

## Paediatrics

### ARCHIVES OF DISEASE IN CHILDHOOD

#### Children's informed commitment to their diabetes care

Readability	✓✓✓✓✓
Applicability to practice	✓✓✓✓✓
WOW! factor	✓✓✓✓✓

**1** Children with type 1 diabetes' views about their condition and its management in conjunction with adults (healthcare professionals, parents or guardians) have rarely been published.

**2** The authors of this paper aimed to investigate such views by using semi-structured recorded interviews.

**3** A purposive sample of 15 children were interviewed (age range: 3–6 and 10–12 years old). A convenience sample of nine children (age range 6–11 years old) were also interviewed. Both groups had diagnosed type 1 diabetes. All children were from one of three hospitals (two in inner London and one in a commuter town).

**4** Analysis of interview transcripts demonstrated that all interviewees have high levels of understanding, knowledge and skill that they acquired by living with diabetes, by having to check their condition constantly and from healthcare professionals' counsel.

**5** The children's main intent was to lead as 'normal' lives as possible and to 'just to get on with their lives'.

**6** Even the younger interviewees demonstrated that their experience of diabetes enables them to make informed and 'wise' decisions.

**7** The authors concluded that children with type 1 diabetes' health is dependent upon their undertaking of guidance from healthcare professionals, and that more research is needed to learn of their informed commitment to their diabetes.

Alderson P, Sutcliffe K, Curtis K (2006) Children as partners with adults in their medical care. *Archives of Disease in Childhood* **91**(4): 300–3

#### Children as partners in their care



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**T**he aim of medical science research from test tube to clinical trial is ultimately to improve the lives of people suffering ill health. Since the late 1990s there has been an increasing political emphasis on the involvement of the

public in health policy and research development (see Hanley et al, 2004). There are many reasons why the public should be involved in the development of health and research strategies: service users can offer different perspectives than healthcare professionals; they can also help to ensure that money is not wasted on work that has little or no relevance to them, the service users. Yet, as paediatricians, how do we involve children in these processes? At what age do they become capable? A number of theories of child developmental stages are available – but are they pertinent to children with a chronic condition which not only involves significant changes to lifestyle and family dynamics but also includes training and education in areas that are taught at degree level to undergraduate medical students?

The paper by Alderson and colleagues (summarised on left) reports on a small study that looked at the seldom-published views of young children with type 1 diabetes. Their findings highlight that children as young

as 4 years old understand the principles of controlling their diabetes, they can make wise decisions that are in their own best interests and their competence increases as they become more experienced and not just with increasing age. Children are also motivated by different goals – not surprisingly there is no mention of glycosylated haemoglobin in this paper although it is unlikely that these children were unaware of this yardstick. Instead they are keen to get on with their lives and resent 'boring diabetes care activities' that disturb other pastimes that they enjoy. None of these findings are a surprise to any of us working with children with chronic conditions who notice how quickly many of these children have to grow up.

Alderson and colleagues comment that they have a number of reasons for 'publicising seemingly unremarkable findings'. Yet, what is remarkable is that someone has involved really very young children in a research study, asked them their views and actually published their findings. That does not mean that we should go and ask 6-year-olds to design research studies but it does mean that we need to involve these very young children as well as their parents when developing research protocols and planning service developments. It is clear that they do have an opinion and can give it.

Hanley B, Bradburn J, Barnes M et al (2004) *Involving the Public in NHS, Public Health and Social Care Research: Briefing Notes for Researchers*. Involve, Eastleigh. Available at [http://www.invo.org.uk/All\\_Publications.asp](http://www.invo.org.uk/All_Publications.asp) (accessed 19.07.2006)

### DIABETES

#### Type 1 diabetes and an impaired immune response to CVB4

Readability	✓✓✓
Applicability to practice	✓✓
WOW! factor	✓✓✓

**1** The authors of this laboratory-based research article aimed to compare the T-cell immune response to coxsackie virus B4 (CVB4) in children with type 1 diabetes with those without diabetes with and without risk-associated human leukocyte antigen (HLA) haplotypes for the condition.

**2** Flow cytometry was used to analyse cytokine and chemokine receptors from peripheral blood mononuclear cells that were isolated and cultured with CVB4. Expression of transcription factors, such as GATA-3 and Tbet, were also analysed.

**3** The results indicate that those with type 1 diabetes have an impaired immune response to CVB4 compared with healthy children; this could lead to delayed clearance of the virus which could increase their susceptibility to CVB4 infections and related complications.

Skarsvik S, Puranen J, Honkanen J et al (2006) Decreased in vitro type 1 immune response against coxsackie virus B4 in children with type 1 diabetes. *Diabetes* **55**(4): 996–1003

**PEDIATRICS INTERNATIONAL**

**TV advertising affects food consumption**

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓✓

**1** The author of this Turkish study aimed to see if TV advertisements during children's programmes affected what young viewers ate while watching TV and what they asked their parents to buy when shopping.

**2** The first part of the study involved analysing the advertisements broadcast on one Turkish channel a week between 0700 and 1130 hours on Saturday and Sunday, during which time most children's programming is broadcast, for 5 weeks. The data were recorded on a semi-structured observation form.

**3** The second part of the study involved giving 347 mothers of children aged between 3 and 8 years a checklist-based questionnaire to record what the children ate while watching television during the specified times and what they asked for while shopping in a supermarket.

**4** The researchers found that the average time of children's programming at these times was 121 minutes with 35 minutes of advertising. A total of 344 of the 775 advertisements shown concerned foodstuffs, most of which related to sweets, chocolates, crisps and dairy products.

**5** Approximately 90% of children ate something while watching TV, commonly consumed items included fruits, soft drinks, pop corn, cakes, crisps and chocolate. The results show that approximately 40% of the children asked their parents to buy what they saw advertised on TV.

**6** The author concluded that more than half of the advertised food products were high in fat and sugar, and it is these products that the children asked their parents to buy while shopping; therefore, such advertising affects young children's unhealthy food consumption.

Aktas Arnas Y (2006) The effects of television food advertisement on children's food purchasing requests. *Pediatrics International* **48**(2): 138–45

*'The authors believe that pubertal changes can accelerate the time to development of complications such as end-stage renal disease; however, the mechanism behind the association is unclear.'*

**JOURNAL OF PEDIATRICS**

**Glargine mixed with a rapid-acting analogue is safe**

Readability	✓✓✓✓✓
Applicability to practice	✓✓✓✓✓
WOW! factor	✓✓✓✓

**1** This study aimed to answer whether mixing insulin glargine with a rapid-acting insulin analogue in the same syringe has any harmful effects.

**2** Data for 55 children mixing the insulins and 55 not mixing them

were collected for 6 months before the point when mixing was started and for 6 months after. Endpoints included HbA<sub>1c</sub>, frequency of severe and non-severe hypoglycaemic events, number of diabetic ketoacidosis events and blood glucose distribution patterns.

**3** No significant difference in any of the endpoints were seen. The authors concluded that, therefore, for those wishing to reduce their numbers of daily injections, mixing insulins as above is safe.

Fiallo-Scharer R, Horner B, McFann K et al (2006) Mixing rapid-acting insulin analogues with insulin glargine in children with type 1 diabetes mellitus. *Journal of Pediatrics* **148**(4): 481–4

**DIABETES CARE**

**Early onset of type 1 diabetes prolongs time to develop ESRD**

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓✓

**1** This Swedish study's aim was to see whether the age of onset of type 1 diabetes has an effect on the development of end-stage renal disease (ESRD) due to diabetic nephropathy.

**2** A record linkage between two large registries (one including cases with childhood diabetes, the other of people undergoing treatment for uraemia) was performed. Three age ranges for the onset of diabetes were focused upon:

0–4, 5–9 and 10–14 years.

**3** Median follow-up was for 21 years during which 33 people had developed ESRD. No one with a prepubertal age of onset of diabetes had developed ESRD due to diabetic nephropathy. The authors believe that pubertal changes (which are characterised by, for example, hormonal changes and worsening glycaemic control in many cases) can accelerate the time to development of complications such as ESRD; however, the mechanism behind the association is unclear.

**4** Studies involving people with postpubertal development of type 1 diabetes and with longer follow-up are needed conclude the authors.

Svensson M, Nystrom L, Schon S, Dahlquist G (2006) Age at onset of childhood-onset type 1 diabetes and the development of end-stage renal disease: a nationwide population-based study. *Diabetes Care* **29**(3): 538–42

**JOURNAL OF PAEDIATRICS AND CHILD HEALTH**

**Glucagon use in those refusing oral carbohydrates**

Readability	✓✓✓✓✓
Applicability to practice	✓✓✓✓✓
WOW! factor	✓✓✓✓

**1** The authors evaluated the use of small doses of subcutaneous glucagon to treat mild and impending hypoglycaemia in children with type 1 diabetes.

**2** Over 2 years, 25 children with mild or impending hypoglycaemia associated with an inability or refusal to take oral carbohydrate were treated with low-dose glucagon using insulin syringes on 38 occasions. Additional doses were administered on 20 occasions for recurring hypoglycaemia.

**3** Mild or impending hypoglycaemia due to the inability or refusal to take oral carbohydrates by children with type 1 diabetes can be treated effectively with low doses of subcutaneous glucagon.

Hartley M, Thomsett MJ, Cotterill AM (2006) Mini-dose glucagon rescue for mild hypoglycaemia in children with type 1 diabetes: the Brisbane experience. *Journal of Paediatrics and Child Health* **42**(3): 108–11