

Abstract: Background: Personalized medicines are becoming more popular as they enable the use of patient's genomics and hence help in better drug design with fewer side effects.*Address correspondence to this author at the Centre of Pharmaceutics, School of Pharmaceutical Sciences, Delhi Pharmaceutical Sciences and Research University (DPSRU), New Delhi – 110017, India; E-mail: Keerti.jain02@gmail.com Physician can therefore use profile of a patient's gene variations which helps in selection of drug and therapeutic options that reduces side effects giving successful outcomes. Moreover the individual's susceptibility to certain diseases could be recognized before the occurrence and hence PM could be used as prophylaxis to prevention of diseases in susceptible individuals. Methods: 3D printing technology uses digitally controlled devices for formulating API and excipients in a layer by layer pattern for developing a suitable personalized drug delivery system as per the need of patient. It includes various techniques like inkjet printing, fused deposition modelling which can further be classified into continuous inkjet system and drop on demand. In order to formulate such dosage forms, scientists have used various polymers to enhance their acceptance as well as therapeutic efficacy. PM aims to join different wave of 'omics' that tends to alter drug choices, dosages, and interventions to the biology of individual patients. Herceptin for breast cancer failed in Phase III trials in 1997 as the drug was found ineffective in overall populations but after careful review it was found that women who tested positive for HER2 overexpression showed significantly better response. The company performed overall assessment of data and discovered that Vectibix performed better in patients whose tumor lacked KRAS gene mutation. With the help of PM, physicians can now go beyond the one-size-fits-all model of prescribing medications to make more effective clinical decisions for each patient since due to patient inherited variations in their gene results in different responses of gene towards particular drugs which could vary from individual-to-individual. Polymers like polyvinyl alcohol, poly (lactic acid) (PLA), poly (caprolactone) (PCL) etc can be used during manufacturing. Its goals are to target better healthcare, facilitate research and discovery of diagnostics and therapies, as well as to predict individual predispositions to diseases or conditions [3, 4]. 1