K Sowjanya, J Pharmacovigilance 2014, 2:5
http://dx.doi.org/10.4172/2329-6887.S1.014

OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference and Exhibition on
Pharmacovigilance & Clinical Trials
October 27-29, 2014 Hyderabad International Convention Centre, India

An overview of various methodologies used in data mining: Pharmacovigilance

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Drug use in medicine is based on a balance between expected benefits and possible risks (i.e., adverse effects), which become fully apparent only after the drug is released into the market. Thus, for medication safety, ADR monitoring is required for each drug throughout its life cycle, including early stages of drug design, different phases of clinical trials and post-marketing surveillance. Pharmacovigilance (PhV) is the science that concerns with the detection, assessment, understanding and prevention of ADRs reported for all the drugs. In the post marketing stage, PhV has traditionally involved in mining spontaneous reports submitted to national surveillance systems. Sources of post marketing surveillance which contains data regarding ADRs of drugs are spontaneous reporting, case reports, case series, prescription event monitoring, electronic medical records, claims databases, non-conventional databases, automated databases etc. Therefore, in order to understand and evaluate the huge data obtained from all the above mentioned sources, Pharmaceutical experts and industries much rely on data mining algorithms or techniques, and make the use of that data for further research and development. Data mining is a technique used for extraction of useful data from numerous sources and is a combination of database management and data visualization. This article provides a general overview of the Data mining methodologies applied for PhV at different stages of drug development and concludes with future directions.

Biography

K Sowjanya is currently a student pursuing 6th year (Internship) in Doctor of Pharmacy at JSS University, College of Pharmacy, Mysore.

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