Are adolescents dying by suicide taking SSRI antidepressants? A review of observational studies
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CRD summary
The review concluded that the rarity of selective serotonin re-uptake inhibitor antidepressants usage prior to adolescent suicide did not support the assertion that they were associated with increased suicide in young people. Limited evidence of uncertain quality and limitations in the review process mean that the authors' conclusions should be interpreted with substantial caution.

Authors' objectives
To examine the use of selective serotonin re-uptake inhibitor antidepressants (SSRIs) in adolescents who die by suicide.

Searching
MEDLINE, EMBASE, CINAHL, and the Cochrane Library were searched from 1989 to 2009; search terms were reported. References from previous relevant reviews were also checked.

Study selection
Observational studies (with or without a control group) that contained individual level data on adolescent suicides and selective serotonin re-uptake inhibitor antidepressants (SSRI) consumption at the time of death were eligible for inclusion. Studies that included severely-ill populations (e.g. individuals that had been hospitalised for attempted suicide or those that had been hospitalised at least once for depression) were not deemed to be representative of the wider population of youth who died by suicide and were excluded.

Most of the included studies concerned post-mortem antidepressant toxicological data from conservative youth suicides; the other studies involved pharmaco-epidemiological data that examined adolescent SSRI use in proximity to/or overlapping the time of death. Ages ranged from under 15 years to 21 years; one study reported separate results for young people under 15 years old and those aged 15 to 19 years old. Studies were carried out in Sweden, Denmark, UK, and USA.

The authors did not state how many reviewers selected studies for inclusion in the review.

Assessment of study quality
The authors did not state that they assessed the quality of the included studies.

Data extraction
The authors did not clearly state how data were extracted or how many reviewers extracted data from the included studies.

Methods of synthesis
Data were aggregated and the overall proportion of participants who died by suicide and that had had exposure to SSRIs was calculated. Results were re-calculated using only post-mortem toxicology studies.

Results of the review
Six observational studies were included in the review (n=574 young people). Four studies included a control group.

Of the young people who had died by suicide, 1.6% (n=9) had recent exposure to selective serotonin re-uptake inhibitor antidepressants (SSRIs). When only the post-mortem studies were considered, the proportion of young people who died by suicide with exposure to SSRIs was 1.7%.
Authors' conclusions
The rarity of selective serotonin re-uptake inhibitor antidepressants usage prior to adolescent suicide did not support the assertion that they were associated with increased suicide in young people.

CRD commentary
The review question was supported by population and outcome criteria. Several databases were searched, although it was not clear whether the search was restricted by publication type or language. Publication bias was not assessed, but the small number of included studies would make this difficult. The authors did not report whether appropriate measures were taken to minimise the possibility of error and/or bias at any stage of the review process.

Study quality did not appear to have been assessed. There was a lack of study and patient details, which limited interpretation of the results. Results were calculated from aggregated study data. As highlighted by the authors, the review did not differentiate where drugs were taken in overdose versus where they were present incidentally.

Given that the evidence was based on a small number of observational studies (of uncertain quality) that rather crudely aggregated results to determine the review aims, in addition to limitations in the review process, the authors' conclusions should be interpreted with substantial caution.

Implications of the review for practice and research
Practice: The authors stated that, with appropriate precautions, practitioners can more confidently prescribe SSRIs for young people with moderate to severe clinical depression.

Research: The authors did not state any implications for future research.

Funding
Not reported.

Bibliographic details

PubMedID
20482427

DOI
10.3109/10398561003681319

Original Paper URL

Indexing Status
Subject indexing assigned by NLM

MeSH
Adolescent; Cause of Death; Cross-Sectional Studies; Depressive Disorder /diagnosis /drug therapy /mortality; Drug Utilization /statistics & numerical data; Female; Humans; Male; Population Surveillance; Risk; Serotonin Uptake Inhibitors /therapeutic use /toxicity; Statistics as Topic; Suicide /statistics & numerical data; Treatment Outcome; Young Adult

AccessionNumber
12010006251

Date bibliographic record published
Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.