Screening and Diagnostic Tools for Autism Spectrum Disorder in Children: A Review

Context
Autism spectrum disorder (ASD) refers to a range of related developmental disorders, including autistic disorder as well as the milder variants Asperger syndrome and pervasive developmental disorder—not otherwise specified (PDD-NOS). ASD is a lifelong condition characterized by impaired verbal and non-verbal communication, impaired socialization, and repetitive or restricted patterns of behaviour. In 2005, the prevalence of autistic disorder in Canada was estimated at 13 per 10,000, 2.6 per 10,000 for Asperger disorder, and 20.8 per 10,000 for PDD-NOS.

Technology
Early screening and subsequent diagnosis is important—the earlier a child with ASD is diagnosed, the sooner he or she can access autism-specific support and resources, which can lead to more positive outcomes. There are currently various methods, including interviews, observations, and tools, available to screen for and diagnose ASD.

Issue
The apparent increasing prevalence of ASD emphasizes the need for effective and accurate screening and diagnosis; however, there is no consensus on the best approach. A review of evidence-based guidelines on tools for recognizing and diagnosing ASD in the pediatric population will help to inform decisions regarding the screening and diagnosis of ASD.

Methods
A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages
- Most guidelines recommend the use of tools, in conjunction with clinical judgment, for screening and diagnosing ASD.
  - Recommended screening tools are ASQ, CHAT, CHAT with the Denver modification, M-CHAT, and STAT.
  - Recommended diagnostic tools are ADI-R, ADOS/ADOS-G, ADI-R/ADOS combination, CARS, GARS, PIA, PDDST-II, and STAT.
- Diagnostic assessment using DSM-IV-TR and/or IDC-10 diagnostic criteria is recommended for ASD diagnosis.

Results
The literature search identified 420 citations, with an additional 4 articles identified from grey literature. Of these, 34 were deemed potentially relevant, and 4 met the inclusion criteria for this review.