CATEGORIZATION SYSTEMS FOR SUBSTANCES IN POISONS CENTRES

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Objective: Categorization of substances (products and natural toxins) in grouping systems play a crucial role in the daily work of poisons centres (PC) for retrieval and processing of large data volumes. A medline search reveals only a few number of publications about categorization systems for substances (CSS) in PCs during the last years. The current situation in the European PCs indicates different grouping systems. Apart from the international standardized grouping system for pharmaceutical products (ATC-code) there is no harmonized, comprehensive system for all substances (products and natural environment) significant for PCs work.

Aims of these analyses are: 1) A preliminary evaluation of the current use of CSS in PCs. 2. A description of the basic structure. 3. The identification of the interfaces of these grouping systems to other systems in the PCs. 4. A presentation of an example with its structural and technical realisation. 5. To demonstrate a model of multicenter maintenance and update of a category system.

Results: 1. Categorization of substances is required at several parts of the work of a PC: a) Grouping of substances during first-time registration in the PC. b) Retrieval of cases for scientific evaluations or enquiries by authorities and manufacturers. c) Grouping of cases for annual reports. d) Retrieval of toxicological information for one product group, if specific product information (e.c.: formula) is missing. e) Assignment of data maintenance to an expert in a PC (plant, animal, drug, ... -expert). 2. The fundamental structure of all the CSS are hierarchical with several levels (two up to nine levels). For a better understanding, the complete system can be outlined as concentrically circles, with the highest level in the inner circle and the lowest level in the periphery (see Fig. 1). The sectors symbolise the different groups of substances (e.c.: drugs, cosmetics, plants, etc.). For the presentation of cases in an annual report comparability of only the upper sectors is necessary. Comparability of the lower levels is not always possible nor necessary. However, with these structure an integration of existing systems (e.c.: ATC-Code, taxonomic classification of plants) and systems developed in PCs (drugs of abuse, cosmetics, ...) is possible. The hierarchy of the categories is determined by a code (letters and numbers). 3. Substance names are linked to the CSS. 4. In the organisation of a PC the CSS plays a central role on different levels (management, technique, content). 5. A parallel operation of more then one CSS (local – international) is possible. 6. The German TDI-project produced a harmonized CSS and a procedure for multicenter maintenance and update (1). Since the end of 2005 a group of German PCs commenced using this system. In 2006 data of the year 2005 will be published in the annual reports for the first time in a comparable manner.

Conclusion: At present time most of the European PCs use different grouping systems for substances. A CSS play a crucial role in PCs. The harmonization of sectors must start at their top levels. It is an important task for the EAPCCT to coordinate this process. The common use of a harmonized CSS enables the participating PCs to produce data with comparable groups of substances. A flexible structure allows a stepwise combination of internationally established systems with additional sectors.

Reference: 1) Stürer A, Hüller G, Cordes T, *et al.* TDI-project: a harmonized category-system for products in poisons centres (PC). J Toxicol Clin Toxicol 2003;**41**:498-499.
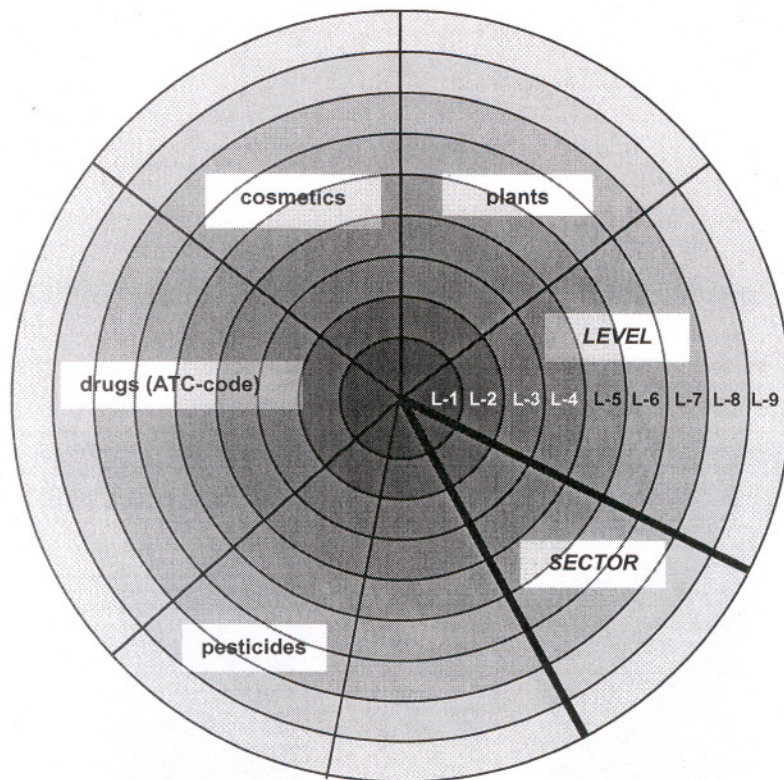
Figure 1: Model of a comprehensive category system for substances in PCs