Frequency of manipulated medicines administered to paediatric in-patients: a Swedish pilot study

Andersson AC1,2, S. Eksborg1, U. Förberg2, S. Lindemalm3 1Department of Women’s and Children’s health, Karolinska Institutet, 2Karolinska University Hospital, 3Department of Clinical Sciences, Intervention and Technology, Karolinska Institutet

Conclusion
Our results clearly illustrate the need for more child-appropriate medicines and strengths, not only for the youngest children, but also for older children. Manipulations have to be made in order to give the prescribed dose but there is a lack of knowledge how this procedure influences the dosing accuracy. Compliance of split tablets might be decreased due to sharp edges and unpleasant taste.

Introduction
Since there is a lack of drugs in suitable strengths and child-friendly dosage forms, manipulation is sometimes necessary. A manipulation is the physical alteration of a drug dosage form and the purpose is to extract and administer the prescribed proportion of a drug dose. This is a sort of off-label practice, but often not included in such studies.

Aim
To study the frequency of manipulated solid oral and rectal medicines administered to paediatric in-patients at Karolinska University Hospital, Sweden during one month as a pilot study.

Method
All orally and rectally administered doses (n=15,759) during one month, March 2015, at the paediatric wards at Karolinska University Hospital were collected through a register. All administered doses of solid dosage forms where the number were decimal were calculated as a percentage of the total number of oral and rectal administrations in different age-groups.

Results
In the age-group 6 – 12 years, 10% of all oral administrations were part of a tablet. To younger children oral solutions are more frequent.

For rectal solid administrations given as part of a suppository, the highest percentage, 21% was in the youngest age group, 0 – 2 years.

This pilot study will be followed by a study looking at all oral and rectal administrations during a whole year.