

Are there clinical features that may predict successful identification of an underlying cause in children with global developmental delay?

childhood  
disability  
LINK



## Summary

*Microcephaly:* A below-average head size in relation to the rest of the body; below the third percentile for age on growth charts.

The main aim of this study was to determine the underlying causes for children with global developmental delay. In order to investigate this, the researchers reviewed the history of a large group of children with a diagnosis of global developmental delay. An underlying cause of global developmental delay was found in less than half of the children (slightly less than 40%). Interestingly when there were no features of autism present in the child, the percentage of children where a cause was found increased quite substantially to 55%. The most common causes of global developmental delay found (among many others) were: genetic abnormalities, inadequate oxygen supply to the fetus before and at the time of birth, abnormal development of the brain, lack of stimulation within a positive social environment and exposure to certain toxins before birth. Several characteristics in the children were identified that increased the likelihood of finding a cause. These included: if the child was female, if the child had an abnormal history before or after birth, if the child did not present with features of autism, if the child had microcephaly, if the child had at least one abnormal neurologic examination and if the child had multiple physical development abnormalities. Importantly, some of these causes found are theoretically preventable (such as lack of a healthy social environment, exposure to certain toxins before birth, in-utero infection and inadequate intake of oxygen) suggesting possible prevention strategies for developmental delay. Also important to note is that no relationship was found between the severity of the child's developmental delay and the likelihood of identifying an underlying cause.

## What families should know

A careful search for an etiology in children with global developmental delay is indeed worthwhile, often resulting in identifying an underlying cause.

## What practitioners should know

Causal search should not be influenced by the severity of the child's delay or the absence of findings on history or physical examination, success in determining a cause appears to be unrelated to the severity of disability. Children without an underlying cause for their global developmental delay continue to pose a diagnostic challenge and future technological innovations will need to be applied to this particular population. The heterogeneous nature of global developmental delay might be an important variable in the search for etiology.

### Reference

[Srouf, M., Mazer, B., & Shevell, M.I. \(2006\). Analysis of clinical features predicting etiologic yield in the assessment of global developmental delay. \*Pediatrics\*, 118, 139-145.](#)