PROGNOSIS

Psychiatric problems at baseline in children with hemiplegia predicted psychiatric problems at 4 years

Goodman R. *The longitudinal stability of psychiatric problems in children with hemiplegia.* *J Child Psychol Psychiatry* 1998 Mar;39:347–54.

Questions

How stable are psychiatric problems in children who have hemiplegia?

Design

2 inception cohorts with 4 years follow up.

Setting

London, UK.

Patients

All children had a clinical diagnosis of hemiplegia. Of 88 preschool children who were assessed at 3–5 years of age, the parents of 78 children (89%) completed baseline questionnaires. Follow up was 90%. Teacher questionnaires were completed for <80% of preschool children. Of 240 schoolchildren who were assessed at 5–12 years of age, the parents of 218 children (91%) and the teachers of 224 children (93%) completed questionnaires. Follow up was 87% for parent questionnaires and 84% for teacher questionnaires.

Assessment of prognostic factors

In preschool children, the Behaviour Checklist was completed by parents. In schoolchildren, parents and teachers completed questionnaires which included a modified Rutter questionnaire and an item on mental age; hyperactivity was assessed in the teacher questionnaire using 7 items from the Conners teacher rating scale.

Main outcome measures

Number of psychiatric cases at 4 years of follow up and associations between problems at baseline and problems 4 years later.

Main results

25 of 33 preschool children and 81 of 107 schoolchildren who

were identified as having a psychiatric disorder based on parent reports still had disorder 4 years later. Children with psychiatric disorder were more likely to have disorder 4 years later than those without psychiatric disorder at baseline (table). An association between parent reported problems at baseline and at 4 years existed in preschool children ($r=0.57$, $p<0.001$) and in schoolchildren ($r=0.67$, $p<0.001$); a similar association existed in schoolchildren when teacher reports were used ($r=0.41$, $p<0.001$). In preschool children, items on the parent questionnaire that predicted problems reported by parents 4 years later were bed wetting ($r=0.32$, $p<0.05$), day wetting ($r=0.42$, $p<0.001$), soiling ($r=0.45$, $p<0.001$), overactiveness ($r=0.33$, $p<0.01$), “hard to handle” ($r=0.35$, $p<0.01$), tantrums ($r=0.33$, $p<0.01$), clinginess ($r=0.25$, $p<0.05$), and problems playing with others ($r=0.36$, $p<0.01$).

Conclusions

In children with hemiplegia, 76% of those who had a psychiatric disorder still had a disorder 4 years later. The presence of psychiatric problems at baseline was associated with a 2.6-fold and 2.8-fold increased risk of psychiatric problems in preschool and schoolchildren, respectively, at 4 years.

*Risk of having a psychiatric disorder 4 years later in children with hemiplegia and psychiatric problems at baseline**

Group	Relative risk increase	95% CI
Preschool children	163%	46 to 413
Schoolchildren	177%	102 to 294

*Relative risk increase and CI calculated from data in article.

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Commentary

This longitudinal study by Goodman is the latest to examine the association between hemiplegia or chronic brain disorders and psychiatric conditions. Few adequate studies have evaluated the persistence of psychiatric problems and their predictors in hemiplegic children. Goodman used well accepted, validated behaviour screening measures to address this issue.¹

By using measures completed by parents and teachers, which were repeated at 4 years follow up, Goodman has contributed several important findings. He appropriately acknowledges the limitations of screening tools; however, he also shows positive correlations between these ratings and actual assessment findings.

The practical implications of this study for clinicians are several. Firstly, the study shows the importance of considering all

aspects of a child's development and functioning, not just the obvious physical intervention needs. Secondly, this population of children is clearly at risk for psychiatric difficulties, which may be chronic. Thirdly, this research implies that behaviours such as enuresis in many children with cerebral palsy may be predictive of later psychiatric problems and should not be considered to be merely a developmental delay. Fourthly, features of attentional difficulties were identified as major risk markers and should be monitored routinely. It was interesting to note that no predictors of internalising disorders were clearly identified in this study, and predictive markers tended to be earlier externalising behaviours.

Future work should focus on identifying effective interventions, including determining if children with chronic brain disorders

respond to the same interventions that are effective for typical behavioural or psychiatric difficulties. Another issue is whether early parenting support can influence the prevalence or chronicity of these psychiatric conditions—although Goodman suggests that “adverse family factors are more likely to be consequences than causes of the children's psychiatric problems.” Although this study makes an important contribution, clearly further research is warranted to address these issues.

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¹ Goodman R. *J Child Psychol Psychiatry* 1994;35:1483–94.