MODERN APPROACHES TO GRAPHIC DESIGN OF DRUG PACKAGES

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Introduction. Graphic design of drug package, and first of all, its labelling strongly influences competitiveness of pharmaceutical enterprises and plays critical role in preventing medication errors what is much more important. The latter are attributed to confusing, complex and unwieldy information design on drug package. Now it's known that about 33% of medication errors in Great Britain and 25% in the USA occur due to improper labelling. Hence, improved design of a drug package can reduce this situation and also increase medication compliance, especially among older patients. Nowadays a lot of guidelines and standards are implemented to make package design, first of all, patient-centred. It means that design solutions acceptable for pharmacists to choose the correct pack from crowded shelves may not be so suitable for some categories of patients.

Aim. The objective of the present research is to study modern approaches and recommendations to graphic design of drug packages.

Materials and methods. Different information data including guidelines, standards, journal articles and Internet sources concerning principles of labelling on primary (mainly blisters) and secondary packages have been analyzed.

Results and discussion. When creating the design for pharmaceutical package, it is important to pay great attention on complex of labelling elements: colours, dimensions, allocation, typography, font formatting, trade names, identity of the manufacturer.

Colour is an important factor to make correct identification, classification and differentiation of medicines, but if improper it can cause many problems. Rendering the same colour design for a whole manufacturer's range of drugs can lead to confusing of different medicines resembling each other in their colours. This risk increases if drugs with similar names or with the same name but differ in dosage are stored close to each other in pharmacy, hospital or patient's home.

Proper colour differentiation facilitates distinguishing drugs within manufacturer's range, especially between different dosages of the same drug.

Text on every side of a secondary package should be oriented in the same direction. Recommended minimum font size is 12 point. The generic drug name should be at least 16 point in its size. Sentence case instead of capital case should be used at all times. The better typefaces are bold Sans Serif, Arial, Helvetica or Univers. Text should be aligned to the left margin.

The colour of type should strongly contrast with background colour.

Images and trademarks should be printed aside from the relevant text, because placing the latter around or over graphics reduces legibility of information.

The spacing between lines should provide clarity and ease of readability (e.g. 12 point text and 16 point spacing).

The most critical information (drug name, dosage, form, quantity of a drug) should appear in the same field of view on at least three non-opposing sides of a secondary package. Blank space can be used to great effect and to emphasize this critical information

Generic name of a drug should be preferably emphasized and presented consistently in large point size, at least 16 point or larger. Where patients have different brand names of the same drug, they may confuse its brand and generic names.

Many medication errors made by pharmacists, doctors and patients arise from look-alike and sound-alike drug labelling and names, also confusing or unclear information. They may also arise if a medical product is physically difficult to handle or use as intended for patients. To solve this problem it's recommended to use capital lettering emphasizing the difference between look-alike and sound-alike drug names (e.g. ChlorproMAZINE and ChlorproPAMIDE).

If a drug is produced in several dosages it's very important to provide differentiation between strengths of the same drug. This can be made clear through use of different typefaces, font colour and shape and especially background colour. Whole numbers (e.g. 1 mg instead of 1,0 mg) should be used. The use of decimal points should be avoided where possible.

There are also useful design recommendations for some primary packages – blisters, strips. To enhance readability and identification of a drug withdrawn from secondary package non-reflective, matt, printed and coloured foils should be used. Trade name and dosage of a drug should appear on each cell. The font colour should strongly contrast with background. It's especially important that bold type is used.

The primary and secondary packaging of a drug should have an identical (or linked) distinctive visual style (e.g. colour elements).

Conclusion. Proper design of package and labelling of drugs is one of the ways to eliminate most of the risks associated with medication errors occurring on all stages of drug turnover: in pharmacies, warehouses, hospitals, patient's home.

Most of the abovementioned recommendations are not mandatory yet, but in future they should be guidance for designers, manufacturers and authorized bodies to establish standardized rules to the package design that can strongly influence on the safe use of drugs.