Administration of solid dosage forms to patients with dysphagia or via feeding tubes

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Background:

Drug administration to patients with dysphagia/ via feeding tubes is known to be very complicated. Modifying oral dosage forms may alter drug stability, pharmacokinetics, and bioavailability, and harm patients. The manipulation of drug dosage forms may also influence the health of healthcare workers or caretakers.

Purpose:

The aim of the study was to get an overview of problems with modifying solid dosage forms and administration to patients with dysphagia or feeding tubes in different hospital wards.

Material and methods:

The data was collected during 3 weeks in February and March 2015. All patients with nasogastric or gastrostomy tube or with dysphagia were included in the study once. Extraction of nursing records (**Table**) as well as interviews with nurses were used for data collection.

Results:

The administration of medications to 21 patients from 7 different wards was studied. Ninety-six preparations of 64 different medications or dosages, which involved crushing or dissolving solid dosages, were identified. 77/96 of all administrated preparations should not have been modified (**Figure 1**). Preparation modification was documented by the nurses for 42/96 preparations (**Figure 2**). Six of the 14 interviewed nurses decided upon drug modification themselves and 8 nurses had involved the physician in the decision making (**Figure 3**). Thirteen nurses of 14 found that they had not faced any practical problems during drug administration (**Figure 4**). Regarding possible health risk of dosage forms modification, one nurse admitted knowing that drug crushing/dissolving may be a potential health hazard for her, 11 nurses denied this possibility and 2 nurses have not thought about it before (**Figure 5**).

Conclusions:

Administration of a solid drug dosage form to the patients with nasogastric tube, gastrostomy tube or patients with dysphagia comprises many problems: 80% of all preparations were administrated incorrectly, only 44% of preparation modifications were documented and less than half of the nurses involved the physician in the decision making process. There is a need for implementation of local guidelines for drug administration via feeding tubes, to patients with dysphagia and for personnel training.

Table. Data extracted about each preparation from nursing records

- ATC code
- Preparation
- Dosage form (tbl, caps etc)
- Dose
- Crushing: C/Dispersing: D
- C and D allowed based on SPC: Yes / No
- Administration route: per os: P; via nasogastric tube: N/G; via gastrostomy: G
- If administrated via N/G, N/G used only for drugs? Yes / No
- C/D documented: Yes / No
- Where did the nurse find information about crushing/dispersing? A. From doctor; B. Found herself. Where?; C. General practice; D. Did not know; Other . . .

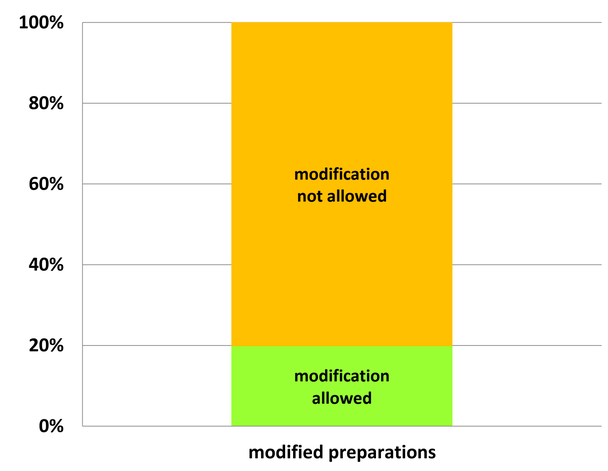

Figure 1. 77/96 of all administrated preparations should not have been modified

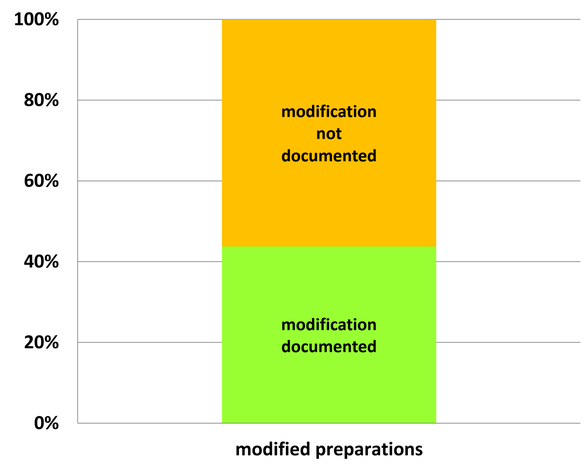

Figure 2. 42/96 preparation modifications were documented

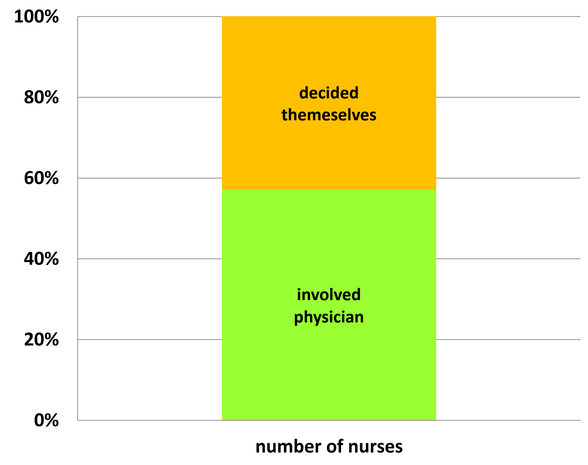

Figure 3. 6/14 nurses decided upon drug modification themselves

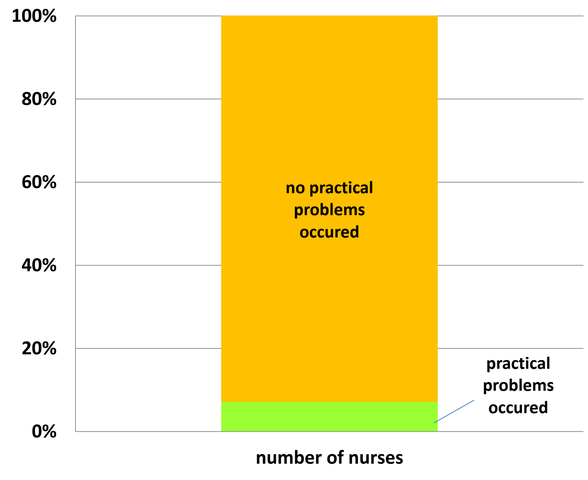

Figure 4. 1/14 nurses faced practical problems during drug administration

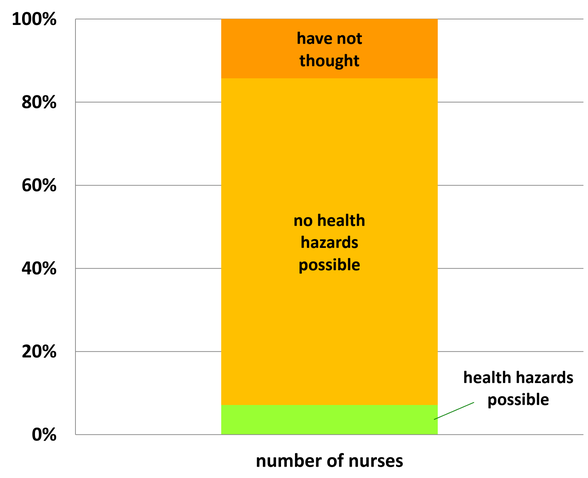

Figure 5. 11/14 nurses denied possibility of health hazards

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