EDITORIAL

Control of poisoning through product labeling of hazardous chemicals

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Acute poisoning and chemical exposure is a worrisome problem globally especially because of rapid industrialization and rapid increase in number and types of chemicals.[1] According to the Chemical Abstracts Service (CAS) Registry, more than 83 million chemical substances are currently available and approximately 4000 new chemicals are introduced in the world every day.[2,3] Product formulations change frequently. Scientific understanding of the hazards of various substances is constantly developing. It is becoming difficult for a physician to know the toxicity of a compound when a patient presents with acute ingestion of a chemical which does not have a proper label.

A label is the written, printed or graphical information about a hazardous chemical that is affixed to the container. Labels must be legible and prominently displayed. Information may be given in words or presented in symbols or pictograms. Product labels are an essential component of hazard communication. The primary information to be obtained from a label is the identity or chemical nature of the material, instructions for storage and use, appropriate hazard warnings and advice in case of exposure. Reported poisonings are monitored for new or unusually dangerous hazards. When a problem is identified, manufacturers and government regulators should be urged to change the formulation and improve the closure or even ban the product.

Labels must be reviewed periodically in order to keep them up to date, for example when there is a change in the formulation or ingredients that changes the hazardous properties of the chemical, and when new information on the hazards of the product or any of its ingredients becomes available.[4] When the classification of a hazardous chemical changes, the label must be reviewed and, if necessary, revised to reflect any changes. Importers, manufacturers and suppliers should review any new or significant information in relation to any hazardous chemicals they import, manufacture or supply. A review of the literature and other relevant sources of information should be undertaken on a regular basis.

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There are guidelines available internationally where different set of labeling rules play an essential role. These guidelines require that all containers of hazardous chemicals must be labeled, tagged, or marked with the identity of the material and appropriate hazard warnings. The label and Safety Data Sheets (SDS) are important sources of information that may be used to inform hazard and risk assessments and establish appropriate work practices and processes to control the risks during use.[4]

Requirements relating to the labeling of various products exist in most countries and are controlled by regulations and standards. The importance of labeling is emphasized by a number of internationally approved conventions and recommendations including the United Nations Conference on Environment and Development (UNCED, Rio de Janeiro, 1992) recommendation on harmonization of these systems to establish an international system for hazard communication with easily understandable labeling symbols, a procedure for the selection of precautionary phrases for inclusion on labels, classification criteria for categories of hazard and corresponding labeling classes.[4]

In Canada and the US, ingredients are listed in order of quantity. The first ingredient in the list makes up the greatest amount of the product, the last ingredient is present in the least quantity. In Canada, manufacturers are now required to list ingredients on labels of personal care products. However, one should be aware that ingredient lists may not contain all ingredients. For example, companies are not required to disclose the many ingredients that make up fragrances, including potential harmful ingredients such as phthalates.[4]

In India Toxicity labels are mandatory on pesticide containers and are colour coded as red, yellow, blue and green in decreasing order of toxicity to identify the level of toxicity of the contained pesticide.[5-7] The scheme follows from the Insecticides Act of 1968 and the Insecticides Rules of 1971.[8]

Appropriate labeling is essential but it is ineffective if the container has been discarded and the product has been decanted into another container, perhaps it's easier to open. This is common practice in rural areas and where traders buy pesticide or kerosene in bulk then sell in small

amounts to individuals who bring their own containers, usually soft drink bottles.

Exposure to toxic chemicals represents an important public health problem and it is important to raise awareness as a first step among professionals, policy makers and to public. In the context of the developing countries like Pakistan, where hazardous pesticides and other chemicals are openly available over the counter, there is a rising concern about the unsafe exposure to these chemicals and its impact on human health. Regulating authorities should implement control on the mandatory labeling of hazardous chemical especially pesticide which is one of the leading cause of poisoning in our country and also a cause of high mortality due to poisoning. We hope and aim to provide a basis by this editorial to assist the stakeholders in the promotion of the safe use of chemicals and control of poisoning through information, education and regulation with the focus on labeling of hazardous chemical products.

References

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