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# Association of Selective Serotonin Reuptake Inhibitor Exposure During Pregnancy With Speech, Scholastic, and Motor Disorders in Offspring

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 Editorial Comment

## Key Points

**Question** Is exposure to selective serotonin reuptake inhibitors during pregnancy associated with an increased risk of adverse speech, scholastic, or motor outcomes in offspring?

**Findings** In this cohort study, offspring of mothers who purchased at least 2 selective serotonin reuptake inhibitors prescriptions during pregnancy had a significantly increased risk of speech/language disorders compared with offspring of mothers diagnosed as having psychiatric disorders who did not take medication during pregnancy.

**Meaning** The findings suggest that use of selective serotonin reuptake inhibitors during pregnancy increases the risk of speech/language disorders in offspring.

## Abstract

**Importance** Speech/language, scholastic, and motor disorders are common in children. It is unknown whether exposure to selective serotonin reuptake inhibitors (SSRIs) during pregnancy influences

susceptibility to these disorders.

**Objective** To examine whether SSRI exposure during pregnancy is associated with speech/language, scholastic, and motor disorders in offspring up to early adolescence.

**Design, Setting, and Participants** This prospective birth cohort study examined national population-based register data in Finland from 1996 to 2010. The sampling frame includes 845 345 pregnant women and their singleton offspring with data on maternal use of antidepressants and depression-related psychiatric disorders during pregnancy.

**Exposures** There were 3 groups of offspring: 15 596 were in the SSRI-exposed group, ie, had mothers diagnosed as having depression-related psychiatric disorders with a history of purchasing SSRIs during pregnancy; 9537 were in the unmedicated group, ie, had mothers diagnosed as having depression-related psychiatric disorders without a history of purchasing SSRIs during pregnancy; and 31 207 were in the unexposed group, ie, had mothers without a psychiatric diagnosis or a history of purchasing SSRIs.

**Main Outcomes and Measures** Cumulative incidence of speech/language, scholastic, or motor disorders (829, 187, and 285 instances, respectively) from birth to 14 years. All hypotheses tested were formulated before data collection.

**Results** Of the 56 340 infants included in the final cohort, 28 684 (50.9%) were male and 48 782 (86.6%) were 9 years or younger. The mean (SD) ages of children at diagnosis were 4.43 (1.67), 3.55 (2.67), and 7.73 (2.38) for speech/language, scholastic, and motor disorders, respectively. Offspring of mothers who purchased SSRIs at least twice during pregnancy had a significant 37% increased risk of speech/language disorders compared with offspring in the unmedicated group. The cumulative hazard of speech/language disorders was 0.0087 in the SSRI-exposed group vs 0.0061 in the unmedicated group (hazard ratio, 1.37; 95% CI, 1.11-1.70;  $P = .004$ ). There was a significantly increased risk of these disorders in offspring in the SSRI-exposed and unmedicated groups compared with offspring in the unexposed group. For scholastic and motor disorders, there were no differences between offspring in the SSRI-exposed group and in the unmedicated group.

**Conclusions and Relevance** Exposure to SSRIs during pregnancy was associated with an increased risk of speech/language disorders. This finding may have implications for understanding associations between SSRIs and child development.



### Invited Commentary

### Implications of Fetal Exposure to Selective Serotonin Reuptake Inhibitors

Research

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Alan S. Brown, MD, MPH; David Gyllenberg, MD, PhD; Heli Malm, MD, PhD; Ian W. McKeague, PhD; Susanna Hinkka-Yli-Salomäki, PhD; Miia Artama, PhD; Milka Gissler, PhD; Keely Cheslack-Postava, PhD; Myrna M. Weissman, PhD; Jay A. Gingrich, MD, PhD; Andre Sourander, MD, PhD

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