**Supplement 1. Search strategy Medline, Embase, PsychINFO**

**20160229 Medline**

exp schizophrenia/ or schizophrenic psychology/

(schizophreni\* or severe mental illness).ab,jw,kf,ti

or/1-2 [schizophrenia]

exp Dopamine Antagonists/ or exp antipsychotic agents/

(anti psychotic\* or antipsychotic\* or neuroleptic\*).ab,kf,ti

(olanzapine or Zyprexa or Clozapine or Clozaril or leponex or Quetiapine or Seroquel or Risperidone or Risperdal or Chlorpiprazine or Perphenazine or perfenazine or Trilafon or Pimozide or Mozep or Pimodac or Aripiprazole or Abilify or Lurasidone Hydrochloride or Latuda or Haloperidol or Haldol or Penfluridol or Semap or Flumap or pipamperone or carpiperone or floropipamide or fluoropipamide or Flupenthixol or Depixol or Fluanxol or Sulpiride or Dogmatil or Dolmatil or Eglonyl or Espiride or Modal or Prometar or Sulpor or Chlorpromazine or Thorazine or Largactil or Amisulpride or Amazeo or Amipride or Amival or Solian or Soltus or Sulpitac or Sulprix or Zuclopenthixol or Cisordinol).ab,kf,ti

or/4-6 [antipsychotics]

exp mortality/ or survival analysis/ or kaplan-meier estimate/ or suicide/ or suicide, assisted/ or exp heart arrest/

mortality.fs

(mortalit\* OR death\* or (fatal adj3 outcome?) or fatality or "years of life lost" or suicide OR Kaplan\* OR survival or surviving or survivor?).ab,kf,ti

(cardiac arrest or cardiac infarct\* or heart attack? or heart arrest or cardiovascular stroke or myocard\* infarct\*).ab,kw,ti

or/8-11 [mortality outcomes]

3 and 7 and 12

(NCT02220504 or NCT00493233 or NCT00222807).mp.

13 or 14

animals/ not humans/

15 not 16

..dedup 17

**20160229 Embase**

exp \*schizophrenia/

(schizophreni\* or severe mental illness).ab,jx,kw,ti

or/1-2 [schizophrenia]

exp \*dopamine receptor blocking agent/ or \*neuroleptic agent/ or neuroleptic agent/dt or \*chlorpromazine/ or \*flupentixol/ or \*haloperidol/ or \*penfluridol/ or \*pimozide/ or \*pipamperone/ or \*atypical antipsychotic agent/ or \*amisulpride/ or \*aripiprazole/ or \*clozapine/ or \*olanzapine/ or \*paliperidone/ or \*quetiapine/ or \*risperidone/ or \*sulpiride/ or schizophrenia/dt

(anti psychotic\* or antipsychotic\* or neuroleptic\*).ab,kw,ti

(olanzapine or Zyprexa or Clozapine or Clozaril or Quetiapine or Seroquel or Risperidone or Risperdal or Perphenazine or perfenazine or Trilafon or Pimozide or Mozep or Pimodac or Aripiprazole or Abilify or Lurasidone Hydrochloride or Latuda or Haloperidol or Haldol or Penfluridol or Semap or Flumap or pipamperone or carpiperone or floropipamide or fluoropipamide or Flupenthixol or Depixol or Fluanxol or Sulpiride or Dogmatil or Dolmatil or Eglonyl or Espiride or Modal or Prometar or Sulpor or Chlorpromazine or Thorazine or Largactil or Amisulpride or Solian or Zuclopenthixol or Cisordinol).ab,kw,ti

("132539-06-1" or "5786-21-0" or "111974-72-2" or "106266-06-2" or "58-39-9" or "2062-78-4" or "129722-12-9" or "52-86-8" or "26864-56-2" or "1893-33-0" or "2709-56-0" or "23672-07-3" or "50-53-3" or "71675-85-9" or "1246833-58-8").ab,rn

or/4-7 [antipsychotics]

\*mortality/ or \*cancer mortality/ or \*cardiovascular mortality/ or \*premature mortality/ or \*standardized mortality ratio/ or \*survival/ or exp \*cancer survival/ or \*long term survival/ or \*overall survival/ or \*post treatment survival/ or \*short term survival/ or \*survival factor/ or \*survival prediction/ or \*survival rate/ or \*survival time/ or \*suicide/ or exp \*heart arrest/

(mortalit\* OR death\* or (fatal adj3 outcome?) or fatality or "years of life lost" or suicide OR Kaplan\* OR survival or surviving or survivor?).ab,kw,ti

(cardiac arrest or cardiac infarct\* or heart attack? or heart arrest or cardiovascular stroke or myocard\* infarct\*).ab,kw,ti

or/9-11 [mortality outcomes]

3 and 8 and 12

(NCT02220504 or NCT00493233 or NCT00222807).ab,cn,kw,ti

13 or 14

(animal/ or animal experiment/ or animal model/ or nonhuman/ or rat/ or mouse/ or (rat or rats or mouse or mice).ti.) not human/

15 not 16

..dedup 17

**20160229 PsycINFO**

schizophrenia/ or acute schizophrenia/ or catatonic schizophrenia/ or paranoid schizophrenia/ or process schizophrenia/ or "schizophrenia (disorganized type)"/ or schizophreniform disorder/ or undifferentiated schizophrenia/

(schizophreni\* or severe mental illness).ab,jx,id,ti

"3213".cc

or/1-3 [schizophrenia]

neuroleptic drugs/ or aripiprazole/ or clozapine/ or olanzapine/ or quetiapine/ or risperidone/ or sulpiride/ or haloperidol/ or dopamine antagonists/ or chlorpromazine/ or thioridazine/ or Perphenazine/ or pimozide/

(anti psychotic\* or antipsychotic\* or neuroleptic\*).ab,id,ti

(olanzapine or Zyprexa or Clozapine or Clozaril or leponex or Quetiapine or Seroquel or Risperidone or Risperdal or Chlorpiprazine or Perphenazine or perfenazine or Trilafon or Pimozide or Mozep or Pimodac or Aripiprazole or Abilify or Lurasidone Hydrochloride or Latuda or Haloperidol or Haldol or Penfluridol or Semap or Flumap or pipamperone or carpiperone or floropipamide or fluoropipamide or Flupenthixol or Depixol or Fluanxol or Sulpiride or Dogmatil or Dolmatil or Eglonyl or Espiride or Modal or Prometar or Sulpor or Chlorpromazine or Thorazine or Largactil or Amisulpride or Amazeo or Amipride or Amival or Solian or Soltus or Sulpitac or Sulprix or Zuclopenthixol or Cisordinol).ab,id,ti

or/5-7 [antipsychotics]

"death and dying"/ or exp suicide/

(mortalit\* OR death\* or (fatal adj3 outcome?) or fatality or "years of life lost" or suicide OR Kaplan\* OR survival or surviving or survivor?).ab,id,ti

(cardiac arrest or cardiac infarct\* or heart attack? or heart arrest or cardiovascular stroke or myocard\* infarct\*).ab,id,ti

or/9-11 [mortality outcomes]

4 and 8 and 12

(NCT02220504 or NCT00493233 or NCT00222807).mp.

13 or 14

limit 15 to ("0100 journal" or "0110 peer-reviewed journal" or "0400 dissertation abstract")

**Supplement 2. Quality assessment of included studies with randomized design**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Domain | Random sequence generation | Allocation concealment | Blinding of participants and personnel | Blinding of outcome assessment | Incomplete outcome data | Selective reporting |
| Alphs et al. 2015 | + | + | + | + | + | - |
| Gaebel/de Arce Cordón et al. 2010 | + | ? | + | + | - | - |
| Meltzer et al. 2003 | + | ? | + | + | - | - |
| Ritchie et al. 2010 | ? | ? | + | - | ? | - |
| Thomas et al. 2010 | + | + | + | ? | + | - |

All studies are appraised and ranked per items as unknown, low or high risk of bias.

**Supplement 3. Quality assessment of included studies with cohort design**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Domain | Selection (out of 4) | Comparability(out of 2) | Outcome(out of 3) | **Total number of stars (out of 9)** |
| Girgis et al. 2011 | \*\*\* | \*\* | \*\* | **7** |
| Kasper et al. 2010 | \*\*\* |  | \* | **4** |
| Montout et al. 2002 | \*\*\*\* |  | \*\* | **6** |
| Ran et al. 2015 | \*\* |  | \*\*\* | **5** |
| Cullen et al. 2012 | \*\*\*\* |  | \*\*\* | **7** |
| Deslandes et al. 2015 | \*\* |  | \*\* | **4** |
| Hayes et al. 2014 | \*\*\*\* | \* | \*\* | **7** |
| Kelly et al. 2010 | \* | \* | \*\* | **4** |
| Pridan et al. 2014 | \*\* |  | \*\* | **4** |
| Tenback et al. 2012 | \*\*\* |  | \*\* | **5** |
| Tiihonen et al. 2009 | \*\*\*\* | \* | \*\*\* | **8** |
| Torniainen et al. 2015 | \*\*\* | \*\* | \*\*\* | **8** |

\*Each star represents a positive score in that particular domain

**Supplement 4. Quality assessment of included studies with case-control design**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Domain | Selection(out of 4) | Comparability(out of 2) | Exposure(out of 3) | **Total number of stars(out of 9)** |
| Chen et al. 2015 | \*\*\*\* | \*\* | \*\* | **8** |
| Sernyak et al. 2001 | \*\*\*\* | \*\* | \* | **7** |
| Taylor et al. 2009 | \*\* | \* |  | **3** |

\*Each star represents a positive score in that particular domain