Training in paediatric clinical pharmacology in the UK

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Aims

To produce a training programme in paediatric clinical pharmacology.

Methods

A working group, consisting of clinical pharmacologists (paediatric and adult), general paediatricians and the pharmaceutical industry was established to produce the training programme.

Results

Following a two year training programme in general paediatrics, a three year training programme in clinical pharmacology has been established. This includes one year of research in clinical pharmacology (paediatric or adult). The other two years involve training in different aspects of paediatric clinical pharmacology and general paediatrics.

Conclusion

The existence of a formal training programme should result in a significant increase in the number of paediatric clinical pharmacologists.

Many medicines used in children have not been scientifically evaluated for use in children and are used in either an off-label manner or are unlicensed [1, 2]. Furthermore, few medicines are developed specifically to treat children's diseases. Concern has been raised with regards to this situation by parents, health professionals and politicians. In order to try and improve the situation there has been recognition that the UK needs more paediatric clinical pharmacologists. The UK currently has three paediatric clinical pharmacologists and three trainees in the discipline.

In order to develop a formal training programme, the Royal College of Paediatrics and Child Health estab-

lished a working group, which included representation from adult clinical pharmacology, the pharmaceutical industry and general paediatrics as well as paediatric clinical pharmacology itself. The working party first met in March 2001. By March 2002 it had agreed a training programme. The training programme has been given conditional approval by the Specialist Training Authority.

Training programme

The training programme is for doctors who have trained for a period of two years in general paediatrics, neonatal medicine and community child health. The minimum duration of training in paediatric clini-

cal pharmacology is three years. One year of research in paediatric or adult clinical pharmacology is essential. The programme covers 24 competencies, which are grouped within 8 areas:

- Ethics of clinical trials in children (differences between adults and children, consent and assent, use of placebo)
- Pharmacokinetic studies in children (analytical methods, calculation of pharmacokinetic parameters, population pharmacokinetics)
- Drug action and effect in paediatric patients (ontogeny of drug metabolism from prematurity through puberty, age appropriate pharmacodynamic methods)
- Drug toxicity (differences between children and adults, specific age related drug toxicity, common clinical presentations and management of drug toxicity in children)
- Socio-political and regulatory aspects of use of medicines (licensing, regulatory agencies, paediatric drug development)
- Rational and cost effective use of medicines (NICE, local prescribing drug policies, critical appraisal of drug use)
- Practical challenges of conducting clinical trials in paediatrics (trial design, GCP, recruitment of paediatric patients, randomization)
- Education (critical appraisal of papers, conflicts of interest)

A key part of the programme relates to practical aspects of clinical trials in paediatric patients. The trainee is responsible for at least one paediatric clinical trial: submission to an ethics committee, conducting the trial, analysing the data and writing up the study.

Discussion

As far as we are aware, there is no other formal recognized training programme for paediatric pharmacology in any country. There has, however, been interest in the area for some time [3, 4]. We feel it will be of interest to both doctors here and overseas.

The training programme has been devised specifically for doctors training in paediatric clinical pharmacology. The scientific study of medicines in children is not purely restricted to medical doctors and parts of the training programme may well be applicable to other health professionals such as paediatric pharmacists. The full details of the training programme are available on the website of the Royal College of Paediatrics in Child Health (<http://www.rcpch.ac.uk>). It is important to recognize that training programmes change with time and this programme will be no exception.

We hope that the training programme will result in a significant increase in the number of paediatric clinical pharmacologists in the UK. This should result in more research in the area of paediatric therapeutics and hopefully safer medicines for children.

References

- 1 Turner S, Longworth A, Nunn AJ, Choonara I. Unlicensed drug use on paediatric wards. *BMJ* 1998; 316: 343–5.
- 2 Conroy S, Choonara I, Impicciatore P, et al. Survey of unlicensed and off-label drug use in paediatric wards in European countries. *BMJ* 2000; 320: 79–82.
- 3 Rieder MJ, Koren G, MacLeod SM. Paediatric Clinical Pharmacology and the Health of the World's Children. *Dev Pharmacol Ther* 1990; 14: 201–4.
- 4 Choonara I, McIntyre J. Training in paediatric clinical pharmacology. *Paed Perinatal Drug Ther* 2001; 4: 124–7.