



Pediatrics · Educational evidence summary

Why adult anticholinergic scales should not be assumed valid in children

This pediatric review addresses why adult anticholinergic scales should not be assumed valid in children.

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A calculation can be possible before its interpretation is justified

An adult medication list can be applied to a child's prescriptions and produce a number. That establishes that the lookup and arithmetic were possible. It does not establish that the number measures the same construct, predicts the same outcome, or supports the same threshold in children. This comparison explains the difference between applying a method and validating its meaning.

The distinction is essential for UnifiedACB. The site can preserve an original source observation without claiming that every population in which the medicine is used was studied. A pediatric evidence layer must add applicability information, not silently rename an adult category as a pediatric score.

Compare the populations

An adult validation population may differ from a pediatric population in the conditions treated, medicines used, exposure duration, co-medications, and outcome assessment. These are not minor labels attached after analysis; they help define the question the study answers. A result from one population does not carry a guarantee of transportability to another.

Even "children" is a broad category. A study in adolescents receiving one medicine cannot establish performance in infants or children with complex neurological conditions. A defensible comparison states the actual age range and clinical setting rather than using a single pediatric label to hide those differences.

Compare the outcome definitions

An adult study may assess a diagnosis, an adverse-event outcome, or a particular cognitive measure. A pediatric study may measure test performance, caregiver-reported symptoms, or



another endpoint. The same source category can therefore be associated with outcomes that are not equivalent.

Ghezzi and colleagues' pediatric cognition review illustrates why the outcome and exposure scope should remain explicit. [Ghezzi et al., 2021](#) A finding about the studied cognitive tests cannot be used to declare every other pediatric outcome unaffected. Nor can an adult dementia association be translated directly into a child's long-term prognosis.

Compare how exposure is represented

Many source categories are ingredient-level classifications rather than dose-response models. A pediatric prescription may be weight-based or use a different formulation, but those details do not automatically change the original category. Scaling an adult ordinal value by body weight would create a new method with untested properties.

The appropriate response is to retain the source observation and record the child's actual exposure separately. Where the source does not specify a route or formulation, that limitation should remain visible. Technical completeness should not be obtained by filling missing fields from an assumed "usual" product.

Validation is several questions, not one stamp

First, can the system identify the right medicine and reproduce the original source value? Second, does the measurement describe the intended exposure construct in the target population? Third, is it associated with or predictive of the chosen outcome? Fourth, does using it in care improve a meaningful outcome? These are different evaluations.

A tool can perform the first task correctly while the later questions remain unanswered. That is not a contradiction. It is a reason to report validation scope precisely. "Source lookup verified" is a narrower claim than "pediatric clinical risk prediction validated," and the evidence needed is different.

Thresholds need their own justification

A cutoff used in an adult study may reflect that study's design or available data. It should not become a pediatric action threshold merely because it is familiar. The consequence of classifying a child above or below it also needs evaluation, including false reassurance and unnecessary concern.

If a research protocol explores an adult threshold in a pediatric cohort, it should label that analysis appropriately and report the underlying distribution and uncertainty. A favorable association in one dataset would still require further evaluation before supporting a clinical rule.

Coverage can distort a comparison

If the adult source omits medicines common in the pediatric setting, the calculated exposure may describe only part of the regimen. Treating those omissions as zero creates false completeness.



Excluding every incompletely mapped child can also change the population represented by the analysis.

Report which medicines and participants have usable observations and why others do not. A missing value, a published zero, an unresolved identity, and unavailable pediatric outcome evidence should remain distinguishable. They are different limitations requiring different remedies.

What a responsible pediatric display should say

The display should name the original source and show the exact observation without altering its value. It should separately describe the population studied and any pediatric evidence relevant to the current question. A geriatric criterion should retain its older-adult scope rather than appear as a child-specific safety label.

The result may be a useful evidence summary with an explicit gap in pediatric validation. That is preferable to a more confident-looking score whose meaning was never established for the population.

Consider a proposed display that uses an adult-derived category beside a pediatric medication name. The database lookup may be accurate: the named source did classify that ingredient. The next sentence determines whether the display remains accurate. Saying that the category estimates the child's chance of cognitive harm would require a validated relationship that the lookup does not provide. Saying that it is the source's classification, with pediatric applicability unresolved, preserves what is known without adding a prediction.

A validation plan should follow the intended claim. If the aim is retrieval fidelity, compare the returned record with the source. If the aim is pediatric prediction, evaluate the specified outcome in a suitable pediatric population. If the aim is better clinical decisions, study decisions and their consequences. Success at the first task is necessary for a reliable evidence tool, but it cannot be counted as completion of the latter two.

Limits and conclusion

This article does not prove that adult classifications are irrelevant in pediatrics. It explains why relevance and validation are different claims. Applying a source can organize evidence and generate research questions; demonstrating pediatric clinical meaning requires a defined population, outcome, exposure method, and appropriate evaluation.



References

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Explore the evidence

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