	intolerance or	First episode psychosis	(2), propranolol (11%)		
	nonresponse to any of	(n): 33			
	the study treatments	Comorbidities: ADHD	GROUP 3		
	during a prior episode,	(13), affective disorder (7),	Drug name: Risperidone		
	(4) history of	anxiety disorder (9), ASD	Dosing variability: variable		
	successful use of the	(2), DBD (6), learning	Target dose (mg/day): 6		
	study treatments	disability (1), MR (0), none	Daily dose (mg/day), mean±SD		
	during the current	(17), psychosis (4), SA (2)	(range): 2.8±1.4 (0.5–6)		
	episode (≥8 wk of		Concurrent treatments:		
	treatment, including ≥ 2	GROUP 3	antidepressants (5),		
	wk at the maximal	N: 42	benzodiazepines (41%),		
	dose allowed in the	Age, mean±SD (range):	benztropine (34%) , mood stabilizers		
	current study), (5)	NR	(4), propranolol (7%)		
	imminent risk of	Males %: 65.9			
	harming themselves or	Caucasian %: 61			
	others, (6) bipolar	Diagnostic breakdown			
	disorder, primary	(n): schizoaffective			
	PTSD, primary	disorder (13),			
	personality disorder, or	schizophrenia (28)			
	psychosis NOS (dx by	Treatment naïve (n): 9			
	clinician, confirmed by	Inpatients (n): 6			
	KID-SCID), (7)	First episode psychosis			
	endocrinological or	(n) : 40			
	neurological conditions	Comorbidities: ADHD			
	that confound the dx or	(9), affective disorder (12),			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	are a contraindication	anxiety disorder (12), ASD			
	to treatment, (8)	(3), DBD (10), learning			
	pregnancy or refusal to	disability (2), MR (0), none			
	practice contraception during the study, (9)	(15), psychosis (6), SA (2)			
	use of a depot				
	antipsychotic within the				
	past 6 mo				
Sikich et al., 2004	Recruitment dates:	Enrolled: 50	Treatment duration: 8 wk	Benefits: BPRS-C,	Risperidone and
80	Nov 1997 to May 2001	Analyzed: 50	Run-in phase: Yes	CPRS, CGI-I, CGI-S,	olanzapine were
		Completed: 32	Run-in phase duration: 1–2 wk	response, medication	effective in acutely
Country: USA	Study design: RCT			adherence	reducing symptoms
Condition	(parallel)	GROUP 1	Permitted drugs: amantadine (200	Llermen Mithelmourel	in psychotic youth.
Condition category:	Satting: Inpatient and	N: 15 Age, mean±SD (range):	mg/day), antidepressants and mood stabilizers (if taken ≥4 wk preceding	Harms: Withdrawal	
Schizophrenia and	Setting: Inpatient and outpatient	Age, mean±3D (range). 15.4±2.2	study entry or if clinically significant	due to AEs, akathisia, BMI, constipation,	
related	Diagnostic criteria:	Males %: 53	affective symptoms persisted after 4	dermatolodic AE,	
Telated	DSM-IV, K-SADS-P	Caucasian %: 73	wk of study treatment), benztropine	dystonia, ECG	
Funding: Industry,		Diagnostic breakdown	(1-3 mg/day), lorazepam $(0.5-3)$	changes, EPS, SAS,	
Government,	Inclusion criteria: (1)	(n): affective disorders (7),	mg/day), propranolol (20–60	AIMS, tardive	
Foundation	≥1 positive psychotic	schizophrenia spectrum	mg/day), trihexyphenidyl (4–6	dyskinesias, glucose,	
	symptom of moderate	(8)	mg/day)	lipid profile, prolactin,	
Risk of bias: High	or greater severity on	Treatment naïve (n): 3		prolactin-related AE,	
(subjective), High	the BPRS-C, present	Inpatients (n): 10	Prohibited drugs: NR	sedation, WAE,	
(objective)	throughout the past 2	First episode psychosis		weight changes,	
	wk, (2) full scale IQ	(n): 12	GROUP 1 Drug name: Haloperidol	white blood cells	
	>69, (3) patients with current or recent dx of	GROUP 2	Dosing variability: variable		
	ADHD, Tourette	N: 16	Target dose (mg/day): 1–5		
	syndrome, OCD, or a	Age, mean±SD (range):	Daily dose (mg/day), mean±SD		
	history of substance	14.6±3.1	(range): 5±2 (1–5)		
	abuse or dependence	Males %: 56	Concurrent treatments:		
	were allowed to	Caucasian %: 63	amantadine (1),		
	participate only if their	Diagnostic breakdown	benztropine/trihexyphenidyl (7),		
	psychotic symptoms	(n): affective disorders	buproprion (4), citalopram (1),		
	were not better	(11), schizophrenia	gabapentin (1), lithium (1),		
	accounted for by the comorbid disorder	spectrum (5) Treatment naïve (n): 8	lorazepam (3), paroxetine (1), sertraline (3), valproate (2),		
		Inpatients (n): 12	venlaflaxine (3), vaproate (2),		
	Exclusion criteria: (1)	First episode psychosis	residential treatment (9)		
	psychotic symptoms	(n): 12			
	resulting from acute	(··/· · -	GROUP 2		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	substance intoxication or withdrawal, (2) history of serious adverse reactions or nonresponse to an adequate trial of any of the study medications during this psychotic episode, (3) prior dx of PDD or a serious medical or neurological disorder, (4) pregnancy or refusal to practice contraception, (5) imminent risk in current setting to harm self or others	GROUP 3 N: 19 Age, mean±SD (range): 14.6±2.9 Males %: 68 Caucasian %: 47 Diagnostic breakdown (n): affective disorders (6), schizophrenia spectrum (13) Treatment naïve (n): 2 Inpatients (n): 15 First episode psychosis (n): 15	Drug name: Olanzapine Dosing variability: variable Target dose (mg/day): 2.5–12.5 Daily dose (mg/day), mean±SD (range): 12.3±3.5 (2.5–12.5) Concurrent treatments: benztropine/trihexyphenidyl (5), buproprion (2), carbamazepine (1), fluoxetine (2), fluvoxamine (1), lithium (1), lorazepam (1), paroxetine (1), propranolol (2), sertraline (1), valproate (1), inpatient or residential treatment (10) GROUP 3 Drug name: Risperidone Dosing variability: variable Target dose (mg/day): 0.5–3 Daily dose (mg/day): 0.5–3 Daily dose (mg/day), mean±SD (range): 4±1.2 (0.5–3) Concurrent treatments: amantadine(2), benztropine/ trihexyphenidyl (4), citalopram (1), clomipramine (1), gabapentin with lamotrigine (1), lorazepam(2), propranolol (1), sertraline (2), trazadone (1), valproate (3), inpatient or residential treatment (11)		
Singh, 2011 ⁸² Country: Russia, India, Ukraine,	Recruitment dates: Jul 2007 to Mar 2009 Study design: RCT	Enrolled: 201 Analyzed: 200 Completed: 139	Treatment duration: 6 wk Run-in phase: Yes Run-in phase duration: ≤3 wk	Benefits: CGAS, CGI-S, PANSS, VAS- sleep, response rate, suicide, medication	The medium dose paliperidone ER group was statistically superior
United States, Romania	(parallel)	GROUP 1 N: 54	Permitted drugs: propranolol (for akathisia), antiparkinsonians	adherence	to the placebo group according to the
Condition category: Schizophrenia and	Setting: Hospitalization permitted for first 3 wks Diagnostic criteria:	Age, mean±SD (range): 15.1±1.5 Males %: 56 Caucasian %: 65 Treatment naïve (n): 7	(benzotropine, biperiden), lorazepam (rescue) Prohibited drugs: alcohol, antipsychotics, antidepressants,	Harms: Blood pressure, ECG changes, QTcLD, orthostatic	primary efficacy analysis by weight- based, fixed-dose treatment group. When analyzed by
related Funding: Industry	DSM-IV, K-SADS-PL	Inpatients (n): NR First episode psychosis	drugs of abuse, lithium, psychostimulants, anticonvulsants,	hypotension, NMS, tachycardia, glucose, insulin resistance,	actual dose group, all three doses of

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	Inclusion criteria: (1)	(n): 0	sedatives, cholinesterase inhiitors	prolactin levels,	paliperidone showed
Risk of bias: High	12–17 yr, (2) body			mortality, NMS,	improvement
(subjective),	weight ≥29 kg, (3)	GROUP 2	GROUP 1	serious AEs, seizure,	relative to placebo.
Medium (objective)	DSM-IV criteria for	N: 48	Drug name: Paliperidone ER (low)	total AE, WAE,	
	schizophrenia ≥1 yr	Age, mean±SD (range):	Dosing variability: fixed	weight change,	
	before screening and	15.3±1.6	Target dose (mg/day): 1.5 (all	glucose homeostasis,	
	history of at least 1	Males %: 65	weights)	AIMS, SAS	
	antipsychotic, (4)	Caucasian %: 71	Daily dose (mg/day), mean±SD		
	PANSS total score 60–	Treatment naïve (n): 4	(range): NR		
	120 (acute	Inpatients (n): NR	Concurrent treatments: anti-EPS		
	symptomatic), (5)	First episode psychosis	(2), benzodiazepines (13),		
	physically healthy based on medical	(n): 0	propranolol (1)		
	history, physical	GROUP 3	GROUP 2		
	examination, ECG, and	N: 48	Drug name: Paliperidone ER		
	laboratory test results	Age, mean±SD (range):	(medium)		
	2	15.5±1.6	Dosing variability: fixed		
	Exclusion criteria: (1)	Males %: 70	Target dose (mg/day): 3 (<51 kg),		
	dissociative disorder,	Caucasian %: 68	6 (≥51 kg)		
	BD, MDD,	Treatment naïve (n): 7	Daily dose (mg/day), mean±SD		
	schizoaffective	Inpatients (n): NR	(range): NR		
	disorder,	First episode psychosis	Concurrent treatments: anti-EPS		
	schizophreniform	(n): 0	(7), benzodiazepines (16),		
	disorder, ASD, or		propranolol (1)		
	primary substance	GROUP 4			
	induced psychotic	N: 51	GROUP 3		
	disorder (DSM-IV), (2)	Age, mean±SD (range):	Drug name: Paliperidone ER (high)		
	mild, moderate, or	15.7±1.4	Dosing variability: fixed		
	severe MR, (3)	Males %: 55	Target dose (mg/day): 6 (<51 kg),		
	pregnant, (4) known or	Caucasian %: 69	12 (≥51 kg		
	suspected history of	Treatment naïve (n): 3	Daily dose (mg/day), mean±SD		
	seizure disorder, NMS,	Inpatients (n): NR	(range): NR		
	encephalopathic	First episode psychosis	Concurrent treatments: anti-EPS		
	syndrome, tardive	(n): 0	(14), benzodiazepines (15),		
	dyskinesia, or insulin		propranolol (1)		
	dependent diabetes				
	mellitus, (5) presence		GROUP 4		
	of any significant or		Drug name: Placebo		
	unstable systemic		Dosing variability: fixed		
	disease, (6) clozapine		Target dose (mg/day): NR		
	in 2 months before		Daily dose (mg/day), mean±SD		
	treatment		(range): NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
			Concurrent treatments: anti-EPS		
			(0), benzodiazepines (19),		
			propranolol (0)		
Snyder et al., 2002	Recruitment dates:	Enrolled: 110	Treatment duration: 6 wk	Benefits: ABC, BPI,	Risperidone was
00	NR	Analyzed: 110	Run-in phase: Yes	CGI-I, CGI-S,	adequately tolerated
		Completed: 85	Run-in phase duration: 1 wk	NCBRF, VAS	and was effective in
Country: Canada,	Study design: RCT			Medication	treating children with
South Africa, USA	(parallel)	GROUP 1	Permitted drugs: stable doses (≥30	adherence	subaverage IQs and
O a m all (1 a m	Outline and large stiens to and	N: 53	days prior to study) of		severe disruptive
	Setting: Inpatient and	Age, mean±SD (range):	anticholinergics, antihistamines,	Harms: Anorexia,	behaviors.
category: ADHD	outpatient	8.6±0.3 (5–12)	chloral hydrate, medication for	behavioral issues,	
Funding:	Diagnostic criteria:	Males %: 77.4% Caucasian %: 78.8%	preexisting medical conditions, melatonin, psychostimulants	Bucco-linguo-	
Foundation	DSM-IV, VABS	Diagnostic breakdown	(comorbid ADHD)	masticatory score, BMI, ECG changes,	
Foundation	DSIVI-IV, VABS	(n): CD (3), CD/ADHD		EPS, fatigue,	
Risk of bias: High	Inclusion criteria: (1)	(16), Combined/No ADHD	Prohibited drugs: no other	parkinsonism,	
(subjective), High	CD, ODD, or DBD-	(9), ODD/ DBD (6),	medication permitted	prolactin, prolactin-	
(objective)	NOS (DSM-IV), (2)	ODD/DBD/ADHD (28)	medication permitted	related AE, pulse,	
(00)00110)	parent/ caregiver rating	Treatment naïve (n): NR	GROUP 1	SAE, somnolence,	
	≥24 on the Conduct	Inpatients (n): NR	Drug name: Risperidone	tardive dyskinesia,	
	Problem subscale of	First episode psychosis	Dosing variability: variable	total AE, WAE,	
	the NCBRF, (3) IQ 36-	(n): NR	Target dose (mg/day): NR	weight change	
	84 inclusive, (4) VABS	Comorbidities: ADHD	Daily dose (mg/day), mean±SD		
	score ≤84, (5) healthy	(44)	(range): 1±0.1 SE (0.4–3.8)		
	on the basis of a		Concurrent treatments: NR		
	pretrial physical	GROUP 2			
	examination, medical	N: 57	GROUP 2		
	history, and ECG, (6)	Age, mean±SD (range):	Drug name: Placebo		
	consent by parent/	8.8±0.3 (5–12)	Dosing variability: variable		
	caregiver, (7) 5–12 yr	Males %: 73.7%	Target dose (mg/day): NR		
		Caucasian %: 73.7%	Daily dose (mg/day), mean±SD		
	Exclusion criteria: (1)	Diagnostic breakdown	(range): NR		
	PDD, schizophrenia, or	(n): CD (7), CD/ADHD	Concurrent treatments: NR		
	other psychotic	(15), Combined/No ADHD			
	disorders, (2) head	(17), ODD/ DBD (10),			
	injury as a cause of	ODD/DBD/ADHD (25)			
	impaired IQ, (3) seizure condition	Treatment naïve (n): NR Inpatients (n): NR			
	requiring medication,	First episode psychosis			
	(4) females who were	(n): NR			
	sexually active without	Comorbidities: ADHD			
	a reliable form of birth	(40)			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	control, (5) serious or progressive illness or clinically abnormal laboratory values, (6) history of tardive dyskinesia, NMS, or hypersensitivity to any antipsychotic drug, (7) known presence of HIV, (8) previous				
	treatment with				
	risperidone				
Spencer et al., 1994 ⁸⁴	Recruitment dates: Sep 1989 to May 1991	Enrolled: 16 Analyzed: 16	Treatment duration: 8 wk Run-in phase: Yes	Benefits: BPRS-C, CGI-I, CGI-S, CPRS	Haloperidol improved the target
1994	Sep 1909 to May 1991	Completed: 16	Run-in phase duration: 2 wk		psychotic symptoms
Country: USA	Study design: RCT		····· - ···	Harms: Drowsiness,	in children with
	(crossover)	GROUP 1	Permitted drugs: NR	dystonia	schizophrenia.
Condition	Catting, Innotiont	N: 16 (crossover)	P robibited dwares ND		
category: Schizophrenia and	Setting: Inpatient	Age, mean±SD (range): NR	Prohibited drugs: NR		
related	Diagnostic criteria:	Males %: NR	GROUP 1		
	DSM-III-TR, DICA-R	Caucasian %: NR	Drug name: Haloperidol		
Funding: Industry,		Treatment naïve (n): NR	Dosing variability: variable		
Government	Inclusion criteria: (1)	Inpatients (n): NR First episode psychosis	Target dose (mg/day): NR Daily dose (mg/day), mean±SD		
Risk of bias:	actively psychotic prepubertal patients,	(n): NR	(range): 2 (0.5–3.5)		
Medium	(2) $5-11$ yr, (3)	(,	Concurrent treatments: NR		
(subjective),	admitted to the	GROUP 2			
Medium (objective)	Bellevue Hospital	N: 16 (crossover)	GROUP 2		
	Children's Inpatient Psychiatric Unit, (4)	Age, mean±SD (range): NR	Drug name: Placebo Dosing variability: variable		
	schizophrenia	Males %: NR	Target dose (mg/day): NR		
	oonizophionia	Caucasian %: NR	Daily dose (mg/day), mean±SD		
	Exclusion criteria: (1)	Treatment naïve (n): NR	(range): 2.5±0.5 (0.5–3.5)		
	intercurrent systemic	Inpatients (n): NR	Concurrent treatments: NR		
	illness, (2) seizure disorder, (3) MR below	First episode psychosis (n): NR			
	borderline, (4) tardive	(1). 1812			
	dyskinesia, (5) infantile				
	autism, (6) receipt of				
	psychoactive				
	medication within 4 wk				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	of double-blind treatment				
Stocks et al., 2012	Recruitment dates:	Enrolled: 78	Treatment duration: 8-11 wk (2-5	Benefits: NCBRF-	Molindone showed
85	October 2008 –	Analyzed: 78	wk titration, 6 wk maintenance)	TIQ, CGI-I, CGI-S,	clinical benefit with
	September 2009	Completed: 55	Run-in phase: Yes	SNAP-IV	an acceptable side-
Country: USA			Run-in phase duration: 2 wk		effect profile in this
	Study design: RCT	GROUP 1		Harms: Somnolence,	study. Preliminary
Condition	(parallel)	N: 20	Permitted drugs: methylphenidate,	metabolic effects,	efficacy results
category: ADHD		Age, mean±SD (range):	amphetamine, benzotropine	neuromotor effects,	suggest that
	Setting: outpatient	8.5±1.88 yr		infection, prolactin	molindone produces
Funding: Industry		Males %: 95%	Prohibited drugs: other	related events	dose-related
	Diagnostic criteria:	Caucasian %: 55%	antipsychotics, antidepressants,		behavioral
Risk of bias: High	K-SADS-PL, DSM-IV-	Diagnostic breakdown	hypnotics, anticonvulsants,		improvements over
(subjective), High	TR	(n): ADHD (20)	antihypertensives, antihistamines		9-12 weeks.
(objective)		Treatment naïve (n): NR			
,	Inclusion criteria: 6-	Inpatients (n): 0	GROUP 1		
	12 yr, ADHD with	First episode psychosis	Drug name: Molindone		
	persistent serious	(n): 0	hydrochloride		
	conduct problems (≥27	Comorbidities (n):	Dosing variability: Fixed		
	on DBD, ≥2 on	Asthma (5), CD (2),	Target dose (mg/day): <30 kg: 5		
	Conduct problem	Enuresis (4), Insomnia (1),	mg/day; ≥ 30 kg: 10 mg/day		
	subscale of NCBRF-	ODD (6), Seasonal	Daily dose (mg/day), mean±SD		
	TIQ for: knowingly	allergies (2)	(range): <30 kg: 5 mg/day; ≥ 30 kg:		
	destroys property, gets	0 ()	10 mg/day		
	in physical fights,	GROUP 2	Concurrent treatments: Stable		
	physically attacks	N: 19	dose of FDA approved		
	people. Weigh \geq 16kg,	Age, mean±SD (range):	psychostimulant (methylphenidate		
	$IQ \ge 71$, free of	9.4±1.98 yr	or amphetamine)		
	antipsychotics for at	Males %: 84.2%	. ,		
	least 2 weeks pre-	Caucasian %: 57.9%	GROUP 2		
	baseline, receiving	Diagnostic breakdown	Drug name: Molindone		
	stable dose of an FDA	(n): ADHD (19)	hydrochloride		
	approved	Treatment naïve (n): NR	Dosing variability: Fixed		
	psychostimulant for at	Inpatients (n): 0	Target dose (mg/day): <30 kg: 10		
	least 30 days pre-	First episode psychosis	mg/day; ≥ 30 kg: 20 mg/day		
	baseline, otherwise in	(n): 0	Daily dose (mg/day), mean±SD		
	good physical health	Comorbidities (n):	(range): <30 kg: 10 mg/day; ≥ 30		
		Asthma (3), CD (2),	kg: 20 mg/day		
	Exclusion criteria:	Eczema (3), Enuresis (3),	Concurrent treatments: Stable		
	Current or lifetime	Environmental allergies	dose of FDA approved		
	diagnosis of BP,	(1), Insomnia (2), ODD	psychostimulant (methylphenidate		
	PTSD, personality	(7), Seasonal allergies (1)	or amphetamine)		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	disorder, psychotic disorder, currently meeting diagnostic criteria for major depressive disorder, OCD, PDD or other AD as primary disorder	GROUP 3 N: 19 Age, mean±SD (range): 8.8±2.12 yr Males %: 68.4% Caucasian %: 42.1% Diagnostic breakdown (n): ADHD (19) Treatment naïve (n): Inpatients (n): First episode psychosis (n): 0 Comorbidities (n): Asthma (4), CD (3), Eczema (2), Enuresis (2), Environmental allergies (1), ODD (6) GROUP 4 N: 20 Age, mean±SD (range): 8.8±2.00 yr Males %: 95% Caucasian %: 65% Diagnostic breakdown (n): ADHD (20) Treatment naïve (n): NR Inpatients (n): 0 First episode psychosis (n): 0 Comorbidities (n): Asthma (1), CD (1), Eczema (1), Enuresis (3), Environmental allergies (2), Insomnia (2), ODD (7), Seasonal allergies (2)	GROUP 3 Drug name: Molindone hydrochloride Dosing variability: Fixed Target dose (mg/day): <30 kg: 15 mg/day; ≥ 30 kg: 30 mg/day Daily dose (mg/day), mean±SD (range): <30 kg: 15 mg/day; ≥ 30 kg: 30 mg/day Concurrent treatments: Stable dose of FDA approved psychostimulant (methylphenidate or amphetamine) GROUP 4 Drug name: Molindone hydrochloride Dosing variability: Fixed Target dose (mg/day): <30 kg: 20 mg/day; ≥ 30 kg: 40 mg/day Daily dose (mg/day), mean±SD (range): <30 kg: 20 mg/day; ≥ 30 kg: 40 mg/day Concurrent treatments: Stable dose of FDA approved psychostimulant (methylphenidate or amphetamine)		
Swadi et al., 2010	Recruitment dates: NR	Enrolled: 22 Analyzed: 22	Treatment duration: 6 wk Run-in phase: No	Benefits: BPRS, PANSS, response	Risperidone may be more beneficial that
Country: New	Study design: RCT	Completed: 22	Run-in phase duration: NR	(BPRS, CGI-S, HAM- D, PANSS, YMRS)	quetiapine for adolescent patients
Zealand	(parallel)	GROUP 1	Permitted drugs: NR		with bipolar disorde

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		N: 11		Harms: Blood	
Condition	Setting: Inpatient	Age, mean±SD (range):	Prohibited drugs: NR	pressure, SAS, BAS,	
category:		NR		AIMS, glucose, lipid	
Schizophrenia and	Diagnostic criteria:	Males %: 54.5	GROUP 1	profile, liver function,	
related	DSM-IV	Caucasian %: NR	Drug name: Quetiapine	prolactin, sedation,	
		Treatment naïve (n): 11	Dosing variability: variable	weight change	
Funding: Industry	Inclusion criteria: (1)	Inpatients (n): all	Target dose (mg/day): NR		
	<19 yr, (2) first obset	First episode psychosis	Daily dose (mg/day), mean±SD		
Risk of bias: High	psychotic disorder or a	(n): 11	(range): 607 (100–800)		
(subjective), High	mood disorder with	Comorbidties: SUD (0)	Concurrent treatments:		
(objective)	psychotic features		anticholinergics (1), cognitive		
		GROUP 2	behavioral therapy, family work,		
	Exclusion criteria: (1)	N: 11	activity-based interventions allowed		
	alcohol or substance	Age, mean±SD (range):			
	dependence not in full	NR Males %: 63.6	GROUP 2 Drug name: Risperidone		
	remission, (2) prior	Caucasian %: NR	Dosing variability: variable		
	treatment with atypical antipsychotic drugs	Treatment naïve (n): 11	Target dose (mg/day): NR		
	anupsycholic drugs	Inpatients (n): all	Daily dose (mg/day), mean±SD		
		First episode psychosis	(range): 2.9 (1.5–5)		
		(n): 11	Concurrent treatments:		
		Comorbidties: SUD (0)	anticholinergics (5), cognitive		
			behavioral therapy, family work,		
			activity-based interventions allowed		
Tohen et al., 2007	Recruitment dates:	Enrolled: 161	Treatment duration: 3 wk	Benefits: CDRS,	Olanzapine was
87	Nov 2002 to May 2005	Analyzed: 161	Run-in phase: Yes	CGI-BP (overall,	more effective in
	,	Completed: 120	Run-in phase duration: 2-14 day	mania, depression	treating adolescents
Country: Puerto	Study design: RCT	-		subscales), ADHS IV,	with bipolar mania
Rico, USA	(parallel)	GROUP 1	Permitted drugs: anticholinergics	OAS, YMRS	and placebo;
		N: 107	(2–6mg/day),	(total+item analysis),	however, it resulted
Condition	Setting: Inpatient and	Age, mean±SD (range):	benzodiazepines/hypnotics (≤2	HRQoL(subscales);	in significantly
category: Bipolar	outpatient	15.1±1.3	mg/day lorazepam equivalents for	Olsen 2012,	greater weight gain.
disorder		Males %: 57	≤3 consecutive days),	response, suicide	
	Diagnostic criteria:	Caucasian %: 66.4	psychostimulants (constant dose		
Funding: Industry	DSM-IV-TR, K-SADS-	Diagnostic breakdown	≥30 day prior to randomization and	Harms: Bipolar	
-	PL	(n): mixed (61), psychotic	through study)	exacerbation, blood	
Risk of bias:		features (22), rapid cycling		cells, blood pressure,	
Medium	Inclusion criteria: (1)	(25)	Prohibited drugs: anticholinergics	BMI, ECG changes,	
(subjective),	12–17 yr, (2) manic or	Treatment naïve (n): NR		EPS (AIMS, BAS,	
Medium (objective)	mixed bipolar episodes	Inpatients (n): NR	GROUP 1	SAS), glucose,	
	(with or without	First episode psychosis	Drug name: Olanzapine	hepatic enzyme, lipid	
	psychotic features), (3)	(n): NR	Dosing variability: variable	profile, mortality,	

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	inpatient or outpatient, (4) total score ≥20 on the Adolescent Structured YMRS	Comorbidities: ADHD (45), DBD (37) GROUP 2 N: 54	Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 8.9 (2.5–20) Concurrent treatments:	prolactin, prolactin- related AE, pulse, SAE, weight change	
	Exclusion criteria: (1) prior nonreponse to	Age, mean±SD (range): 15.4±1.2	anticholinergics (4.7%), benzodiazepines (12.1%)		
	olanzapine, (2) treatment within the previous 30 day with an experimental medication not	Males %: 44.4 Caucasian %: 75.9 Diagnostic breakdown (n): mixed (25), psychotic features (7), rapid cycling	GROUP 2 Drug name: Placebo Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD		
	available for clinical use, (3) suicide risk, (4) clinically significant abnormal laboratory values at baseline, (5) DSM-IV-TR substance dependence (excluding nicotine and caffeine) within the last 30 days, (6) treatment with long- lasting neuroleptic within 14 day prior to randomization	(5) Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities: ADHD (13), DBD (12)	(range): NR Concurrent treatments: anticholinergic medication (0), benzodiazepines (7.4%)		
Tramontina et al., 2009 ⁸⁸	Recruitment dates: Jan 2005 to Nov 2007	Enrolled: 43 Analyzed: 43 Completed: 41	Treatment duration: 6 wk Run-in phase: No Run-in phase duration: NR	Benefits: CDRS, CGI-S, CMRS-P, YMRS, medication	Aripiprazole was effective in decreasing mania
Country: Brazil	Study design: RCT (parallel)	GROUP 1	Permitted drugs: NR	adherence, response, suicide	symptoms and improving global
Condition category: Bipolar disorder	Setting: Outpatient/community	N: 18 Age, mean±SD (range): 11.7±2.7 Males %: 33	Prohibited drugs: NR GROUP 1	Harms: Akathisia, behavioral issues,	functioning without resulting in severe advserse events or
Funding: Industry, Government, Hospital	Diagnostic criteria: DSM-IV, K-SADS-E	Caucasian %: 83 Treatment naïve (n): ND Inpatients (n): 0	Drug name: Aripiprazole Dosing variability: variable Target dose (mg/day): NR	dermatologic AE, dyskinesia, EPS, fatigue, seizure, somnolence, weight	weight gain.
Risk of bias: Low (subjective), Low	Inclusion criteria: (1) 8–17 yr, (2) DSM IV bipolar I or II disorder	First episode psychosis (n): NR Comorbidities: ADHD	Daily dose (mg/day), mean±SD (range): 13.6±5.4 (5–20) Concurrent treatments: none	change	
(objective)	comorbid with ADHD, (3) clear reports of	(all), anxiety disorders (8), DBD (15), psychosis (8),	GROUP 2		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	ADHD symptom onset	SA (0)	Drug name: Placebo		
	preceding any mood		Dosing variability: variable		
	symptomology, (4)	GROUP 2	Target dose (mg/day): NR		
	acutely manic or mixed	N: 25	Daily dose (mg/day), mean±SD		
	states (YMRS score	Age, mean±SD (range):	(range): 15±3.2 (10–20)		
	≥20 at baseline visit)	12.2±2.8 Males %: 56	Concurrent treatments: none		
	Exclusion criteria: (1)	Caucasian %: 96			
	estimated IQ < 70	Treatment naïve (n): ND			
	(WISC-III), (2) use of	Inpatients (n): 0			
	any medication 4 wk	First episode psychosis			
	prior to entering the	(n): NR			
	study, (3) dx of PDD,	Comorbidities: ADHD			
	schizophrenia, or	(all), anxiety disorders			
	substance abuse or	(13), DBD (20), psychosis			
	dependence, (4)	(8), SA (0)			
	severe				
	suicide/homicide risk,				
	(5) previous use of				
	aripiprazole, (6) other				
	acute or chronic				
	diseases, (7)				
Traget et al. 2005	pregnancy Recruitment dates:	Enrolled: 24	Treatment duration: 6 mo	Benefits: ABC (sub	Risperidone was
Troost et al., 2005					
	NR	Analyzed: 24 Completed: NR	Run-in phase: Yes Run-in phase duration: 1–4 wk	scores), CGI, VAB, cognitive (focused	effective in reducing disruptive behavior
Country	Study design, DCT	Completed: NR	Run-in phase duration: 1–4 wk	č	
Country: Netherlands	Study design: RCT	GROUP 1	Dermitted druges enticentry	and divided attention	in about half of children with ASD.
Nethenands	(parallel)	N: 12	Permitted drugs: anticonvulsants (stable dose for ≥4 wk and patient	task), response	children with ASD.
Condition	Setting: Inpatient and	Age, mean±SD (range):	seizure-free for ≥ 6 mo), stimulants	(relapse)	
	•	9.4±3.4	(comorbid ADHD)	Harms: Dyskinesia	
category: ASD	outpatient	9.4±3.4 Males %: 91.6		(SAS, AIMS)	
Funding: Industry,	Diagnostic criteria:	Caucasian %: 100	Prohibited drugs: psychotropics		
Foundation	DSM-IV-TR, ADI-R	Diagnostic breakdown	rionibiled drugs. psycholiopics		
	DOMENTER, ADER	(n): Asperger's disorder	GROUP 1		
Risk of bias: Low	Inclusion criteria: (1)	(1), autistic disorder (3),	Drug name: Risperidone		
(subjective), Low	DSM-IV-TR criteria for	PDD NOS (8)	Dosing variability: variable		
(objective), Low	PDD, (2) demonstrated	Treatment naïve (n): 11	Target dose (mg/day): NR		
(00)00000	clinically significant	Inpatients (n): NR	Daily dose (mg/day), mean±SD		
		First episode psychosis	(range): 1.9+0.7		
	tantrums, aggression, self-injurious behavior,	First episode psychosis (n): NR	(range): 1.9±0.7 Concurrent treatments: stimulants		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Study	these, (3) 5–17 yr, (4) weight ≥15 kg, (5) mental age ≥18 mo Exclusion criteria: (1) children on effective psychotropic drug treatment for disruptive behavior	Characteristics GROUP 2 N: 12 Age, mean±SD (range): 8.7±1.2 Males %: 91.6 Caucasian %: 83 Diagnostic breakdown (n): Asperger's disorder (1), autistic disorder (3), PDD NOS (8) Treatment naïve (n): all Inpatients (n): NR First episode psychosis (n): NR	GROUP 2 Drug name: Placebo Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 1.7±0.5 Concurrent treatments: stimulants (2)	outcomes Reported	Conclusions
Van Bellinghen et	Recruitment dates:	Comorbidities: MR (0) Enrolled: 13	Treatment duration: 4 wk	Benefits: ABC, CGI-	Risperidone was
al., 2001 ⁹⁰	NR	Analyzed: 13 Completed: 13	Run-in phase: No Run-in phase duration: NR	I, PAC, VAS	well tolerated, and there was no
Country: Belgium	Study design: RCT (parallel)	GROUP 1	Permitted drugs: antiepileptics	Harms: Parkinsonism, pulse,	difference between risperidone- and
category: Behavioral issues	Setting: Inpatient	N: 6 Age, mean±SD (range): NR (6–14)	Prohibited drugs: NR	somnolence, total AE, weight change, EP disorder (ESRS)	placebo-treated groups with respector to the occurrence of
Funding: Industry	Diagnostic criteria: clinical assessment	Males %: 33.3 Caucasian %: NR	GROUP 1 Drug name: Risperidone	()	extrapyramidal side effects.
	and parent interview	Treatment naïve (n): NR	Dosing variability: variable		enecis.
Risk of bias: Medium	Inclusion criteria: (1)	Inpatients (n): NR First episode psychosis	Target dose (mg/day): NR Daily dose (mg/day), mean±SD		
(subjective), Medium (objective)	6–18 yr, (2) IQ 45–85, (3) demonstrating persistent behavioral disturbances	(n): NR Comorbidities: anxiety (0), depression (0), mania (0), MR (all)	(range): 1.2 Concurrent treatments: valproate (1)		
	Exclusion criteria: (1)	GROUP 2	GROUP 2 Drug name: Placebo		
	presence of a clinically relevant non-	N: 7 Age, mean±SD (range):	Dosing variability: variable Target dose (mg/day): NR		
	neurologic disease, (2)	NR (7–14)	Daily dose (mg/day), mean±SD		
	abnormal laboratory tests, (3) epileptic	Males %: 42.9 Caucasian %: NR	(range): NR Concurrent treatments: NR		
	crisis in the previous 3 mo, (4) participation in	Treatment naïve (n): NR Inpatients (n): NR			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	a drug trial in the	First episode psychosis			
	previous 4 wk, (5)	(n): NR			
	remoxipride treatment	Comorbidities: anxiety			
	in the previous 4 wk, (6) oral neuroleptics	(0), depression (0), mania (0), MR (all)			
	and other				
	psychotropics in the				
	previous wk, (6)				
	previous treatment with				
	remoxipride combined				
	with abnormal				
	hematologic values, (7)				
	a depot neuroleptic				
	injection within one				
	treatment cycle of the				
	time of selection, (8)				
	female patients of				
	reproductive age if				
	their contraceptive use was considered				
	inadequate, (9)				
	pregnant or lactating				
Van Bruggen et al.,	Recruitment dates:	Enrolled: 44	Treatment duration: Olanzapine	Benefits: PANSS,	Symptom response
2003 ⁹¹	NR	Analyzed: 42	9.8 wk, Risperidone 6.7 wk	medication	was similar in the
		Completed: NR	Run-in phase: No	adherence, response	olanzapine and
Country:	Study design: RCT		Run-in phase duration: NA		risperidone groups.
Netherlands	(parallel)	GROUP 1		Harms: BAS, SAS,	
A 11/1		N : 18	Permitted drugs: NR	AIMS, akathisia,	
Condition	Setting: Inpatient	Age, mean±SD (range):		parkinsonism,	
category:	Diagonactia anitania.	21.0±2.8	Prohibited drugs: antipsychotics	prolactin, prolactin-	
Schizophrenia and related	Diagnostic criteria: DSM-IV	Males %: 72 Caucasian %: NR	GROUP 1	related AE, sedation, seizure, sexual	
relateu	D3IVI-IV	Treatment naïve (n): NR	Drug name: Olanzapine	dysfunction,	
Funding: Industry,	Inclusion criteria: (1)	Inpatients (n): NR	Dosing variability: variable	somnolence,	
Government	16–28 yr, (2) first or	First episode psychosis	Target dose (mg/day): NR	tachycardia, tardive	
	second psychotic	(n): 16	Daily dose (mg/day), mean±SD	dyskinesia, weight	
Risk of bias: High	episode according to		(range): 15.6±4 (5–30)	change	
(subjective), High	DSM-IV criteria of	GROUP 2	Concurrent treatments:	5	
(objective)	schizophrenia,	N: 26	anticholinergics (2), antidepressants		
	schizofreniform or	Age, mean±SD (range):	(0), benzodiazepines (7), mood		
	schizoaffective	20.6±3.0	stabilizers (0)		
	disorder, (3) actively	Males %: 85			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	symptomatic at study entry (PANSS score of moderate or higher on items for delusions, conceptual disorganization, or hallucinations) Exclusion criteria: (1) epilepsy, (2) toxic psychosis or infectious disorder, (3) a primary dx of substance abuse (drugs or alcohol), (4) MR, (5) pregnant or lactating female patients, (6) concomitant use of other antipsychotic agents, (7) treatment with an injectable depot neuroleptic less than one dosing interval before study entry, (8) narrow-angle glaucoma and known hypersensitivity to olanzapine or risperidone, (9) insufficient knowledge	Caucasian %: NR Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): 22	GROUP 2 Drug name: Risperidone Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 4.4±1.5 (1–8) Concurrent treatments: anticholinergics (7), antidepressants (4), benzodiazepines (8), mood stabilizers (0)		
	of the Dutch language	F	-	D	A 11
Weisler et al., 2011	Recruitment Dates: NR	Enrolled: 35 Analyzed: 35 Completed: 35	Treatment duration: 6 wk Run-in phase: No Run-in phase duration: NA	Benefits: suicide- related events and ideation	Adjunctive aripiprazole treatment represent
Country: USA	Study design: Observational (pooled	GROUP 1:	Permitted drugs: Escitalopram,	Harms: NR	a generally safe an relatively well-
Condition category:	analysis of 2 trials)	N: 16 Age, mean±SD (range):	fluoxetine, paroxetine CR, sertraline, venlafaxine XR		tolerated and efficacious treatme
Depression	Diagnostic criteria: DSM-IV-TR	≤ 25 yr Males %: NR	Prohibited drugs: NR		option for patients with MDD who had
Funding: Industry	Setting: outpatients	Caucasian %: NR Diagnostic breakdown	GROUP 1		had an inadequate response to

Scale: 6/8 stars Incluision criteria: Outpatients 18-65 yr subgroup \$2 S yr here), major depressive episode psychosis with adequate response to 2 1 historical antidepressant Treatment naïve (n): 0 inpatients (n): 0 (n): NR Dosing variability: Variable Target dose (mg/day): 15 mg/day (range): NR antidepressant medication. antidepressant medication. BROUP 2: Antidepressant GROUP 2: N: 19 Comorbidities (n): NR Dosing variability: Variable comorbidities (n): NR GROUP 2: Concurrent treatments: Escilalopram, fluxostline, paroxetine Diagnostic breakdown (n): NR GROUP 2: Significant risk of Diagnostic breakdown (n): NR GROUP 2: Treatment naïve (n): 0 Inpatients (n): NR GROUP 2: Treatment duration: Risperidone Significant (n): NR Benefits: CGH Our results warrant further investigation using a prospective Completed: NR Wink et al., 2014 Itagers; ASD Recruitment dates: July 2004 to Apr 2012 Enrolled: 142 Age, meansSD (range): Si 41:3.59/r Age, meansSD (range): Si 41:3.59/r Age, meansSD (range): Si 41:3.59/r Si 41:3.59/r Age, meansSD (range): Si 41:3.59/r Si 41:3.59/r Si 41:3.59/r Si 41:3.59/r Age, meansSD (range): Si 41:3.59/r Si 41:3.59/r Age, meansSD (range): Si 41:3.59/r Si 41:3.59/r Si 41:3.59/r Si 41:3.59/r Si 41:3.59/r Si 41:3.59/r Si 41:3.59/r Si 41:3.59/	Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Vulpatients 18-65 yr (m)r (volvoking at subgroup ≤ 25 yr here), major depressive episode ≥8 wk, inadequate response to ≥1 historical antidepressant Inpatients (n): 0 (n): NR GRUP 2: (n): NR (n): NR (Newcastle-Ottawa		(n): NR	Drug name: Aripiprazole		standard
wink real., 2014 Seutorous of 25 yr. Wink et al., 2014 Recruitment dates: July 2004 to Apr 2012 Wink et al., 2014 Recruitment dates: July 2004 to Apr 2012 Wink et al., 2014 Seuting: NR Batting: Industry Wink et al., 2014 Seuting: NR Batting: Industry Males Sub Setting: NR Batting: Industry Setting: NR Batting: Industry Males Sub Setting: NR Batting: Industry Setting: NR Batting: Industry Newcaste-Ottawa Scale: 7/8 stars Setting: NR Batting: Industry Diagnostic criteria: Batting: Industry Diagnostic criteria: Batting: Industry Diagnostic criteria: Batting: Industry Setting: NR Batting: Industry Combine Industry Batting: Industry Setting: NR Batting: Industry First episode psychosis (In): NR First episode psychosis (In): NR Setting: NR Batting: NR Batting: NR Batting: Industry Setting: NR Batting: NR Batting: Industry Setting: NR Batting: NR Batting: Industry Setting: NR Batting: NR Batting: Industry Setting: NR Batting: Industry Males Si: 83.3 Batting: Si anting: Si ant	Scale: 6/8 stars	Inclusion criteria:				antidepressant
subgroup 5 25 yr here), major depressive episode 2 8 wk, inadequate response to 2 1 historical (n: NR Comorbidities (n): NR Bally dose (mg/day), meansSD comorbidities (n): NR Daily dose (mg/day), meansSD cautelepram, fluoxetine, paroxetine CR, sertraline, venalaxine XR 5 25 yr Males %: NR Exclusion criteria: Significant risk of commiting suicide during course of trial Caucasian %: NR Caucasian %: NR Caucasian %: NR GROUP 2: Drug name: Placebo Dosing variability: Variable Target dose (mg/day), meansSD (range): NA Drug name: Placebo Dosing variability: Variable Target dose (mg/day), meansSD (range): NA Wijnk et al., 2014 Study design: Retrospective Contry: USA Recruitment dates: July 2004 to Apr 2012 Enrolled: 142 Age, meanzSD (range): NR Treatment duration: Risperidone Comorbidities (n): NR Benefits: CGI-I Harms: Weight Unitor investigation (1: XR Our results warrant further investigation (1: XR Wijnk et al., 2014 Study design: Retrospective Scategory: ASD Study design: Retrospective Study design: Retrospective Scates 7/8 stars Enrolled: 142 Age, meanzSD (range): 8.41±3.59yr Treatment duration: Risperidone Age, meanzSD (range): 8.41±3.59yr Berefits: CGI-I Harms: Weight Comorbidities (n): NR Our results warrant further investigation (1: Art 1: 2) tr/i Newcastle-Ottawa Scale: 7/8 stars Study design: Retrospective DSM-IV-TR Frolibited (rugs: NR Benefits: CGI-I (0: Autistic disorder (40), PDD-NOS (29), Aspe reger's disorder (3) results of storder (3) subjects treated at the Christian Sarkine Autism Treatment naive (n): NR Prohibited drugs: NR Benefits: CGI-I						medication.
here), major Comorbidities (n): NR Daily dose (mg/day), meansSD (range): NR depressive episode 2 8 GROUP 2: Concurrent treatments: Escitalopram, flucoxetine, paroxetine response to 2 1 N: 19 Age, mean±SD (range): CR. settraline, ventafaxine XR antidepressant 2 25 yr Males %: NR Drug name: Placebo Dosing variability: Variable Concurrent treatments: Concurrent treatments: Significant risk of Diagnostic breakdown Daily dose (mg/day): NA during course of trial Treatment naïve (n): 0 Daily dose (mg/day): NA Inpatients (n): 0 Inpatients (n): 0 Daily dose (mg/day): MA First episode psychosis Concurrent treatments: Escitalopram, flucoxetine, paroxetine Country: USA Study design: Recruitment dates: Enrolled: 142 Treatment duration: Risperidone Benefits: CGI-I Our results warrant Nix 72 Study design: GROUP 1 Nr 72 Completed: NR Charge: S3.3 Crange): NR charge (BMI, BMI-2) random assignmeen study design. Graategory: ASD Setting: NR Age, mean±SD (range): 8.41±3.59yr Craucasian %: 77.8 Diagnostic criteria: Diagnostic breakd						
depressive epilode ≥ 8 wk, inadequate response to ≥ 1 historical antidepressant Exclusion criteria: Significant risk of commiting suicide during course of trial GROUP 2: N: 19 Age, mean±SD (range): ≥ 25 yr Males %: NR Diagnostic breakdown (n): NR GROUP 2: CR. sertraline, ventafaxine XR Wink et al., 2014 Exclusion criteria: Significant risk of commiting suicide during course of trial GROUP 1: Cauccasian %: NR Diagnostic breakdown (n): NR GROUP 2: Crause dose (mg/day): NA Treatment naïve (n): 0 First episode psychosis (n): NR Drug name: Placebo Dosing variability: Variable Target dose (mg/day); NA Daily dose (mg/day); MA Daily dose (mg/day); MA Concurrent treatments: Escitalopram, fluoxetine, paroxetine Comorbidities (n): NR Our results warrant further investigation using a prospective Comprised: NR Run-in phase duration: Risperidone (1.47±1.21 yr) Benefits: CGI-I Harms: Weight Characteristics, tracking detailed historical and further investigation using a prospective Caucasian %: 77.8 Diagnostic breakdown non-industry Our results warrant further investigation using a prospective Caucasian %: 77.8 Diagnostic breakdown (n): Autistic disorder (40) PDU-NOS (29), subjects treated at the Christian Sarkine Autism Treatment Center (CSATC) Prohibited drugs: NR Apreger's disorder (3) Treatment naïve (n): NR First episode psychosis (n): NR intellectual disability (34) GROUP 1 Harms: Weight characteristics, tracking detailed historical and limiting treatment concriteria: Dismiter treatment naïve (n): NR First episode psychosis (n): NR GROUP 1 Harms: Veight furaterin may impar tracking detailed historical and limi						
wki, inadequize response to ≥ 1 historical antidepressant GROUP 2: S25 yr Males %: NR Concurrent treatments: Escitalopram, fluoxetine, paroxetine CR, sertraline, venlafaxine XR Significant risk of committing suicide during course of trial Caucasian %: NR GROUP 2: Caucasian %: NR Or gn ame: Placebo Diagnostic breakdown committing suicide during course of trial Diagnostic breakdown (n): NR Drug name: Placebo Diagnostic breakdown (n): NR Daily dose (mg/day); NA First episode psychosis (n): NR First episode psychosis (n): NR Concurrent treatments: (n): NR Escitalopram, fluoxetine, paroxetine Comorbidities (n): O Our results warrant further investigation (n): NR Wink et al., 2014 Recruitment dates: July 2004 to Apr 2012 Enrolled: 142 Treatment duration: Risperidone Competed: NR Benefits: CGI-I (147±1.21 yr) Our results warrant further investigation (n): NR Condition category: ASD Setting: NR Age, mean±SD (range): 8.41±3.59yr Prohibited drugs: NR Harms: Weight characteristics, stracking detailed Newcastle-Ottawa Scale: 7/8 stars Diagnostic criteria: DSM-IV-TR Diagnostic breakdown N: 72 Prohibited drugs: NR GROUP 1 Newcastle-Ottawa Scale: 7/8 stars Diagnostic irreiratior ASD diagnosis, (1); NR Diagnostic breakdown N: 72 Prohibited drugs: NR GROUP 1 Dissing variability: variable C			Comorbidities (n): NR			
response to 2 1 historical antidepressantN: 19Escitalopram, fluoxetine, paroxetine CR, sertraline, venlafaxine XRantidepressantS25 yr Males %: NR Diagnostic breakdown (m): NRGRUP 2: Drug name: Placebo Dosing variability: Variable Traget dose (mg/day): NA Daily dose (mg/day): NA Concurrent treatments: Escitalopram, fluoxetine, paroxetine Cosing variability: Variable Traget dose (mg/day): NA Concurrent treatments: Escitalopram, fluoxetine, paroxetine Completions (n): NROur results warrant further investigation (n): NR Concurrent treatments: Escitalopram, fluoxetine, paroxetine Concurrent treatments: Escitalopram, fluoxetine, paroxetine Condition Category: ASDOur results warrant further investigation using a prospective random assignmen study design. Run-in phase duration: NRBenefits: CGI-I Harms: Weight characteristics, random assignmen study design. Greater cortod of baseline characteristics, traded rugs: NROur results warrant further investigation charas duration: NRWink et al., 2014Recruiteria: N: 72Setting: NRSetting: NRBene			GROUP 2:	Concurrent treatments:		
antidepressant \$ 25 yr Males %: NR GROUP 2: Significant risk of committing suice breakdown Diagnostic breakdown during course of trial Diagnostic breakdown during course of trial Treatment naïve (n): 0 Inpatients (n): 0 Traget dose (mg/day): NA Vink et al., 2014 Recruitment dates: July 2004 to Apr 2012 Enrolled: 142 Treatment duration: Risperidone (1.47±1.21 yr) Benefits: CGI-I Grange: NA Our results warrant further investigation completed: NR Condition category: ASD Study design: Refrospective GROUP 1 N: 72 Treatment furgen: Analyzed: 142 Treatment furgen: Completed: NR Benefits: CGI-I Completed: NR Our results warrant further investigation completed: NR Newcastle-Ottawa Scale: 7/8 stars Setting: NR Age, mean±SD (range): BSM-IV-TR Prinibiled drugs: NR Brougenearts (3.77.8 Diagnostic criteria: DSM-IV-TR Age-grea's disorder (3) PD-NOS (29), Scale: 7/8 stars Prinibiled drugs: NR GROUP 1 Iffestyle factors, usc (n): NR First episode psychosis (n): NR Newcastle-Ottawa Subjects treated at the Christian Sarking Autism Treatment Center (CSATC) Diagnostic breakdown (1): NR Orur meants: Diagnostic breakdown (2): NR Orur meants: Diagnostic breakdown (2): NR Orur meants: Diagnostic breakdown (2): NR Orur meants: Diagnostic breakdown (2): NR Orur meantsite		•	N: 19	Escitalopram, fluoxetine, paroxetine		
Kink et al., 2014Recruitment dates: July 2004 to Apr 2012Encolled: Lange study design: RetrospectiveEncolled: Analyzed: 142 Completed: NRTreatment naïve (n): 0 Daily dose (mg/day); NA Daily dose (mg/day); NA Concurrent treatments: Concurrent treatments: <td></td> <td></td> <td>Age, mean±SD (range): ≤ 25 vr</td> <td>CR, sertraline, venlafaxine XR</td> <td></td> <td></td>			Age, mean±SD (range): ≤ 25 vr	CR, sertraline, venlafaxine XR		
Significant risk of committing suicide during course of trialDiagnostic breakdown (n): NR Treatment naïve (n): 0 First episode psychosis (n): NRDosīng variability: Variable Target dose (mg/day); NA Dally dose (mg/day); mean±SD (concurrent treatments: Escitalopram, fluoxetine, paroxetine CR, sertraline, venlafaxine XROur results warrant further investigation (n): NR Concurrent treatments: Escitalopram, fluoxetine, paroxetine CR, sertraline, venlafaxine XRWink et al., 2014Recruitment dates: July 2004 to Apr 2012Enrolled: 142 Analyzed: 142 Completed: NR RetrospectiveTreatment duration: Risperidone (1.47±1.21 yr)Benefits: CGI-I Harms: Weight change (BMI, BMI-z)Our results warrant further investigation random assignmen study design. RetrospectiveOur results warrant further investigation (1.47±1.21 yr)Condition category: ASDSetting: NR Diagnostic criteria: DSM-IV-TRAge, mean±SD (range): 8.41±3.59yr Males %: 83.3 Caucasian %: 77.8 Diagnostic breakdown (n): Autistic disorder (40), PDD-NOS (29), AsD diagnosis, (3) subjects treated at the Christian Sarkine Autism Treatment Center (CSATC)Inclusion criteria; (1) 2-20 yr.(2) meets (2.20 x+1.30GROUP 1Iifestyle factors, usi (range): 2.23±1.30 (range): 2.23±1.30 (range): 2.23±1.30 (range): 2.23±1.30Breverse dialed (1.4, a 2-agonist (27), other (26)July cose (mg/day); Mean±SD (range): 2.23±1.30 (range): 2.23±1.30July cose (mg/day); Mean±SD (range): 2.23±1.30 (range): 2.23±1.30July cose (mg/day); Mean±SD (range): 2.23±1.30 (range): 2.23±1.30July cose (mg/day); Mean±SD (range): 2.23±1.30July cose (mg/day); Mean±SD (range				GROUP 2:		
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July 2004 to Apr 2012Analyzed: 142 Completed: NR(2.37±2.55 yf), Ampiprazole (1.47±1.21 yr)Harms: Weight using a prospective change (BMI, BMI-z)Country: USAStudy design: RetrospectiveGROUP 1 N: 72Run-in phase NR Run-in phase duration: NRHarms: Weight change (BMI, BMI-z)using a prospective using a prospective change (BMI, BMI-z)Condition category: ASDSetting: NRAge, mean±SD (range): 8.41±3.59yrPermitted drugs: NR Diagnostic criteria: Diagnostic breakdownPermitted drugs: NR Diagnostic breakdownGROUP 1 lifestyle factors, use of methodical dosir guidelines, and may impaceNewcastle-OttawaInclusion criteria: (1) 2-20 yr,(2) meets DSM-IV-TR criteria for ASD diagnosis, (3) subjects treated at the Christian Sarkine Autism Treatment Center (CSATC)(n): NR reatment naïve (n): NR (n): NR (n): NR (n): NRTarget dose (mg/day), mean±SD (range): 2.23±1.30duration may impace the results of such study.	Wink et al., 2014	Recruitment dates:		Treatment duration: Risperidone	Benefits: CGI-I	Our results warrant
Country: USAStudy design: RetrospectiveGROUP 1 N: 72Run-in phase: NR Run-in phase duration: NRchange (BMI, BMI-z) study design. Greater control of baseline characteristics, tracking detailed historical and Disgnostic criteria: DSM-IV-TRrandom assignmen study design. Greater control of baseline GROUP 1Newcastle-Ottawa Scale: 7/8 starsInclusion criteria: (1) 2-20 yr, (2) meets bubjects treated at the Christian Sarkine Autism Treatment Center (CSATC)Inclusion criteria (1) (DSM-IV-TRMales %: 83.3 Caucasian %: 77.8 Diagnostic breakdown (D: Autistic disorder (40), PD-NOS (29),Prohibited drugs: NR GROUP 1GROUP 1 Drug name: Risperidone Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day); NR Daily dose (mg/day); NR Daily dose (mg/day); NR Treatment naïve (n): NR (range): 2.23±1.30random assignmen study design. Greater control of baseline GROUP 1Conter (CSATC)(n): NR (n): NR (range): 2.23±1.30random assignmen study design. (range): 2.23±1.30 (range): 2.23±1.30Concurrent treatments: SSRI (20), antiepleptic (5), stimulant (15), metformin (4), α 2-agonist (27), other (26)random assignmen study design. Greater control of baseline (range): 2.23±1.30	133	July 2004 to Apr 2012				further investigation
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Condition category: ASDN: 72Greater control of baseline characteristics, tracking detailed historical and Diagnostic criteria:N: 72Greater control of baseline characteristics, tracking detailed historical and Bistorical and Ifestyle factors, useFunding: Industry non-industryDiagnostic criteria: DSM-IV-TRMales %: 83.3 Caucasian %: 77.8 Diagnostic breakdown (n): Autistic disorder (40), PDD-NOS (29),Prohibited drugs: NRtracking detailed historical and Ifestyle factors, use Dosing variability: variableNewcastle-Ottawa Scale: 7/8 starsInclusion criteria: (1) 2-20 yr,(2) meets DSM-IV-TR criteria for ASD diagnosis, (3) subjects treated at the Christian Sarkine Autism Treatment Center (CSATC)N: 72 Males %: 83.3 Caucasian %: 77.8 Diagnostic breakdown (n): Autistic disorder (40), PD-NOS (29), DD-NOS (29),GROUP 1 Drug name: Risperidone Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 2.23±1.30 Concurrent treatments: SSRI (20), antiepileptic (5), stimulant (15), metformin (4), α 2-agonist (27), other (26)Greater control of baseline characteristics, tracking detailed historical and Ilifestyle factors, use duration may impact (n): NR	Country: USA				change (BMI, BMI-z)	
category: ASDSetting: NRAge, mean±SD (range): 8.41±3.59yrPermitted drugs: NRbaseline characteristics, tracking detailed historical and lifestyle factors, useFunding: Industry/ non-industryDiagnostic criteria: DSM-IV-TRMales %: 83.3 Caucasian %: 77.8 Diagnostic breakdownProhibited drugs: NRtracking detailed historical and lifestyle factors, useNewcastle-Ottawa Scale: 7/8 starsInclusion criteria: (1) 2-20 yr,(2) meets DSM-IV-TR criteria for ASD diagnosis, (3) subjects treated at the Christian Sarkine Autism Treatment Center (CSATC)(n): Autistic disorder (40), PD-NOS (29), Treatment naïve (n): NR (n): NR (range): 2.23±1.30Drug name: Risperidone Dosing variability: variable Daily dose (mg/day), mean±SD duration may impact (range): 2.23±1.30guidelines, and limiting treatments treatments: SSRI (20), antiepileptic (5), stimulant (15), metformin (4), α 2-agonist (27), other (26)baseline characteristics, tracking detailed historical and Drug name: Risperidone Dosing variability: variablebaseline characteristics, tracking detailed historical and Drug name: Risperidone Daily dose (mg/day), mean±SD concurrent treatments: SSRI (20), antiepileptic (5), stimulant (15), metformin (4), α 2-agonist (27), other (26)baseline characteristics, tracking detailed historical and lifestyle factors, use duration may impact study.	•	Retrospective		Run-in phase duration: NR		
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Scale: 7/8 stars2-20 yr,(2) meets DSM-IV-TR criteria for ASD diagnosis, (3) subjects treated at the Christian Sarkine Autism Treatment Center (CSATC)DD-NOS (29), Asperger's disorder (3) Treatment naïve (n): NR First episode psychosis (n): NRDosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD Concurrent treatments: SSRI (20), antiepileptic (5), stimulant (15), metformin (4), α 2-agonist (27), other (26)guidelines, and limiting treatment duration may impact study.			-			
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subjects treated at the Christian Sarkine Autism Treatment Center (CSATC)Inpatients (n): NR First episode psychosis (n): NR(range): 2.23±1.30the results of such SCOncurrent treatments: SSRI (20), antiepileptic (5), stimulant (15), metformin (4), α 2-agonist (27), other (26)the results of such study.						
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Autism Treatment Center (CSATC)(n): NR Comorbidities: intellectual disability (34)antiepileptic (5), stimulant (15), metformin (4), α 2-agonist (27), other (26)						
Center (CSATC) Comorbidities: metformin (4), α 2-agonist (27), intellectual disability (34) other (26)						study.
intellectual disability (34) other (26)						
		Center (CSATC)				
EXCUSION COPERATION		Exclusion criteria: (1)	intellectual disability (34)			

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	Risperidone or	GROUP 2	GROUP 2		
	aripiprazole use	N: 70	Drug name: Aripiprazole		
	initiated prior to	Age, mean±SD (range):	Dosing variability: variable		
	evaluation at CSATC,	9.74±3.46yr	Target dose (mg/day): NR		
	(2) individual received	Males %: 80	Daily dose (mg/day), mean±SD		
	multiple antipsychotics	Caucasian %: 75.7	(range): 11.85±7.23		
	at any time during	Diagnostic breakdown	Concurrent treatments: SSRI (21),		
	treatment, (3) if <2 BMI	(n): Autistic disorder (44),	antiepileptic (4), stimulant (10),		
	data points were	PDD-NOS (19),	metformin (2), α 2-agonist (22),		
	available	Asperger's disorder (7)	benzodiazepine (2), other (24)		
		Treatment naïve (n): NR			
		Inpatients (n): NR			
		First episode psychosis			
		(n): NR Comorbidities:			
		intellectual disability (30)			
		intellectual disability (30)			
Wonodi et al., 2007	Recruitment dates:	Enrolled: 424	Treatment duration: ≥6mo	Benefits: NR	Identifying the risk
134	NR	Analyzed: 198	Run-in phase: NR		profiles of
		Completed: 198	Run-in phase duration: NR	Harms: Tardive	antipsychotic
Country: USA	Study design:			dyskinesia	treatment in children
	Retrospective	GROUP 1	Permitted drugs: NR		would improve
Condition		N: 118			treatment outcomes
category: Mixed	Setting: Inpatient/	Age, mean±SD (range):	Prohibited drugs: NR		in this vulnerable
conditions	outpatient	11.9±2.8 yr			clinical population.
_		Males %: 77.1	GROUP 1		Side-effect profile of
Funding: Non-	Diagnostic criteria:	Caucasian %: 44.1	Drug name: Antipsychotic		the atypical
industry	NR	Diagnostic breakdown	treatment ≥ 6mo		antipsychotic drugs
		(n): Mood disorder NOS	Dosing variability: NR		in children may be
Newcastle-Ottawa	Inclusion criteria: All	(103), ADHD (75)	Target dose (mg/day): NR		much different than
Scale: 8/8 stars	children (5-18 yr)	Treatment naïve (n): 0	Daily dose (mg/day), mean±SD		in adults,
	already receiving or	Inpatients (n): NR	(range): NR		underscoring the
	likely to be prescribed	First episode psychosis	Concurrent treatments: Anti-		importance of risk-
	antipsychotic	(n): NR Comorbidities: NR	depressants (88), mood stabilizers		benefit discussions
	medications at the referring facilities	Comordialities: NK	(88), psychostimulants (80)		with patient families before treatment
	-	GROUP 2	GROUP 2		initiation, and
	Exclusion criteria:	N: 80	Drug name: Antipsychotic naïve		ongoing monitoring
	NR	Age, mean±SD (range):	Dosing variability: NR		for motor and other
		10.7±3.9 yr	Target dose (mg/day): NR		(e.g., metabolic)
		Males %: 72.5	Daily dose (mg/day), mean±SD		adverse events.
		Caucasian %: 28.8	(range): NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		Diagnostic breakdown (n): Mood disorder NOS (67), ADHD (48) Treatment naïve (n): 80 Inpatients (n): NR First episode psychosis (n): NR Comorbidities: NR	Concurrent treatments: Anti- depressants (38), mood stabilizers (22), psychostimulants (37)		
Woods et al., 2003	Recruitment dates: Jan 1998 to July 2001	Enrolled: 60 Analyzed: 59 Completed: 41	Treatment duration: 1 yr Run-in phase: Yes Run-in phase duration: 3–14 day	Benefits: SOPS, CGI-S, GAF, PANSS, MARDS, YMRS,	The conversion-to- psychosis rate was
Country: Canada,	Study design: RCT	Completed. 41	Run-in phase duration. 5–14 day	cognitive	not significantly different between
USA	(parallel)	GROUP 1 N: 31	Permitted drugs: antidepressants, benztropine mesylate or biperiden	(neurocognitive measures),	treatment groups; however, olanzapine
Condition category: Schizophrenia and	Setting: Outpatient/community	Age, mean±SD (range): 18.2±5.5 Males %: 67.7	(≤6 mg/day), chloral hydrate (max 1000 mg/day), diazepam (max 40 mg/day), lorazepam (max 8	medication adherence, response/conversion	might reduce the conversion rate and delay onset of
related	Diagnostic criteria: DSM-IV, COPS,	Caucasian %: 74.2 Treatment naïve (n): 28	mg/day), nizatidine (300–600 mg/day), propranalol hydrochloride	to psychosis	psychosis. Compared to
Funding: Industry, Government	Presence of Psychosis Scale	Inpatients (n): NR First episode psychosis (n): all	Prohibited drugs: psychoactive medications	Harms: Behavioral issues, blood pressure, EPS	placebo, olanzapine was efficacious for positive prodromal
Risk of bias: High (subjective), High	Inclusion criteria: (1) help-seeking persons	Comorbidities: SA (18)	GROUP 1	(AIMS, Barnes, ASA), glucose, fatigue, lipid	symptoms but induced weight gain
(objective)	responding to advertisements or refered by clinicians,	GROUP 2 N: 29 Age, mean±SD (range):	Drug name: Olanzapine Dosing variability: variable fixed at 5-15 mg/d	profile, pulse, somnolence, WAE, weight change	
	(2) 12–45 yr, (3) prodromal syndromes	17.2±4 Males %: 62.1	Target dose (mg/day): NR Daily dose (mg/day), mean±SD	theight change	
	criteria using the Structured Interview for	Caucasian %: 58.6 Treatment naïve (n): 26	(range): 8±3.1 (5–15) Concurrent treatments:		
	Prodromal Syndromes, (4) ability to understand and	Inpatients (n): NR First episode psychosis (n): all	anticholinergics (1), benzodiazepines (7), nizatidine (1)		
	communicate with	Comorbidities: SA (9)	GROUP 2		
	investigator, (5)		Drug name: Placebo		
	informed consent/assent		Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD		
	Exclusion criteria: (1)		(range): 9.3±2.8 (5–15)		
	past or current DSM-IV		Concurrent treatments:		
	psychotic disorder, (2)		anticholinergics (2),		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	treatable psychiatric disorder that could account for prodromal symptoms, (3) suicidal or homicidal, (4) prodromal symptoms primarily sequelae of alcohol or drug use, (5) IQ <80, (6) seizure disorder without a clear or resolved etiology, (7) pregant or lactating, (8) took nonprotocol psychotropic medications		benzodiazepines (2)		
Wudarsky et al., 1999 ¹³⁵	Recruitment dates:	Enrolled: 47 Analyzed: 47	Treatment duration: 6 wk Run-in phase: Yes	Benefits: NR	Mean prolactin levels were
1333		Completed: NR	Run-in phase duration: 3 wk	Harms: Prolactin	significantly elevated
Country: USA	Study design:				after 6 weeks of
,	Prospective cohort	GROUP 1	Permitted drugs: NR		treatment with
Condition		N: 15	0		haloperidol,
category:	Setting:	Age, mean±SD (range):	Prohibited drugs: NR		clozapine, and
Schizophrenia and	Outpatient/community	13.7±1.5	-		olanzapine in
related		Males %: 60	GROUP 1		patients with
	Diagnostic criteria:	Caucasian %: NR	Drug name: Haloperidol		childhood-onset
Funding: NR	DSM-IV, DSM-III-TR,	Treatment naïve (n): 0	Dosing variability: variable		schizophrenia.
	structured interviews	Inpatients (n): NR	Target dose (mg/day): NR		
Newcastle-Ottawa		First episode psychosis	Daily dose (mg/day), mean±SD		
Scale: 7/8 stars	Inclusion criteria: (1)	(n): 0	(range): 15.3±8.2		
	DSM dx of		Concurrent treatments: NR		
	schizophrenia, (2)	GROUP 2	GROUP 2		
	resistant to treatment with two different FGAs	N: 22 Age, mean±SD (range):	Drug name: Clozapine		
	with two different FGAS	Age, mean±3D (range). 14.7±2.3	Dosing variability: variable		
	Exclusion criteria: (1)	Males %: 72.7	Target dose (mg/day): NR		
(onset of symptoms at	Caucasian %: NR	Daily dose (mg/day), mean±SD		
	≥13 yr, (2) neurological	Treatment naïve (n): 0	(range): 325.4±211		
	or medical disease, (3)	Inpatients (n): NR	Concurrent treatments: NR		
	premorbid IQ <70	First episode psychosis			
	1 · · · · · · · · · · ·	(n): 0	GROUP 3		
			Drug name: Olanzapine		
		GROUP 3	Dosing variability: variable		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
		N: 10 Age, mean±SD (range): 14.2±2.9 Males %: 70 Caucasian %: NR Treatment naïve (n): 0 Inpatients (n): NR First episode psychosis	Target dose (mg/day): NR Daily dose (mg/day), mean±SD (range): 17±3.5 Concurrent treatments: NR		
Yen et al., 2004 93	Recruitment dates:	(n): 0 Enrolled: 8 Analyzed: 8	Treatment duration: 2.8 mo Run-in phase: Yes	Benefits: PANSS	Risperidone was superior to
Country: Taiwan	Study design: RCT	Completed: 8	Run-in phase duration: 1–4 wk	Harms: NR	haloperidol in improving negative
Condition category:	(parallel)	GROUP 1 N: 2 (≤24 yr)	Permitted drugs: biperiden or trihexylphenidyl; lorazepam,		symptoms and better tolerated
Schizophrenia and related	Setting: NR	Age, mean±SD (range): 24.0 (24)	oxazepam or temazepam		during the treatment of schizophrenia.
Funding: Hospital	Diagnostic criteria: DSM-III-TR	Males %: 0 Caucasian %: NR	Prohibited drugs: NR		
Risk of bias: High (subjective), High (objective)	Inclusion criteria: (1) 18–65 yr, (2) total score >60 on PANSS	Treatment naïve (n): 0 Inpatients (n): NR First episode psychosis (n): NR	GROUP 1 Drug name: Haloperidol Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD		
	Exclusion criteria: (1) psychoses other than schizophrenia, (2)	GROUP 2 N: 6 (≤24 yr) Age, mean±SD (range):	(range): 11.2±6.9 (2–25) Concurrent treatments: NR		
	early childhood brain damage, (3) unable to comply with the medication, (4) severe illness, (5) pregnant or	20.7 (20–22) Males %: 66.7 Caucasian %: NR Treatment naïve (n): 0 Inpatients (n): NR	GROUP 2 Drug name: Risperidone Dosing variability: variable Target dose (mg/day): NR Daily dose (mg/day), mean±SD		
	lactating women	First episode psychosis (n): NR	(range): 4.4±2.6 (1–8) Concurrent treatments: NR		
Yoo et al., 2013 ⁹⁵	Recruitment Dates: August 2008 – April	Enrolled: 61 Analyzed: 61	Treatment duration: 10 wk Run-in phase: Yes	Benefits: YGTSS, CGI-TS, response	Aripiprazole is efficacious and
Country: South Korea	2010	Completed: 54	Run-in phase duration: Free of antipsychotic or antiparkinson drugs	Harms: Neuromotor	tolerated in children and adolescents
Condition category: Tic	Study design: RCT (parallel)	GROUP 1: N: 32 Age, mean±SD (range):	1 wk before randomization, free of fluoxetine 4 wk before	effects, GI disorders, metabolic effects, QT	with Tourette syndrome.
disorders	Diagnostic criteria:	11±2.5 yr	Permitted drugs: Aripiprazole (for		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
Funding: Industry	DSM-IV	Males %: 93.8% Caucasian %: NR	group 1)		
Risk of Bias: High	Setting: Outpatient clinics	Diagnostic breakdown (n): Tourette syndrome	Prohibited drugs: All other drugs		
(subjective), High		(32)	GROUP 1		
(objective)	Inclusion criteria: 6-	Treatment naïve (n): NR	Drug name: Aripiprazole		
	18 yr, DSM-IV	Inpatients (n): (0)	Dosing variability: Fixed		
	diagnosis of Tourette	First episode psychosis	Target dose (mg/day): 20 mg/day		
	syndrome or chronic	(n): NR Comorbidities (n): ADHD	Daily dose (mg/day), mean±SD		
	motor or vocal tic disorder. Baseline total	(5), ODD (3), AD (0)	(range): 11.0±6.1 mg/day Concurrent treatments: NR		
	tic score ≥22 on	(3), ODD (3), AD (0)	concurrent treatments. WK		
	YGTSS	GROUP 2:	GROUP 2:		
		N: 29	Drug name: Placebo		
	Exclusion criteria:	Age, mean±SD (range):	Dosing variability: Fixed		
	Current mood	10.9±3.0 yr	Target dose (mg/day): NA		
	disorders,	Males %: 79.3%	Daily dose (mg/day), mean±SD		
	schizophrenia and	Caucasian %: NR	(range): NA		
	other psychotic disorders, or other	Diagnostic breakdown (n): Tourette syndrome	Concurrent treatments: NR		
	psychiatric comorbidity	(1). Tourelle syndrome			
	requiring medication	Treatment naïve (n): NR			
	during study period,	Inpatients (n): (0)			
	history of psychotropic	First episode psychosis			
	substance or alcohol	(n): NR			
	use disorders during 3	Comorbidities (n): ADHD			
	months pre-screening.	(1), ODD (0), AD (1)			
	IQ ≤ 70, seizure				
	disorders, history of				
	neuroleptic malignant syndrome, serious				
	brain injury, stroke, or				
	other neurologic				
	disorders. Secondary				
	tic symptoms				
	accompanied by				
	tardive tics, Huntington				
	disease,				
	neuroacanthocytosis,				
	autism. Significant				
	medical problems.				
	History of allergy or				

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	hypersensitivity				
	reactions to				
	aripiprazole,				
	nonresponsive to antipsychotic				
	treatment, participating				
	in another clinical				
	study within 1 month				
	before screening,				
	pregnant or lactating,				
	female adolescents				
	who did not consent to				
	contraception during				
	study and up to 8				
	weeks after. Requiring				
	cognitive behavioral				
	therapy during study				
Yoo et al., 2011 94	period. Recruitment Dates:	Enrolled: 48	Treatment duration: 8 wk	Benefits: YGTSS,	Aripiprazole may be
100 et al., 2011	August 2005 – March	Analyzed: 48	Run-in phase: Yes	CGI-I, CGI-S	effective and
Country: South	2007	Completed: 37	Run-in phase duration: Drug free	001-1, 001-0	tolerable in the
Korea	2007		for 2 wk before study entry	Harms: ESRS, AE	treatment of children
	Study design: NRCT	GROUP 1:		checklist	and adolescents
Condition	(parallel)	N: 31	Permitted drugs: NR		with tic disorders.
category: Tic	. ,	Age, mean±SD (range):	-		Additional controlled
disorders	Diagnostic criteria:	11.2±3.5 (6-18) yr	Prohibited drugs: NR		studies are needed
	DSM-IV, Total tic	Males %: 71%			to determine efficacy
Funding: NR	scores ≥22 on Korean	Caucasian %: NR	GROUP 1		and tolerability of
	version of YGTSS	Diagnostic breakdown	Drug name: Aripiprazole		aripiprazole in
Risk of Bias: High		(n): Tourette syndrome	Dosing variability: Variable		patients with tic
(subjective), High	Setting: outpatient	(19), Chronic motor and	Target dose (mg/day): 20 mg/day Daily dose (mg/day), mean±SD		disorders.
(objective)	Inclusion criteria: Tic	vocal tic disorder (7), Transient tic disorder (5)	(range): 10.6±5.2 (2.5-20) mg/day		
	disorders, drug free ≥ 2	Treatment naïve (n): NR	Concurrent treatments: NR		
	weeks before study	Inpatients (n): NR	Concurrent ireathents. Mit		
	entry, no significant	First episode psychosis	GROUP 2:		
	medical problems	(n): NR	Drug name: Haloperidol		
		Comorbidities (n): ADHD	Dosing variability: Variable		
	Exclusion criteria:	(9), ODD (2), OCD (3)	Target dose (mg/day): 4.5 mg/day		
	Current mood		Daily dose (mg/day), mean±SD		
	disorders, psychotic	GROUP 2:	(range): 1.9±1.1 (0.75-4.5) mg/day		
	symptoms, AD (OCD	N: 17	Concurrent treatments: NR		

Study	Study Characteristics	Participant Characteristics	Treatment Characteristics	Outcomes Reported	Author Conclusions
	allowed), IQ ≤ 70, previous or current seizure episodes, EEG abnormalities, previously used aripiprazole	Age, mean±SD (range): 8.6±2.9 (6-16) yr Males %: 64.7% Caucasian %: NR Diagnostic breakdown (n): Tourette syndrome (7), Chronic motor and vocal tic disorder (4), Transient tic disorder (6) Treatment naïve (n): NR Inpatients (n): NR First episode psychosis (n): NR Comorbidities (n): ADHD (6)			

ABC = Aberrant Behavior Checklist; ABC-C = Aberrant Behavior Checklist-Community; ADI-R = Autism Diagnostic Interview-Revised; ADOS = Autism Diagnostic Observation Schedule; AE = Adverse Event; ASD = autism spectrum disorder; β-HCG = beta human chorionic gonadotropin; BMI = body mass index; BPRS = Brief Psychiatric Rating Scale; BPRS-A = Brief Psychiatric Rating Scale-Anchored: C-DISC 4 = Computerized Diagnostic Interview Schedule for Children. version four: CARS = Childhood Autism Rating Scale: CAS-P = Children's Aggression Scale-Parent; CAS-T = Children's Aggression Scale-Teacher; CBCL = Child Behavior Checklist; CD = conduct disorder; CDRS-R = Children's Depression Rating Scale, Revised; CGI-C = Clinical Global Impression-Change; CGI-I = Clinical Global Impressions-Improvement; CGI-S = Clinical Global Impressions-Severity; CNS = central nervous system; COPS = Criteria of Prodromal Syndromes; CPRS = Children's Psychiatric Rating Scale; day = day(s); CPT = Continuous performance task; DBD = disruptive behavior disorder; DICA-R = Diagnostic Interview for Children and Adolescents-Revised; DSM = Diagnostic and Statistical Manual of Mental Disorders; ECG = electrocardiogram; FGA = first-generation antipsychotics; GAD = generalized anxiety disorder; HALFS = Health And Life Functioning Scale ; HIV = human immunodeficiency virus; hr = hour(s); IED = intermittent explosive disorder; IM = intramuscular; IQ = intelligence quotient; KID-SCID = childhood disorders form of the Structured Clinical Interview for DSM-IV Disorders; K-SADS = Kiddie-Schedule for Affective Disorders and Schizophrenia; K-SADS-E = Kiddie-Schedule for Affective Disorders and Schizophrenia (Epidemiological Version); K-SADS-P = Kiddie-Schedule for Affective Disorders and Schizophrenia (Present Episode Version): K-SADS-PL = Kiddie-Schedule for Affective Disorders and Schizophrenia (Present and Lifetime Version); KQ = key question; LT = long term; MAO-I = monoamine oxidase inhibitor; MDD = major depressive disorder; mo = month(s); MVLT = Modified Version of the California Verbal Learning Test; N = number; NCBRF = Nisonger Child Behavior Rating Form; NMS = neuroleptic malignant syndrome; NOS = not otherwise specified; NR = not reported; NRCT = non-randomized controlled trial; NSAID = non-steroidal anti-inflammatory drug; OAS = Overt Aggression Scale; ODD = oppositional defiant disorder; P-LES-Q = Pediatric Quality of Life Enjoyment and Satisfaction Questionnaire; PANSS = Positive and Negative Syndrome Scale; PDD = pervasive developmental disorder; PTSD = posttraumatic stress disorder; Q-LES-Q = Quality of Life Enjoyment and Satisfaction Questionnaire; RCT = randomized controlled trial; SA = substance abuse; SCID-I/P = Clinical Interview for DSM-IV-TR Axis I Disorders-Patient Edition; SGA = second-generation antipsychotic; SSRI = selective serotonin reuptake inhibitor; ST = short term; TBI = traumatic brain injury; TSGS = Tourette Syndrome Global Scale; TSSS = Tourette Symptom Severity Scale; VABS = Vineland Adaptive Behavior Scale; WASH-U-KSADS = Washington University in St. Louis Kiddie Schedule for Affective Disorders and Schizophrenia; WISC = Wechsler Intelligence Scale for Children; YBOCS = Yale-Brown Obsessive Compulsive Scale; YGTSS = Yale Global Tic Severity Scale; YMRS = Young Mania Rating Scale; yr = year(s)

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