PRECISION MEDICINE AND PERSONAL MEDICINE: THE FUTURE OF HEALTH CARE

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Abstract-

Precision medicine means many things to many people. The concept and terminology "personalized medicine" has existed since 1995, but recently precision medicine has become a ubiquitous term. This review was aimed to describe a new approach of healthcare performance strategy based on individual genetic variants. As well as describe the evolving paradigm of precision medicine and personalised medicine with examples of current and evolving applications. Precision medication is clinical consideration related to every patient s hereditary cosmetics, it implies mass, mechanical production system like medication reaches a conclusion and medication intended to convey greatest advantages to the individual turns into the standards. The goal of this study is to look at precision medicine technology, as well as the differences between precision medicine and personalized medicine and identify recent published articles on precision medicine and personalized medicine.

KEYWORDS: Precision Medicine, Personalized medicine, Medical Education; Molecular Biology; Genetics; Genomics.

Introduction

At the beginning of the 20th century, the average life expectancy in the world was about 35 years, according to the World Health Organization. By the end of the century, the average human life expectancy had nearly doubled. This is mainly due to advances in science and technology that have led to improvements in hygiene, new treatments and drugs (such as antibiotics), new imaging (starting with the Nobel Prize-winning energizing X-ray in 1901), and the promotion of medicine. including immunization against exercise and promoting health in life at the turn of the century. [1]

President Barack Obama's State of the Union speech in January 2015 launched the Precision Medicine (PM) initiative, raising awareness of the potential of PM among many physicians and scientists. The initiative supports research to advance pharmacogenomics, identify new targets for the treatment and prevention of diseases, and establish the scientific basis for the use of PM for a variety of diseases. It is used to understand the nature of the disease. Biomarkers can be diagnostic by providing information about overall outcomes, or they can be prognostic by providing information about the potential of treatment to help improve treatment decisions. For example, using PM can help oncologists choose the best treatment options and avoid unnecessary treatments with side effects. [2]

Personalized Medicine is a large and rapidly evolving field of healthcare that relies on each individual's unique medical, genetic, genomic, and environmental information. Personalized medicine is an integrated and evidence-based approach to health-to-disease patient care. 3

PRECISION MEDICINE AND PERSONALISED MEDICINE

Precision medicine is primarily based on understanding the effects of mutations in certain genes (and proteins) in cells. At the core of precision medicine is the idea that your condition, such as cancer or heart disease, does not have to be the same as other patients. Instead, the genes you inherit from your parents and the environment you live in can affect your health, your symptoms, and even how well your treatments work.

Precision Medicine Obviously, medicine does not fit all. For example, a treatment that reduces cancer or relieves arthritis symptoms in one person may not work in another. Precision Medicine

Precision Medicine is used to treat certain types of cancer to help understand which tests and treatments are best. Doctors can use effective medicines to help:

• Identify people at high risk of developing cancer and help them reduce their risk

• Detect certain types of cancer early with blood

• Diagnose cancer correctly

• Choose cancer treatment is the best option

• Evaluate treatment results. **4**

Personalised medicine

Personalized medicine is an emerging approach to medicine that uses the genetic makeup of a man or woman to guide decisions regarding disease prevention, diagnosis, and treatment. Knowing the genetics of affected people can help doctors choose the right medication or treatment and use the right medication or routine.

CUSTOMIZED MEDICINE BENEFITS

The benefits of PM can be divided into three categories:

(1) Better treatment for patients,

(2) Benefits for medical institutions and society,

(3) Better improvement The latest medicine.

The difference between personal medicine and precision medicine

Precision medicine and personal medicine: what is the difference?

To better understand how precision medicine can be used for personalized therapy to manage heart disease and neurodegenerative diseases, it is first necessary to clarify the difference between medical and precision medicine. One of the lowest common denominators of biomedical research today is finding causes, focusing on people, and clarifying data. This is called the Personalized Medicine (PeM) approach and more recently Precision Medicine (PM).
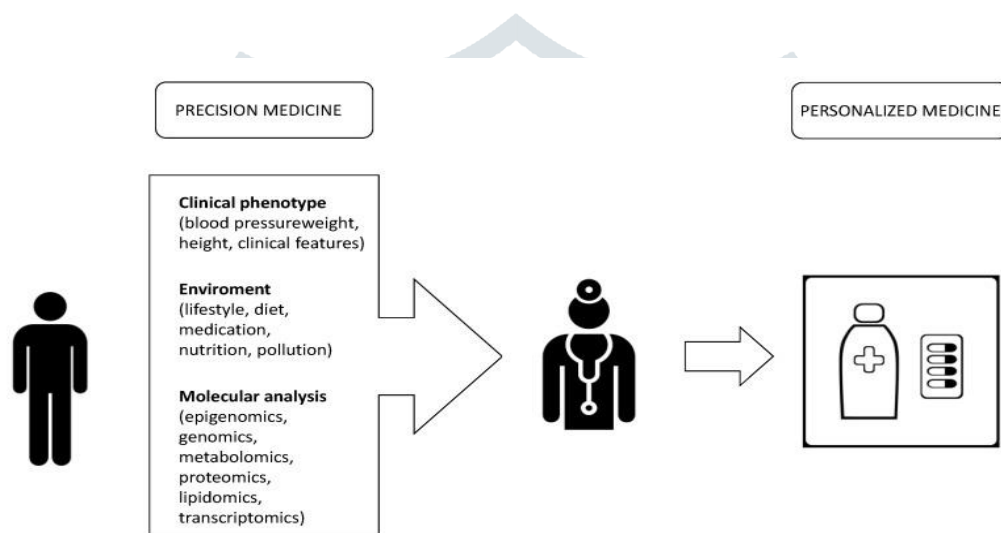
According to the National Research Council, "personalized medicine" is an obsolete term meaning "precision medicine." It was first featured in a study published in 1999; however, some important business concepts have been around since the early 1960s.
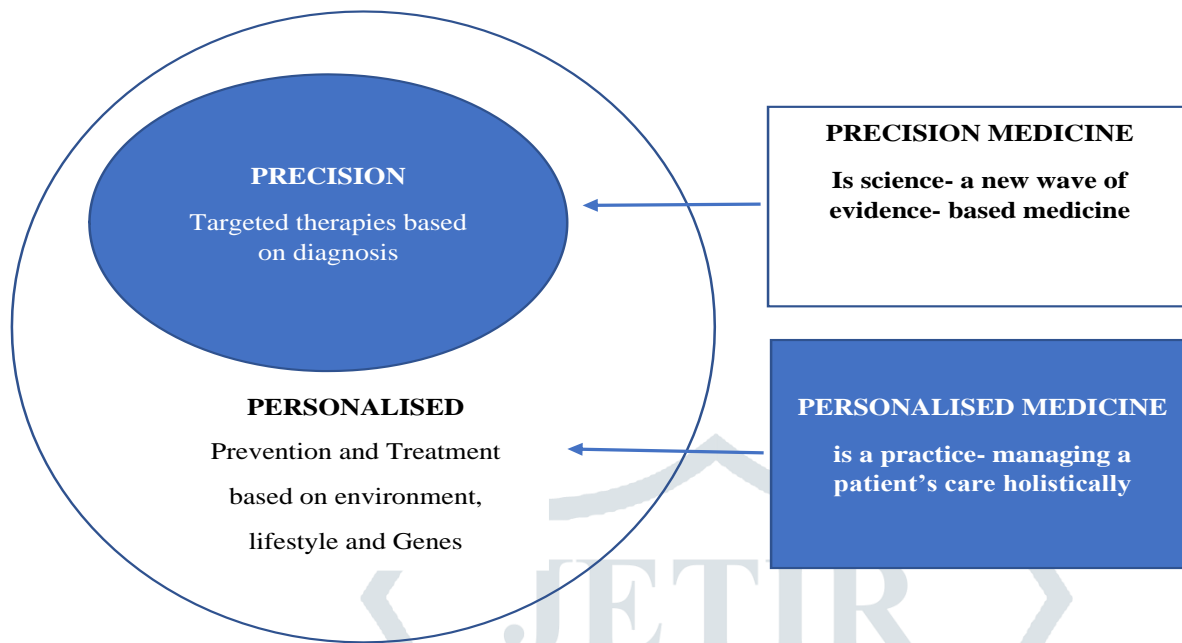
Although it is not uncommon for the two terms to be used interchangeably, there can be a distinction between personal medicine and precision medicine (see patient-specific information).

Thousands of years ago, Hippocrates introduced self-healing to patient care. He writes about the idiosyncratic nature of the disease, and "certain patients need to be given different tablets, because sweet medicine does no one any good, does not make astringent medicine, and not all patients drink the same products"

Generally admitted O. Tailored treatment involves taking medication or preventative medicine according to the patient's needs. It is a cure-all treatment. It refers to a process that involves the use of human genetic information and epigenetics, with special attention to their choices, beliefs, behaviors, knowledge, and social history.

The term precision medicine refers to diagnosis or treatment based on a patient's unique genetic and physical characteristics. While "personal or personalized care" (i.e., appropriate research and treatment for each patient) has long been the mainstay of medical therapy, it has recently been suggested to understand and support

adequate pressure on genomic, proteomic and other biological systems. personal care. Some critics associate precision medicine with self-care; however, they are not mutually exclusive.

PRECISION
Targeted therapies based on diagnosis

PERSONALISED
Prevention and Treatment based on environment, lifestyle and Genes

PRECISION MEDICINE
Is science- a new wave of evidence- based medicine

PERSONALISED MEDICINE
is a practice- managing a patient's care holistically

Advantages and disadvantages of precision medicine[5-7]

Sr. no.	Advantages	Disadvantages
1.	Increases the chances of a doctor to use the patient's genetic and molecular information.	Huge data needs to be collected from the patient
2.	Enhances the ability to predict the best treatment for a specific patient.	The patient has to be aware of the family history
3.	It improves the ability to understand the underlying mechanisms of the disease.	Time-consuming
4.	It helps in preventing, diagnosing and treating a range of diseases.	Data storage: We already know that gene sequencing of an individual produces MASSIVE amounts of data.
5.	New diagnoses: We may finally be able to identify genetic causes of diseases that were previously unknown.	Privacy/Security: fear of data leakage
6.	Prevention vs. disease management: Knowing genetic risks ahead of time can help us to focus more on preventing disease rather than reacting after-the-fact, once the disease occurs.	Data relevance: According to Obama, the data will be collected from 1 million volunteers.
7.	Early diagnosis: We may be able to detect diseases earlier and at a more treatable stage.	Culture: How do we prevent people from abusing this information and not using it to screen potential partners, deny insurance coverage, denying jobs?
8.	Protective genes: Some people have certain genes that protect them against diseases or prevent them from "expressing" their bad genes.	Ownership: service provider are not common, and technology not licensed.

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9.	Drug development: Therapies can be developed in a faster and more efficient way by targeting certain genetic problems, rather than using the traditional trial-and-error method.	Drug/device industry: Genetic research and development of treatments has been very promising and productive in the private sector.
10.	Personalized treatments: Treatments can be tailored to a patient's unique genetic aberration and we can avoid giving treatments to patients that we know may cause adverse reactions or that will fail to work.	Healthcare Costs: expensive and not accessible to everyone.
11.	Population health: We can study genetic patterns in populations of patients to find out causes of diseases, develop treatments, and find ways to prevent disease.	Not in all cases successive.
12.	Healthcare costs: There's a potential to reduce healthcare costs if focus changes to prevention rather than treatment of disease and also if we can streamline drug development.	

NEW INNOVATION RELATED TO PRECISION MEDICINE

Hypertension[8]

It is well known that primary hypertension cannot be cured, but secondary hypertension can be treated if its cause is reversed. However, some advances in science can still treat essential hypertension. Precision medicine or personalized medicine is a new way of preventing and treating diseases. Dr Thakur said precision medicine or personalized medicine is a new approach to disease prevention and treatment. Technology leads to differences in human genetics, environment, lifestyle and other characteristics.

"Advances in technologies such as genomics, metabolomics, and wearables have allowed researchers to gather detailed information and develop personalized treatment plans for people with high blood pressure. This approach will lead to better interventions and better control of blood pressure.

Google Cloud the right drugs and AI-Driven tools for discovering drugs.[9]

Google Cloud launches two new AI-driven tools aimed at helping biotech companies and pharmaceutical companies accelerate Drug Discovery and Advanced Precision Medicine.

A tool called Target and Lead Identification Suite,

Another Multi-Omics Suite helps researchers retrieve, store, review, and distribute massive amounts of genomic information.

This will help the company save "important information" and time and money during drug development. They help organizations get medicines to the right people quickly.

Dartmouth launches centre for artificial intelligence, precision medicine[10]

The launch of CPHAI was supported by an initial $2 million grant from Dartmouth Geisel School of Medicine and Dartmouth Cancer Center. According to the CPHAI website, the research center aims to improve public health and healthcare while maintaining a rigorous standard for healthcare expertise.

"Artificial intelligence is poised to play a transformative role in healthcare by providing rapid and innovative solutions to real-world problems, improving patient outcomes, and creating a better and more equitable opportunity for All," said Dr. Darts. Philip J. Hanlon, Dean of Mews College, in a press release announcing the announcement. "This new center will facilitate innovation and collaboration in these key areas."

Rheumatoid Arthritis Treatment [11]

CHICAGO - Researchers in a new Northwest Medicine multicentre study show the medicine is delicate.

It's like oncology where you study tumours," Perlman said.

Stating that developments in ultrasound guidance enable new technologies, Perlman noted that collaborative biopsies started in Europe about six years ago. In a study for the site,

researchers analysed tissue from 41 patients with rheumatoid arthritis and isolated the immune systems of different people. They target macrophages, the waste products of the host body's immune system that are overactive in rheumatoid arthritis. These cells produce toxic inflammatory cells that damage the joint. Biological therapy removes protein molecules secreted by macrophages.

Perlman and colleagues classified patients according to genes produced by macrophages. They identified two patients with the same genetic makeup.

The researchers determined which of these patient groups had improved their coordination and the medications they were taking. They also identified genes associated with early-onset disease. The earlier the patient is treated, the better the treatment.

Review criteria

Data analysis using public databases such as PubMed and the Internet. We focus on the differences between precision medicine and personalized medicine and identify recent published articles on precision medicine and personalized medicine.

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