

METHODOLOGY:

We have carried out exhaustive field survey by visiting various short listed computerized Pharmacy Stores (Chemists Shops) as well as few hospitals, taking the individual databases of brands and compilation of brands of pharmaceutical formulations to develop a database to detect misbranded drugs and SALA drugs available at drug stores across the state of Maharashtra and Gujarat for the following therapeutic systems have been done.

1. Anti-hypertensives
2. Anti-diabetics
3. Antibiotics (Antibacterials)
4. Anti-virals
5. Anti-anginals
6. Lipid lowering drugs
7. Anti-TB drugs
8. Anti-depressants
9. Anti-inflammatory drugs

Since it was found out from the prescription survey and utilization pattern of medicines, that majority of medicines which patients consume to treat their illnesses, come from these nine therapeutic systems, we decided to focus on above nine categories. The flow charts of these nine therapeutic systems are exhibited at the end of report in Annexure I for easy understanding of drugs falling in each class and subclass.

The final data entry has been done in the design developed for both the states (Maharashtra and Gujarat) in **Visual Basic** as **Front End** and **Microsoft Access** as **Back end**. The final output report for brand database will be in PDF format.

Getting started with Brand Name Analyzer

Brand Name Analyzer is an application to build the Database of Brands of Pharmaceutical formulations and Study the cases of Misbranding and SALA drugs responsible for

Medication Errors in Maharashtra and Gujarat States. With this application you can find

Misbranding and SALA (Sound Alike Look Alike) drug names available in Maharashtra and Gujarat States.

Basic Setup & System Requirement

Copy the BNA folder to you desired location on your computer and run BNA.EXE to start the application.

This application is designed to run with:

Microsoft Windows XP Sp2 or Higher

500+ Mhz Processor

256 MB of RAM

What is Misbranding?

The national co-coordinating council for medication error reporting & prevention defines a medication error as, "Any preventable event that may cause or lead to inappropriate medication use or patient harm". A pharmacist is a primary healthcare provider, plays a critical role in assuring the appropriate use of medications and reducing medication errors in the healthcare system. Misbranding is one major factor responsible for medication errors which adversely affect patient's well being and need to be strictly avoided. Reducing medication errors is a process of continuous quality improvement.

Misbranding is the unethical trade practices the Indian pharmaceutical industry has been indulging in for some time now and there has been hardly any action against such practices from the regulatory authorities in our country. Misbranding is a dubious way of exploiting a well-established brand name for a totally different product. The temptation is because of the massive build up of goodwill a brand attains over a long period of time. And this tendency can only grow to dangerous levels considering the intense competition existing in the formulation sector. Misbranding can occur because of same name (identical), similar-looking (orthographic), and similar-sounding (phonological) names of brands and also because the composition of a particular brand has been changed without any change in the

brand name. Also to be noted are the following practices: (a) the continued use of brand names of banned drugs (example Baralgan to Baralgan Plus); (b) brand drugs in price control: if Becosule is put under price control, changing it by adding a small ingredient and calling it Becosule Plus; and (c) the use of brand names across sectors.

What is SALA Drugs?

Sound-alike or Look-alike (SALA) health products which refer to names of different health products that have orthographic similarities and/or similar phonetics (i.e. similar when written or spoken). These similarities may pose a risk to health by contributing to medical errors in prescribing, documenting, dispensing or administering a product. These medication errors may be more likely to occur because of contributing factors such as identical doses, dosage forms or routes of administration, similar packaging or labeling, incomplete knowledge of drug names, illegible handwriting, verbal order errors and even lack of an appropriate knowledge-base. Some of the brand names may not sound-alike when read out or look-alike when in print, but when hand written or communicated verbally they can cause confusion. Confusion regarding drug names is thought to account for 25% of all medication errors.

The abovementioned 9 therapeutic systems are covered to detect misbranded drugs and SALA drugs available at drug stores across the state of **Maharashtra and Gujarat ONLY**.

Methodology For Misbranding

The application loads brand names into the memory by reading the table 'brands' from the selected database filtered by selected category. The application sorts the brand names by alphabetical ascending order.

The Application takes the first brand name and searches for the existence of the same brand name again in the table with matching generic name. If the search function finds a brand name, the application analyzes the same for matching generic name. If the generic name doesn't match with the earlier brand name the application marks both the

brand names as misbranded in the output grid. (Red background colour). In this case, it is found that, the brand names are same, but the generic contents change with the change in the formulation type.

If there are more than one number of the same brand names in the database, with same generic contents for different formulation types, it will mark it as normal (White background colour). If the search function does not bring any misbranded names, then the application marks the brand name as normal (White background colour).

Methodology For SALA Drugs

The SALA function splits the selected brand name into alphabets and counts the number of alphabets it contains. The application selects all 'like' records from the table and takes one brand name at a time to analyze.

The SALA function matches each alphabet of both the brand names and counts the matching alphabets. If the count of matching alphabets is more than 80% of average number of alphabets in both the brand names then they are marked as SALA brand names (Blue background color).

If it is less than 80%, the brand names are marked as normal (white background color).

Then the application selects the next brand name in the selected table and performs both the above functions. This loop continues until the last record of the brand names in the category selected. Also, some of the SALA drugs are selected on the basis of the phonetic tones and sounds.