

# BIOPSYCHOSOCIAL MODEL

DR. IMTIAZ AHMAD DOGAR

FCPS (PSYCH)

Head Department of Psychiatry and Behavioral Sciences

Punjab Medical College Faisalabad

## ABSTRACT

The bio-psychosocial model is a new, broader and integrated approach to human behavior and disease as compared to biomedical model which is based on pure scientific aspects of medicine. This model expects the doctors to be an effective communicator and an ethical practitioner of the art and science of medicine. This fact has been proved by many studies that psychosocial factors affect the onset and course of almost all chronic physical disorders. Mechanisms like neuroendocrine and immunological may mediate the effects of psychological factors on physical process. Behavioral and emotional aspects should be taken into consideration when decisions are made as to whether treatment should be in hospital or at home. Psychological, behavioral and social factors interact with pathological process in the development and course of physical disorders and that they also have substantial effects on consultation and compliance with treatment. The application of biopsychosocial model will help the medical students to integrate the teachings of biological and medical sciences with the knowledge of psychology, sociology, and anthropology and thus help the future doctors in having a holistic and a humanistic approach towards their patients.

**KEYWORDS:** Biopsychosocial model

**CORRESPONDENCE:** Dr. Imtiaz Ahmad Dogar, Head Department of Psychiatry and Behavioral Sciences, Punjab Medical College Faisalabad, E-mail: imtiazd@fsd.paknet.com.pk

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The modern medicine is committed to train the future doctors in the BIO-PSYCHO-SOCIAL MODEL of health care. This model expects the doctors to be an effective communicator and an ethical practitioner of the art and science of medicine who trains himself in the study of the psychosocial aspects alongside the biological determinants of health and disease. He is able to extend health care beyond the patient to include the family and community and emphasize as much on the prevention of illness and promotion of health as on the treatment of disease.

Behavioral and social aspects are very important in the way health care is given to a community. Psychology and sociology are both relevant in making health education effective, for example, using the information that less than 50% of doctors smoke, in persuading others to change their smoking behavior. Behavioral and emotional aspects should be taken into consideration when decisions are made as to whether treatment should be in hospital or

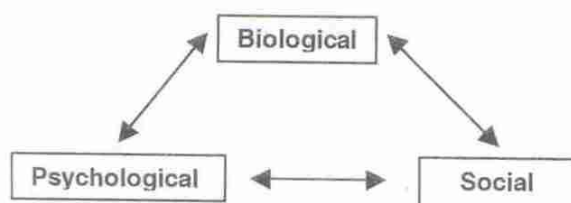
at home for various conditions such as coronary thrombosis, terminal malignant disease or mild dementia.

Health has proved extremely difficult to define. Many doctors have a working definition that it is the absence of disease. Disease is either seen as the presence of organic, histological, morbid pathological or biochemical disorder or, alternatively, the presence of biological disadvantage as shown by increased mortality or decreased fertility. At a more elevated level, is the definition given by the World Health Organization that "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"<sup>1</sup>.

The bio-psychosocial model is a new, broader and integrated approach to human behavior and disease.

In 1977 Dr. George Engel stressed an integrated approach to human behavior and disease, the biopsychosocial model as a response to medicine's increasingly narrow focus on the

spectacular advances and other basic biological sciences of medicine, which he labeled "Biomedical Model". Biological, Psychological and Social factors influence the prevention, causes, presentation, management and outcome of the disease. Each of these factors continuously interacts with the others and together they constitute the unique state we call illness. Engel postulates that each system affects and is as a direct result of a person's psychological and socio-cultural makeup but rather promotes a more comprehensive understanding of disease and treatment. A dramatic example of Engel's concept of the biopsychosocial model was a 1971 study of the relationship between sudden deaths and psychological factors. After investigating 170 sudden deaths over 6 years, Engel observed that serious illness or even death might be associated with psychological stress or trauma. Among the potential triggering events he listed are the esteem, personal danger or threat, the letdown after the threat has passed, and reunions or triumphs<sup>2</sup>.



The biological system deals with anatomical, structural and molecular substrate of disease and the effects on the patient's biological functioning, psychological system deals with effects of psychodynamic factors like motivation and personality on the experience of and reaction to illness, social system examines the cultural, environmental and familial influences on the expression and experience of the illness<sup>3</sup>.

The importance of the biopsychosocial model has been recognized and repeated to the point of becoming a kind of catechism in medical education endlessly repeated but increasingly distant from the way medicine is actually practiced in the real world. While psychological and social variables are unquestionably important in medicine, their proportional importance varies depending on the person and his or her medical circumstances. Chronic conditions such as hypertension or diabetes are affected by multiple aspects of personality and the social environment; however, the short-term treatment

of an acute infection may not be. Because the biopsychosocial model offers no guidance about when and which psychosocial factors are important, physicians are often left with the impression that they must know everything about every patient. It is obviously impossible, so by default they fall back on a biomedical approach, focusing instead on physical pathology and the use of biological, physical interventions.

The biopsychosocial model provided a conceptual framework for dealing with disparate information and serves as a reminder that there may be important issues beyond purely biological; however, it is not a template for practicing medicine or for treating individual patients. It cannot substitute for a relationship between the patient and doctor that reflects warmth, genuine concern, and mutual trust. For example, attempting to elicit a biopsychosocial understanding of disease outside a doctor-patient relationship that conveys understanding, acceptance, and trust can be destructive rather than helpful.

Psychosocial factors affecting the onset and course of physical illness have been studied extensively by psychologists and sociologists. For example, personality like hostility and ambitiousness contributes to Ischemic Heart Disease, other variables affects the course of hypertension, Diabetes Mellitus and Cancers etc. Psychiatric disorders like depression may have direct effect and are important determinants of compliance in myocardial infarctions and other disorders. Lifestyle and health related behaviors have increasingly important role in many conditions. Examples are; smoking, diet, lack of exercise etc. Mechanisms like neuroendocrine and immunological may mediate the effects of psychological factors on physical process<sup>4</sup>.

Application of biopsychosocial model includes incorporation into the education and practice of such specialties as Family medicine, Developmental and behavioral pediatrics, Internal medicine, Surgery, Cardiac Units, Intensive Care Units, Physiotherapy, Rehabilitation Medicine, Psychiatry and others. In fact it is needed to apply to all branches of health sciences.

Two misunderstandings of the biopsychosocial models exist.

The humanistic view that it is synonymous with compassionate practice of medicine. It equates bio-psychosocial medicine with the physician's ethical, caring attitude but may neglect the body of



scientific knowledge from psychology, sociology, anthropology, economics, and the other social sciences. A physician who ignores the biopsychosocial model may be as compassionate and ethical as the next. Yet compassion and ethics alone will not help the physician to formulate an effective intervention for a patient's asthma who continues to smoke, a patient with inflammatory bowel disease who cannot maintain a diet that has been proved effective in reducing symptoms, or a 50-year-old woman with a family history of breast cancer who "forgets" to perform breast self-examinations and has cancelled her last three annual checkups because she was "too busy" at her job.

The reductionistic view is that it can be expressed as a set of scientific principles with the same degree of certainty that of Biomedical Model to problems of pharmacology or molecular genetics. Subscribers of the reductionistic view, on the other hand, seem to expect clinical problems to be neatly divisible into lists of distinct biological, psychological, and social problems. Each of which should then be solved by selection of the relevant formulae of the respective sciences. But science is far from the point of explaining all clinical phenomena as instances of known principles; therefore, this view overestimates the role of science and underestimates the value of clinical experience and judgment.

The role of spirituality and religion in sickness and health has gained ascendancy in recent years, with some suggesting that it becomes part of the biopsychosocial model. There is some evidence that strong religious beliefs, spiritual yearnings, prayer, and devotional acts have positive influence on a person's mental and physical health. These issues are better attended to by theologians than by

physicians; however, doctors need to be aware of spirituality in their patient's lives and sensitive to their patients' religious beliefs. In some instances beliefs may impede medical care, such as the refusal of some religious groups to accept blood transfusions. In most cases, however, when treating patients with strong religious beliefs, the wise physician will welcome the collaboration of the religious counselor.

This model is exactly the application of World Health Organization (WHO) definition of health. Now there is general acceptance that psychological, behavioral and social factors interact with pathological process in the development and course of physical disorders and that they also have substantial effects on consultation and compliance with treatment. The training of medical students in the application of biopsychosocial model will help them to integrate the teachings of biological and medical sciences with the knowledge of psychology, sociology, and anthropology and thus help the future doctors in having a holistic and a humanistic approach towards their patients.

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## KNOWLEDGE TALKS WISDOM LISTENS