Supplementary Online Content


eSupplement. Off-label use of atypical antipsychotics search methodology
eFigure. Literature flow
eReferences

This supplementary material has been provided by the authors to give readers additional information about their work.
SEARCH #1 (Drug Utilization):
DATABASE & TIME PERIOD COVERED:
risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR "Risperidone"[MeSH] OR "olanzapine"[Substance Name] OR "quetiapine"[Substance Name] OR "aripiprazole"[Substance Name] OR "ziprasidone"[Substance Name]
AND
drug utilization OR pharmacoepidemiolog* OR utiliz*[tiab] OR utilis* OR use[ti] OR uses[ti]
NUMBER OF RESULTS: 34

SEARCH STRATEGY #2 (Drug Utilization):
DATABASE & DATES OF COVERAGE:
paliperidone
AND
drug utilization OR pharmacoepidemiolog* OR utiliz*[tiab] OR utilis* OR use[ti] OR uses[ti]
NUMBER OF RESULTS: 10

SEARCH STRATEGY #3 (Drug Utilization):
DATABASE & DATES OF COVERAGE:
risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR paliperidone
AND
KW OR TI ( drug utilization OR utiliz* OR utilis* OR use OR uses OR pharmacoepidemiolog* )
Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 366

SEARCH STRATEGY #4a (Anxiety)
DATABASE & DATES OF COVERAGE:

risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR "Risperidone"[MeSH] OR "olanzapine"[Substance Name]
OR "quetiapine"[Substance Name] OR "aripiprazole"[Substance Name] OR "ziprasidone"[Substance Name] OR
atypical antipsychotic* OR atypical anti-psychotic*
AND
OR anxiety[tiab] OR anxious*[tiab] OR anti-anxiety[tiab] OR antianxiety[tiab]

NUMBER OF RESULTS: 1098

SEARCH STRATEGY #4b (Insomnia)
DATABASE & DATES OF COVERAGE:

risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR "Risperidone"[MeSH] OR "olanzapine"[Substance Name]
OR "quetiapine"[Substance Name] OR "aripiprazole"[Substance Name] OR "ziprasidone"[Substance Name] OR
atypical antipsychotic* OR atypical anti-psychotic*
AND
"Sleep Initiation and Maintenance Disorders"[Mesh] OR insomni*[tiab] OR sleep*[tiab]

NUMBER OF RESULTS: 370

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SEARCH STRATEGY #4c (Autism):
DATABASE & DATES OF COVERAGE:

risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR "Risperidone"[MeSH] OR "olanzapine"[Substance Name] OR "quetiapine"[Substance Name] OR "aripiprazole"[Substance Name] OR "ziprasidone"[Substance Name] OR atypical antipsychotic* OR atypical anti-psychotic*
AND
autism OR autistic
NUMBER OF RESULTS: 202

SEARCH STRATEGY #4d (ADHD):
DATABASE & DATES OF COVERAGE:

risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR "Risperidone"[MeSH] OR "olanzapine"[Substance Name] OR "quetiapine"[Substance Name] OR "aripiprazole"[Substance Name] OR "ziprasidone"[Substance Name] OR atypical antipsychotic* OR atypical anti-psychotic*
AND
"Attention Deficit Disorder with Hyperactivity"[Mesh] OR attention deficit disorder[tiab] OR adhd
NUMBER OF RESULTS: 158

SEARCH STRATEGY #4e (Anorexia/Bulimia):
DATABASE & DATES OF COVERAGE:

risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR "Risperidone"[MeSH] OR "olanzapine"[Substance Name] OR "quetiapine"[Substance Name] OR "aripiprazole"[Substance Name] OR "ziprasidone"[Substance Name] OR atypical antipsychotic* OR atypical anti-psychotic*
AND
NUMBER OF RESULTS: 86

SEARCH STRATEGY #4f (Tourette Syndrome):
DATABASE & DATES OF COVERAGE:

risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR "Risperidone"[MeSH] OR "olanzapine"[Substance Name] OR "quetiapine"[Substance Name] OR "aripiprazole"[Substance Name] OR "ziprasidone"[Substance Name] OR atypical antipsychotic* OR atypical anti-psychotic*
AND
"Tourette Syndrome"[Mesh] OR tourette*[tiab]

NUMBER OF RESULTS: 127

SEARCH STRATEGY #5:
DATABASE & DATES OF COVERAGE:

“Related Article” search on the following:


NUMBER OF RESULTS: 107

SEARCH STRATEGY #6 (Original Meds and Original Conditions):
DATABASE & DATES OF COVERAGE:

risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR "Risperidone"[MeSH] OR "olanzapine"[Substance Name] OR "quetiapine"[Substance Name] OR "aripiprazole"[Substance Name] OR "ziprasidone"[Substance Name] OR atypical antipsychotic* OR atypical anti-psychotic*
AND

NUMBER OF RESULTS: 230

SEARCH STRATEGY #7 (Original Meds & Original Conditions) :

olanzapine OR quetiapine OR risperidone OR ziprasidone OR aripiprazole
AND
personality disorder* OR posttraumatic stress disorder OR post-traumatic stress OR ptsd or dementia OR "major depressive" OR obsessive-compulsive OR obsessive compulsive or dementia OR ((geriatric OR elderly) AND (agitation OR agitated))
Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 165

SEARCH STRATEGY #8 (Original Meds & New Conditions) :

olanzapine OR quetiapine OR risperidone OR ziprasidone OR aripiprazole
AND
anxiety OR anti-anxiety OR antianxiety OR insomnia OR sleep* OR anorexi* OR bulimi* OR tourett* OR attention deficit disorder OR adhd
Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 895

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SEARCH STRATEGY #9 (New Meds):
DATABASE & DATES OF COVERAGE:

paliperidone
NOT
animal* NOT (human OR humans)

NUMBER OF RESULTS: 209

SEARCH STRATEGY #10 (New Meds):
DATABASE & DATES OF COVERAGE:

iloperidone OR asenapine

NUMBER OF RESULTS: 80

SEARCH STRATEGY #11 (New Meds):
DATABASE & DATES OF COVERAGE:

paliperidone OR iloperidone OR asenapine
Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 85

SEARCH STRATEGY #12 (Depression):
DATABASE & DATES OF COVERAGE:

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olanzapine OR quetiapine OR risperidone OR ziprasidone OR aripiprazole
AND
depression OR depressive
AND
human
NOT
personality disorder* OR posttraumatic stress disorder OR post-traumatic stress OR ptsd or dementia OR "major depressive" OR obsessive-compulsive OR obsessive compulsive or dementia OR ((geriatric OR elderly) AND (agitation OR agitated))

Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 137

SEARCH STRATEGY #13 (Substance Abuse):
DATABASE & DATES OF COVERAGE:
PsycINFO – ~1850-11/20/2009

olanzapine OR quetiapine OR risperidone OR ziprasidone OR aripiprazole
AND
substance abuse* OR drug abuse* OR alcohol abuse OR addict* OR drug dependen* OR cocaine OR heroin
AND
human

Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 326

SEARCH STRATEGY #14 (Substance Abuse):
DATABASE & DATES OF COVERAGE:

olanzapine OR quetiapine OR risperidone OR ziprasidone OR aripiprazole
AND
substance abuse* OR drug abuse* OR alcohol abuse OR addict* OR drug dependen* OR cocaine OR heroin OR "Substance-Related Disorders"[Mesh]
NOT animal* NOT (human OR humans)

NUMBER OF RESULTS: 521

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SEARCH STRATEGY #15 (Iloperidone & Asenapine):
DATABASE & DATES OF COVERAGE:

iloperidone? or asenapine?

NUMBER OF RESULTS: 222

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SEARCH ALERTS (Initiated 12/18/09)

PubMed
atypical antipsychotic* OR atypical anti-psychotic* OR olanzapine OR quetiapine OR risperidone OR ziprasidone OR aripiprazole OR paliperidone OR iloperidone OR asenapine

PsycINFO
atypical antipsychotic* OR atypical anti-psychotic* OR olanzapine OR quetiapine OR risperidone OR ziprasidone OR aripiprazole OR paliperidone OR asenapine OR iloperidone
Population Group: Human
Frequency: Monthly, Duration: Six months

Embase (updated 7/8/10 & alert set up)
'atypical antipsychotic'/exp OR 'atypical antipsychotic' OR 'atypical anti-psychotic' OR 'atypical anti psychotic' OR 'atypical anti-psychotics' OR 'atypical antipsychotics'/exp OR 'atypical antipsychotics' OR atypical AND antipsychotic AND agent OR 'olanzapine'/exp OR 'olanzapine' OR 'quetiapine'/exp OR 'quetiapine' OR 'risperidone'/exp OR 'risperidone' OR 'ziprasidone'/exp OR 'ziprasidone' OR 'aripiprazole'/exp OR 'aripiprazole' OR 'paliperidone'/exp OR 'paliperidone' OR 'iloperidone'/exp OR 'iloperidone' OR 'asenapine'/exp OR 'asenapine' AND ([article]/lim OR [article in press]/lim OR [conference abstract]/lim OR [conference paper]/lim OR [conference review]/lim OR [erratum]/lim OR [review]/lim OR [short survey]/lim) AND [humans]/lim AND [2010-2011]/py 988

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SEARCH STRATEGY #16 (PubMed UPDATE – Drug Utilization):
DATABASE & DATES OF COVERAGE:

atypical antipsychotic* OR atypical anti-psychotic* OR olanzapine OR quetiapine OR risperidone OR ziprasidone OR aripiprazole OR paliperidone OR iloperidone OR asenapine OR "Risperidone"[MeSH] OR "olanzapine"[Substance Name] OR "quetiapine"[Substance Name] OR "aripiprazole"[Substance Name] OR "ziprasidone"[Substance Name]
AND
drug utilization OR pharmacoepidemiolog* OR utiliz*[tiab] OR utilis* OR use[ti] OR uses[ti] OR off-label OR "off label" OR offlabel

NUMBER OF RESULTS: 101

SEARCH STRATEGY #17 (PubMed UPDATE - Insomnia):
DATABASE & DATES OF COVERAGE:

"Antipsychotic Agents"[MeSH] OR "Antipsychotic Agents"[Pharmacological Action] OR aripiprazole OR olanzapine OR quetiapine OR risperidone OR ziprasidone)
AND
("Sleep Initiation and Maintenance Disorders"[Mesh] OR insomni*[tiab] OR sleep*[tiab]

NUMBER OF RESULTS: 75

SEARCH STRATEGY #18 (PubMed UPDATE - Autism):
DATABASE & DATES OF COVERAGE:

"Antipsychotic Agents"[MeSH] OR "Antipsychotic Agents"[Pharmacological Action] OR aripiprazole OR olanzapine OR quetiapine OR risperidone OR ziprasidone)
AND
autism OR autistic

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NUMBER OF RESULTS: 43

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SEARCH STRATEGY #19 (PubMed UPDATE - ADHD):
DATABASE & DATES OF COVERAGE:

"Antipsychotic Agents"[MeSH] OR "Antipsychotic Agents"[Pharmacological Action] OR aripiprazole OR olanzapine OR quetiapine OR risperidone OR ziprasidone
AND
"Attention Deficit Disorder with Hyperactivity"[Mesh] OR attention deficit disorder[tiab] OR adhd

NUMBER OF RESULTS: 38

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SEARCH STRATEGY #20 (PubMed UPDATE – Eating Disorders):
DATABASE & DATES OF COVERAGE:

"Antipsychotic Agents"[MeSH] OR "Antipsychotic Agents"[Pharmacological Action] OR aripiprazole OR olanzapine OR quetiapine OR risperidone OR ziprasidone
AND

NUMBER OF RESULTS: 12

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SEARCH STRATEGY #21 (PubMed UPDATE – Tourette Syndrome):
DATABASE & DATES OF COVERAGE:

"Antipsychotic Agents"[MeSH] OR "Antipsychotic Agents"[Pharmacological Action] OR aripiprazole OR olanzapine OR quetiapine OR risperidone OR ziprasidone
AND
"Tourette Syndrome"[Mesh] OR tourette*[tiab]
SEARCH STRATEGY #22 (PubMed UPDATE – Substance Abuse):
DATABASE & DATES OF COVERAGE:

"Antipsychotic Agents"[MeSH] OR "Antipsychotic Agents"[Pharmacological Action] OR aripiprazole OR olanzapine OR quetiapine OR risperidone OR ziprasidone)
AND
substance abuse* OR drug abuse* OR alcohol abuse OR addict* OR drug dependen* OR cocaine OR heroin OR "Substance-Related Disorders"[Mesh]

NUMBER OF RESULTS: 173

SEARCH STRATEGY #23 (PubMed UPDATE – Personality Disorders):
DATABASE & DATES OF COVERAGE:

"Antipsychotic Agents"[MeSH] OR "Antipsychotic Agents"[Pharmacological Action] OR aripiprazole OR olanzapine OR quetiapine OR risperidone OR ziprasidone)
AND

NUMBER OF RESULTS: 225

SEARCH STRATEGY #24 (PubMed UPDATE – Anxiety):
DATABASE & DATES OF COVERAGE:
"Antipsychotic Agents"[MeSH] OR "Antipsychotic Agents"[Pharmacological Action] OR aripiprazole OR olanzapine OR quetiapine OR risperidone OR ziprasidone)
AND

NUMBER OF RESULTS: 155

SEARCH STRATEGY #25 (PsycINFO UPDATE – Drug Utilization):
DATABASE & DATES OF COVERAGE:

risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR paliperidone
AND
drug utilization OR utiliz* OR utilis* OR use OR uses OR Pharmacoepidemiolog*
Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 189

SEARCH STRATEGY #26 (PsycINFO UPDATE – Off-Label):
DATABASE & DATES OF COVERAGE:

risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR paliperidone
AND
off-label OR "off label" OR offlabel
Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 4

SEARCH STRATEGY #27 (PsycINFO UPDATE – Personality Disorders):
DATABASE & DATES OF COVERAGE:

risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR paliperidone
AND
personality disorder* OR posttraumatic stress disorder OR post-traumatic stress OR ptsd or dementia OR "major depressive" OR
obsessive-compulsive OR obsessive compulsive or dementia OR ((geriatric OR elderly) AND (agitation OR agitated))
Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 111

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SEARCH STRATEGY #28 (PsycINFO UPDATE – Other Disorders):
DATABASE & DATES OF COVERAGE:

risperidone OR olanzapine OR quetiapine OR aripiprazole OR ziprasidone OR paliperidone
AND
anxiety OR anti-anxiety OR antianxiety OR insomnia OR sleep* OR anorexi* OR bulimi* OR tourett* OR attention deficit disorder OR
adhd
Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 137

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SEARCH STRATEGY #29 (PsycINFO UPDATE – Three specific drugs):
DATABASE & DATES OF COVERAGE:

iloperidone OR asenapine OR paliperidone
Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 60

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SEARCH STRATEGY #30 (PsycINFO UPDATE – Depression):

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DATABASE & DATES OF COVERAGE:
olanzapine OR quetiapine OR risperidone OR ziprasidone OR aripiprazole
AND
depression OR depressive
NOT
personality disorder* OR posttraumatic stress disorder OR post-traumatic stress OR ptsd or dementia OR "major depressive" OR obsessive-compulsive OR obsessive compulsive or dementia OR ((geriatric OR elderly) AND (agitation OR agitated))
Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 95

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SEARCH STRATEGY #31 (PsycINFO UPDATE – Substance Abuse):
DATABASE & DATES OF COVERAGE:
olanzapine OR quetiapine OR risperidone OR ziprasidone OR aripiprazole
AND
substance abuse* OR drug abuse* OR alcohol abuse OR addict* OR drug dependen* OR cocaine OR heroin
Search modes - Phrase Searching (Boolean)
Population Group: Human

NUMBER OF RESULTS: 47

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SEARCH STRATEGY #32 (PsycINFO UPDATE – General Atypical Antipsychotics):
DATABASE & DATES OF COVERAGE:
atypical antipsychotic* OR atypical anti-psychotic*
Population Group: Human

Search modes - Phrase Searching (Boolean)

NUMBER OF RESULTS: 326
SEARCH STRATEGY #33 (Embase UPDATE – Systematic Reviews, Meta-Analyses, Clinical Trials):

DATABASE & DATES OF COVERAGE:

SEARCH STRATEGY:
'olanzapine'/exp OR 'quetiapine'/exp OR 'risperidone'/exp OR 'ziprasidone'/exp OR 'aripiprazole'/exp OR 'iloperidone'/exp OR 'asenapine'/exp OR 'paliperidone'/exp OR 'atypical antipsychotic'/exp OR 'atypical antipsychotics'/exp OR 'atypical anti-psychotic' OR 'atypical anti-psychotics' OR 'atypical antipsychotic agent'/exp
AND utilization OR utiliz* OR utilis* OR use OR uses OR pharmacoepidemiolog* OR 'off-label' OR 'off label' OR offlabel OR 'personality disorder'/exp OR 'personality disorders'/exp OR 'post-traumatic stress'/exp OR 'posttraumatic stress disorder'/exp OR 'ptsd'/exp OR 'dementia'/exp OR 'major depressive' OR 'major depression'/exp OR 'obsessive compulsive' OR 'obsessive-compulsive disorder'/exp OR (geriatric OR 'elderly'/exp) AND ('agitation'/exp OR agitated) OR 'anxiety'/exp OR 'anti-anxiety' OR antianxiety OR insomnia* OR sleep* OR anorexi* OR bulimi* OR tourett* OR 'attention deficit disorder'/exp OR 'adhd'/exp OR 'depression'/exp OR depressive OR 'alcohol abuse'/exp OR 'alcoholism'/exp OR 'substance abuse'/exp OR addict* OR 'cocaine'/exp OR 'heroin'/exp OR autism'/exp OR autistic
AND
[cocohane review]/lim OR [controlled clinical trial]/lim OR [meta analysis]/lim OR [randomized controlled trial]/lim OR [systematic review]/lim

NUMBER OF RESULTS: 684

SEARCH STRATEGY #34 (Embase UPDATE – Observational Studies)

DATABASE & DATES OF COVERAGE:
SEARCH STRATEGY:
'olanzapine'/exp OR 'quetiapine'/exp OR 'risperidone'/exp OR 'ziprasidone'/exp OR 'aripiprazole'/exp OR 'iloperidone'/exp OR 'asenapine'/exp OR 'paliperidone'/exp OR 'atypical antipsychotic'/exp OR 'atypical antipsychotics'/exp OR 'atypical anti-psychotic' OR 'atypical anti-psychotics' OR 'atypical antipsychotic agent'/exp AND utilization OR utiliz* OR utilis* OR use OR uses OR pharmacoepidemiolog* OR 'off-label' OR 'off label' OR offlabel OR 'personality disorder'/exp OR 'personality disorders'/exp OR 'post-traumatic stress'/exp OR 'posttraumatic stress disorder'/exp OR 'ptsd'/exp OR 'dementia'/exp OR 'major depressive' OR 'major depression'/exp OR 'obsessive compulsive' OR 'obsessive-compulsive disorder'/exp OR (geriatric OR 'elderly'/exp) AND ('agitation'/exp OR agitated) OR 'anxiety'/exp OR 'anti-anxiety' OR antianxiety OR insomnia* OR sleep* OR anorexi* OR bulimi* OR tourett* OR 'attention deficit disorder'/exp OR 'adhd'/exp OR 'depression'/exp OR depressive OR 'alcohol abuse'/exp OR 'alcoholism'/exp OR 'substance abuse'/exp OR addict* OR 'cocaine'/exp OR 'heroin'/exp OR autism'/exp OR autistic AND observational AND [humans]/lim

NUMBER OF RESULTS: 111
eFigure. Literature flow
Studies considered for efficacy analysis (continued from previous page)

N = 162

Contributed to efficacy evidence
N = 162
(one article studied depression and anxiety)

Dementia N = 38
Depression N = 36
OCD N = 16
Anxiety N = 14
PTSD N = 10
Substance Abuse N = 33
Eating Disorder N = 6
Personality Disorder N = 12
Insomnia N = 1
eReferences

Eating Disorder

Personality Disorder

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**Post-traumatic Stress Disorder**


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**Depression**


35. Levitt AL, R. Chaput, Y. et al., Risperidone vs. olanzapine as add-on treatment in treatment-resistant depression: a randomized double blind comparison [poster]. Paper presented at: 24th Congress of the Collegium Internationale Neuro-Psychopharmacologicum 2004; Paris, France.


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Substance Abuse


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