

'Development of a Nutrition Screening Tool for School Aged Children with neurodisabilities'

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Dietitians and other health professionals working with children with special needs were concerned that there was no method to identify those who were at nutritional risk. Nationally it is reported that there is no regular dietetic input to the schools these children attend. A nutrition screening tool would ensure the early detection and referral of children who are at risk of malnutrition.

The aim of this study was to design a screening tool as a method of screening children with neurodisabilities to ensure the early detection of malnutrition and referral to dietetic services. By doing so the quality of life of these children can be improved by avoiding the clinical consequences of poor nutrition which are:

- poor lung function
- decreased immune system
- delayed growth and development
- delayed wound healing
- increased irritability and lack of motivation
- loss of bone mineral density
- long recovery after surgery

Over the years several studies have suggested that the prevalence of growth disorders and nutritional deficits in children with disabilities is around about 35%. (Hammond et al 1966, Roberts and Clayton 1996, Wallace 1972, Palmer 1975, Thommessen et al 1991). The Oxford Feeding Study (Sullivan et al 2000) documented that this figure is higher with 89% of children with neurological impairment needing help with feeding due to a range of dysfunctions such as poor oral-motor skills, gastrointestinal problems and gross motor disorders. Only 8% of children surveyed in this study received nutritional supplements and 64% of children had never had their nutritional status assessed by a dietitian.

Nutrition screening tools are intended to identify those at risk of malnutrition who require referral to a Dietitian for a comprehensive nutritional assessment (BDA 2009). They are commonly used within the adult population, however interestingly none are published detailing valid mathematical techniques. (Jones 2002)

The tool was designed using the clinical characteristics of malnutrition for this population. Content validity of the tool was undertaken using a nominal group approach involving 12 expert dietitians. Face validity of the tool was tested with a group of 5 school nurses.

The tool was piloted on 10 nurses and 22 children attending Chailey Heritage School. Levels of agreement were measured using Kappa coefficient scores. The scores highlighted the items on the tool that performed better in terms of having higher levels of agreement with the dietitian, thus identifying malnutrition risk.

Inter-rater reliability was explored to determine whether the nurses were using the tool in the same way. Verbal feedback was also sought from the tool users at the end of the data collection period. These results led to several further refinements including the removal of items which did not discriminate between a malnutrition risk and no risk, and re-wording of other items to improve clarity of interpretation.

The refined tool now requires testing for its psychometric properties on a larger group of children.

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