

# DSEN ABSTRACT

## Prolactin-related adverse events and change in prolactin levels in pediatric patients exposed to antipsychotics for schizophrenia and schizophrenia-spectrum disorders: A systematic review and meta-analysis

### Summary

The objective of this review was to examine the safety of antipsychotic medications in pediatric patients with schizophrenia and schizophrenia-related disorders. A total of 11 studies, including 6 RCTs, were included in the review. Overall, the findings suggest that some medications may increase prolactin levels and that these changes may be associated with the patient's gender. However, no conclusions could be drawn on the association between antipsychotic treatment and adverse events, because there was not enough evidence in the literature.

### Implications

While some antipsychotic medications may raise prolactin levels, it is unclear what risk this poses to the patient. Nevertheless, clinicians should continue to monitor patients for prolactin-related adverse events.

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### What is the issue?

- The symptoms of schizophrenia may in part be managed with antipsychotic medications, which may be classified as first-generation (FGA) or second-generation antipsychotics (SGA).
- SGAs were developed as a response to the unwanted adverse events associated with FGAs, though it has been suggested that SGAs may elevate prolactin levels in patients, putting them at risk for other adverse events such as gynecomastia and galactorrhea.

### What was the aim of the study?

- The purpose of this review was to examine the risk of prolactin-related adverse events, such as gynecomastia and galactorrhea, associated with the use of antipsychotic medications in the treatment of pediatric schizophrenia and schizophrenia-spectrum disorders, while also quantifying the change in serum prolactin associated with these treatments.

### How was the study conducted?

- The protocol (or plan) for the review was developed and revised with input from researchers and clinicians.
- 4 databases and unpublished literature were searched for randomized controlled trials (RCTs) or non-randomized studies of pediatric patients with schizophrenia or schizophrenia-spectrum disorders being treated with FGAs or SGAs.
- Screening of literature search results, data extraction, and quality assessments were conducted independently by two reviewers.
- Where possible, outcome data were pooled to allow for descriptive comparisons between treatments. In addition, a network meta-analysis (NMA) was conducted based on the availability of evidence. This allows for comparisons between all treatments – even those that have not been studied in head-to-head trials.

### What did the study find?

- We identified 11 studies, including 6 RCTs and 5 observational studies.
- All of the included studies evaluated patients treated with SGAs, including risperidone, quetiapine, aripiprazole, olanzapine, and paliperidone.
- Many of the SGAs were associated with increases in serum prolactin, including risperidone, certain doses of paliperidone, olanzapine, and quetiapine.
- Some SGAs, including aripiprazole and low doses of paliperidone were associated with decreases in prolactin.
- For some treatments, such as risperidone, the association between treatment and change in prolactin levels varied by patient gender.
- Very few adverse events were reported in the included studies, so no conclusions can be drawn.

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Link to publications: [Druyts et al, 2014](#); [Druyts et al, 2016](#).