Knowledge, attitude and practices regarding the status of ‘animal ingredients in medicines’ among medical professionals in a tertiary care hospital in Mumbai: a cross-sectional survey

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INTRODUCTION AND OBJECTIVES
Doctors generally do not discuss the way drugs are manufactured, the source of raw materials and the process of labelling, packing and transport of the drugs for the use of consumers.

A close scrutiny of the process of manufacturing medicinal drugs and chemicals reveals that a significant number of drugs contain animal ingredients (either directly or indirectly). This research was designed to address the following questions:
1. Current level of physician knowledge about animal ingredients in medicine and the existing rules and regulations about the same.
2. The assumptions and attitudes held by physicians about animal ingredients in medicines.
3. Current practices with respect to the use of medicines containing animal ingredients.

DESIGN
We conducted a cross-sectional survey using self-administered questionnaires distributed to 250 medical professionals.

RESULTS
Of 250 participants, 185 (74%) completed the questionnaire.
Regarding the presence of animal ingredients in medicines, 77% were aware of their presence, while 23% were unaware. Seventy-four per cent thought it was important for doctors to know about the status of animal ingredients in medicines, and 59% thought that they should inform their patients about the same. Regarding the information about the animal ingredients of a preparation on drug labels, >85% said that the presence of animal ingredients was not mentioned, while 14.1% said that it was mentioned. Twenty-nine per cent said that they would use medicines with animal ingredients based on the therapeutic goals and severity of the disease. Five per cent said that they would not, because of ethical reasons.

DISCUSSION AND CONCLUSION
In drug development and research, animals are used primarily for two purposes:
1. To gain information about efficacy and toxicity of unknown chemical entities.
2. As a source of ingredients in many medicinal preparations either as the principle compound or as an adjuvant.

Whereas the former is a highly regulated activity governed by strict laws based on scientific and ethical principles, the latter practice is thoroughly irregular and at times irrational and misleading.

It is a well-known fact that animal-derived ingredients have a number of adverse effects. For example, animal-derived insulin causes hypersensitivity reactions as do many other animal-derived vaccines. There is a risk of transmission of Bovine Spongiform Encephalopathy (BSE) and other prion diseases via animal products. There is an unrestricted and clear excess use of antibiotics in the livestock bred in the industries. This can promote the emergence of resistant bacterial infections.

Many religions prohibit the consumption of animal-derived products. That notwithstanding, medicines containing animal-derived ingredients may be inadvertently consumed because of lack of clear labels on medicines stating their presence or absence. This is unethical and immoral.

There is a dearth of awareness regarding the presence, labelling information, therapeutic status, ethics and regulations pertaining to the use of animal ingredients in medicines. Hence the ambiguity observed in the responses of our participants.

Recommendations
1. Labelling should be made comprehensive and mandatory.
2. Patients should be informed about the status of medical preparations with respect to animal ingredients, along with suggestions for alternatives for those medicines.

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