Manipulation of hydrocortisone tablets: Do parents follow the advice from healthcare practitioners?

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INTRODUCTION

The use of hydrocortisone-containing medicinal products to provide the relevant dose for children is often associated with manipulating existing adult oral dosage forms. Typically this manipulation occurs at the point of care in the UK. A manipulation is defined as the physical alteration of a pharmaceutical drug dosage form for the purposes of extracting and administering the required proportion of the drug dose. Typical manipulations include the splitting or crushing of tablets; using a portion of a capsule contents or a portion of a sachet/patch. It has been previously reported that the manipulation process can affect the accuracy of dosing. This study compared the advice given by healthcare professionals to parents and the methodology that parents used to manipulate 10-mg hydrocortisone tablets in paediatric endocrine disorders.

MATERIALS AND METHODS

Questionnaires were distributed to both healthcare professionals (paediatric endocrinologists; paediatric endocrine nurses) and parents/carers of children with adrenal insufficiency to gather details on the methodology used to manipulate hydrocortisone tablets. Questionnaires were distributed across the UK using professional networks of specialist treatment centres. The study was approved by South Central – Oxford B Research Ethic Committee REC reference: 17/SC/0048 [HRA/ IRAS Ref: 217947].

RESULTS

Survey responses were received from 32 paediatric endocrinologists, 20 endocrine nurses, and 159 parent/carers. 59.4% of paediatric endocrinologists were comfortable recommending dispensing a 10-mg tablet in 10 mL water and using a portion of this to dose children. 90.3% would be comfortable with parents/carers halving a 10-mg tablet yet this proportion drops to 45.7% when quartering the 10-mg tablet.

Interestingly, when paediatric endocrine specialist nurses were asked about advice they would give to parents preparing a 2.5mg dose, a high proportion were comfortable recommending quartering the tablet.

73% of parents/carers reported receiving instructions on how to prepare hydrocortisone doses for children. Of these 63.1% reported that the training was more than a year ago and only 10.6% reported receiving an update.

Nurses were most commonly responsible for providing the training (40.7% of respondents) with pharmacist only reported by 6.3% of respondents.

Only 3% of parents/carers reported that they were the only person to prepare hydrocortisone for the child in their care. 34% reported that there was just one other person and the remainder reported that up to 10 other people were involved. In total 76% of parent/carers had trained others in preparing a dose of hydrocortisone for the child in their care.

CONCLUSIONS

This is the first study that compares the methods used by parents/carers to the advice provided by healthcare practitioners on dosage form manipulation. It is important that a clear message is provided to parents/carers about manipulation to ensure appropriate dosing to children. Further work is planned to measure the accuracy of doses prepared by parents and to use this data to determine whether there is a “best practice” method to manipulate 10-mg hydrocortisone tablets.

REFERENCES