C4C - Paediatric pharmacovigilance: Methodological Considerations in Research and Development of Medicines for Children – A c4c Expert Group White Paper

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June 19, 2021

Abstract

Children frequently respond differently to therapies compared to adults. Differences also exist between paediatric age groups for pharmacokinetics and pharmacodynamics in both efficacy and safety. Paediatric pharmacovigilance requires an understanding of the unique aspects of children with regards to, for example, drug response, growth and development, clinical presentation of adverse drug reactions (ADRs), how they can be detected and population specific factors (e.g. more frequent use of off-label/unlicensed drugs). In recognition of these challenges a group of experts has been formed in the context of the conect4children (c4c) project to support paediatric drug development. This expert group collaborated to develop methodological considerations for paediatric drug safety and pharmacovigilance throughout the life-cycle of medicinal products which is described in this article. These considerations include practical points to consider for the development of the paediatric section of the risk management plan (RMP), safety in paediatric protocol development and safety data collection and analysis. Furthermore, they describe the specific details of post-marketing pharmacovigilance in children using, for example, spontaneous reports, electronic health care records, registries and record-linkage, as well as the use of paediatric pharmacoepidemiology studies for risk characterisation. Next the details of the assessment of benefit-risk and challenges related to medicinal product formulation in the context of a Paediatric Investigation Plan (PIP) are presented. Finally, practical issues in paediatric signal detection and evaluation are included. This paper provides practical points to consider for paediatric pharmacovigilance throughout the life-cycle of medicinal products for RMPs, protocol development, safety data collection and analysis and PIPs.

Dear Dr Cremers,

Providing children, parents and health care providers with high quality drug safety information and managing treatment related risks requires an understanding of the specifics of paediatric pharmacovigilance and risk management in clinical trials and clinical practice.

The conect4children (c4c) has recently formed in order to support researchers contacting the c4c network for the conduct of paediatric trials. In this context we have written a small review on key aspects concerning paediatric pharmacovigilance with a focus on providing practical advice in a white paper for the c4c themed issue.

We are looking forward to your feedback.

Thank you.

Sincerely,

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