

Drugs within the Western World for Quite a Century

Hamidreza Shirzadfar*

Department of Biomedical Engineering Sheikhabaee University, Baharestan, Isfahan, Iran

Editorial

Biomedicine (also mentioned as Western medicine, mainstream medicine or conventional medicine) may be a branch of life science that applies biological and physiological principles to clinical practice. Biomedicine stresses standardized, evidence-based treatment validated through scientific research. with treatment administered via formally trained doctors, nurses, and other such licensed practitioners.

Biomedicine can also relate to several other categories in health and biological related fields. it's been the dominant system of drugs within the Western world for quite a century.

It includes many biomedical disciplines and areas of specialty that typically contain the "bio-" prefix like biology, biochemistry, biotechnology, cell biology, embryology, nanobiotechnology, biological engineering, laboratory medical biology, cytogenetics, genetics, gene therapy, bioinformatics, biostatistics, systems biology, neuroscience, microbiology, virology, immunology, parasitology, physiology, pathology, anatomy, toxicology, and lots of others that generally concern life sciences as applied to medicine.

Biomedicine is that the cornerstone of recent health care and laboratory diagnostics. It concerns a good range of scientific and technological approaches: from in vitro diagnostics to in vitro fertilisation, from the molecular mechanisms of CF to the population dynamics of the HIV virus, from the understanding of molecular interactions to the study of carcinogenesis, from a single-nucleotide polymorphism (SNP) to gene therapy.

Biomedicine is predicated on biology and combines all problems with developing molecular medicine into large-scale structural and functional relationships of the human genome, transcriptome, proteome, physiome and metabolome with the actual point of view of devising new technologies for prediction, diagnosis and therapy. Biomedicine involves the study of (patho- physiological) processes with methods from biology and physiology. Approaches range from understanding molecular interactions to the study of the results at the in vivo level. These processes are studied with the actual point of view of devising new strategies for diagnosis and therapy. Depending on the severity of the disease, biomedicine pinpoints a drug within a patient and fixes the matter through medical intervention. Medicine focuses on curing diseases instead of improving one's health.

In social sciences biomedicine is described somewhat differently. Through an anthropological lens biomedicine extends beyond the realm of biology

and scientific facts; it's a socio-cultural system which collectively represents reality. While biomedicine is traditionally thought to possess no bias thanks to the evidence-based practices, Gaines & Davis-Floyd (2004) highlight that biomedicine itself features a cultural basis and this is often because biomedicine reflects the norms and values of its creators.

Molecular biology

Molecular biology is that the process of synthesis and regulation of a cell's DNA, RNA, and protein. biology consists of various techniques including Polymerase chain reaction, Gel electrophoresis, and macromolecule blotting to control DNA. Polymerase chain reaction is completed by placing a mix of the specified DNA, DNA polymerase, primers, and nucleotide bases into a machine. The machine heats up and cools down at various temperatures to interrupt the hydrogen bonds binding the DNA and allows the nucleotide bases to be added onto the 2 DNA templates after it's been separated.

Gel electrophoresis may be a technique wont to identify similar DNA between two unknown samples of DNA. This process is completed by first preparing an agarose gel. This jelly-like sheet will have wells for DNA to be poured into. an electrical current is applied in order that the DNA, which is charged thanks to its phosphate groups is interested in the positive electrode. Different rows of DNA will move at different speeds because some DNA pieces are larger than others. Thus if two DNA samples show an identical pattern on the gel electrophoresis, one can tell that these DNA samples match.

Macromolecule blotting may be a process performed after gel electrophoresis. An alkaline solution is ready during a container. A sponge is placed into the answer and an agarose gel is placed on top of the sponge. Next, nitrocellulose paper is placed on top of the agarose gel and a paper towels are added on top of the nitrocellulose paper to use pressure. The alkaline solution is drawn upwards towards the towel. During this process, the DNA denatures within the alkaline solution and is carried upwards to the nitrocellulose paper. The paper is then placed into a bag and crammed with an answer filled with the DNA fragments, called the probe, found within the desired sample of DNA. The probes anneal to the complementary DNA of the bands already found on the nitrocellulose sample. Afterwards, probes are washed off and therefore the only ones present are those that have annealed to complementary DNA on the paper. Next the paper is stuck onto an x ray film. The radioactivity of the probes creates black bands on the film, called an autoradiograph. As a result, only similar patterns of DNA thereto of the probe are present on the film. This enables us the compare similar DNA sequences of multiple DNA samples. the general process leads to a particular reading of similarities in both similar and different DNA sample.

***Address for Correspondence:** Hamidreza Shirzadfar, Assistant Professor, Department of Biomedical Engineering Sheikhabaee University, Baharestan, Isfahan, Iran, E-mail: h.shirzadfar40@gmail.com

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