Paediatric Polypharmacy and Deprescribing: The views of UK healthcare professionals

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Polypharmacy can affect children as well as adults. Although the definition is different, >5 medicines for adults(1) and >2 medicines for children(2), the consequences of inappropriate polypharmacy remain, with increased adverse drug reactions(3) and hospitalisations (3) and potential for drug-drug interactions(4). Here we report the results of a survey of healthcare professionals (HCP) towards paediatric polypharmacy working in the UK.

A cross-sectional survey was undertaken over one month (Nov-Dec 2020). It was designed using Microsoft® Forms and consisted of 12 questions: a mixture of multiple-choice, free text and five-point Likert scale questions. The survey was accessed via a weblink and promoted via e-mail, Twitter, the General and Adolescent Paediatric Research Collaborative UK and Ireland network (GAPRUKI), and the Neonatal and Paediatric Pharmacists Group (NPPG). Participants were asked to complete the survey if they were a HCP with a role in caring for children. They were also asked to forward the link to other colleagues (snowball sampling), hence no denominator could be determined.

Overall, 332 HCPs, from 73 UK hospitals, completed the survey. Of those responding, consultant grade doctors represented the largest group (51%, 170/332), followed by pharmacists (15%, 51/332) and then paediatric trainees (14%, 48/332). The most common thresholds for problematic polypharmacy are shown in figure 1. In addition to numerical responses some gave free text responses, that related the clinical context of the prescriptions to whether they would have concerns about problematic polypharmacy or not, e.g.

*“It depends on the patient and medication type, for example four hormone therapies might be fine, but four laxatives might not be.”*[…..]

Most respondents (62%, 206/332) described concern about polypharmacy at least weekly. The conditions most associated with problematic polypharmacy were epilepsy, gastro oesophageal reflux disease and neurodisability. Development of a deprescribing guideline for children was supported by 87% (287/330), and identifying medicines with a high risk of drug-drug interactions was the most important consideration for developing such guidance. The most frequent concern regarding paediatric polypharmacy was increased treatment burden for children and their parents, with 85% (289/328) scored it 4 or 5 on the Likert scale, with 5 representing ‘significant concern’. The most cited barriers to deprescribing are shown in figure 2 with patient/family anxiety being the most frequent. Free text comments highlighted prescribing by multiple specialists and a reluctance to amend or stop these medications as further barriers to deprescribing.

This is the first time the views of HCPs across the UK towards paediatric polypharmacy and deprescribing has been sought. The majority of HCPs in the UK see children on at least a weekly basis where they are concerned about the number of medicines they take but feel that patient and family anxiety around stopping medicines in addition to the multiple prescribing by specialists are the major barriers to deprescribing. HCPs would feel more confident deprescribing if there was a paediatric specific deprescribing guideline, but at present no such guidance exists.

**References**

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**Figure 1. Top 10 responses for ‘How many medicines would trigger you to think of polypharmacy as being a problem in children?’**

**Figure 2. Likert scale responses to the question “To what extent have the following barriers stopped you deprescribing, with 1 being 'No barrier to Deprescribing' and 5 being 'Significant barrier to Deprescribing?”**