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{ PERSONALISED MEDICINE }

Genetic screening to predict risk of future diseases: Doctors

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LUCKNOW : If things go as per plan, doctors in Lucknow will be able to predict which medicine will benefit a particular patient and whether any individual will fall victim to a particular chronic disease in future. This will be possible with the genetic data bank being developed at India's first personalised medicine department set up at Era University here.

Doctors here claim that the 'trial-n-error' concept of medication used largely by clinicians can be changed with personalised medicine.

Established in 2019, the department aims at early diagnosis, risk assessments, better prognosis and optimal treatment. It takes into account the individual pattern of genomics, dietary and environmental factors for prevention, prediction, diagnosis and prognosis of disease and planning appropriate individualized treatment modalities thereby improving patient health care while also making it cost effective.

A team of doctors from different departments is focusing on developing a gene-based data bank, wherein genetic profile of people will be stored along with their response to medicines. Once a considerable data bank is prepared, the same will then be



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PROF FARZANA MAHDI,
director, academics, Era University

used to treat patients, they said. "We are using FDA approved data from across the world and have given the benefit to 150 cardiac patients, including those who underwent bypass operation," said Prof Farzana Mahdi, director, academics of the university and director, of India's first department of Personalized and Molecular Medicine.

The research areas in the department cover Type 2 diabetes, gestational diabetes, polycystic ovarian syndrome (PCOS), cardiovascular diseases, osteoarthritis, celiac disease, breast cancer, chronic myeloid leukemia, neurodegenerative diseases, cervical cancer, Covid-19 and Glaucoma.

"We are first in India, but want to tell every institute the

benefits and outcome of our research to share the benefit with every possible patient. The concept of personalised medicine is simple to understand as it is based on the fact that every medicine that metabolises in the body works differently for different individuals. Hence, the same dose is not required for all patients," explained Mahdi.

"Personalised medicine says one disease will not trouble all in the same age group or even in one family. Hence, a genetic profile can reveal the risk of future diseases that a person needs to guard against," said Dr Mohammad Abbas Rizvi of the department of personalized and molecular medicine.

"With a considerable data bank we shall go for tie-ups with other institutes to further enrich the data bank. This will give us multi-centric data and the benefit of personalised medicine will expand further," said Mahdi.

"In future, personalised medicine will even reduce treatment cost as we shall be in a position to give genetic profile within 72 hours," she added.

Dr Sushma Verma, ophthalmologist and part of the personalised medicine department, said: "Genes are like gateway or password to decide how would a medicine work in the body. If we know this gateway, it will be easy to tell which medicine will work and how."