

CLINICAL DEPRESSION IN BALOCHISTAN: BIOLOGICAL AND CHEMICAL FACTORS

MAHREEN SIDDIQUI*

ABSTRACT:

The present study is an attempt to find out biological and chemical factors, involved in clinical depressive symptoms in Balochistan. This study becomes more significant as only a few studies have so far been conducted on biological and chemical factors of depression all over the world while in Balochistan it would be the first attempt. As we know that depression is a common psychiatric problem, thus this study would also help in finding out the factors especially biological and chemical factors so as to provide base to those who matter for making efforts to redress this vital mental health problem from the society. Five patients of clinical depression were selected from Bolan Medical Complex Quetta, with applying daily clinical assessment reports for study while their medical examination reports and case history sheets were also studied. Case study research method was applied for investigation of these cases. Assessment report of the causes show that people of poor socio-economic conditions and genetically predisposing factors are also involved in clinical depression, while biological and chemical disturbance process are important cause of clinical depression. Results revealed that outcome of clinical depression caused by biological and chemical disturbance are very poor and majority of the population are unable to afford expensive medicines and therapies.

INTRODUCTION:

Human organic system and brain are formed with the combination of different chemicals, genetics, blood, substance and glands while physiological and psychological development could not complete without

* Lecturer, Department of Psychology, University of Balochistan, Quetta-Pakistan.

biological and chemical changes. Researches show that biological and hormonal changes begin to appear rapidly. According to Higham (1980); Petersen (1988); Petersen & Taylor (1980), "the pituitary gland, located immediately below the brain is critical to the orderly regulation of growth." (Conger & Galambos: 1997) Different medical and psychological problems are imitated or associated by inappropriate function of brain and substance problems.

Research investigates that medical illness and psychological disorders have also different causes while biological and chemical factors are also involved in this irregularity. As mood disorders especially contribute a number of psychiatric and medical illnesses, thus clinical depression is one of them because this is associated with biological, chemical, environmental and psychological changes. Clinical depression is also described as complex mood disorder. "Mood disorder is characterized by significant shift or disturbances in mood that affect normal perception, thought, and behavior. Mood disorders may be characterized by deep, foreboding depression." (Carlson & Buskist: 1997)

"In extreme cases a mood may become life-threatening, and in others it may cause the person to lose touch with reality. Situations such as these represent mood disorders, disturbances in emotional feelings strong enough to intrude on everyday living." (Feldman: 2005) "Mood disorders have always captured people's interest". (Comer: 2002) These complications create other mental, physical, biological and hormonal problems. The experts elaborate: "Depression is one of the most common Psychiatric disorders affecting all segments of the society. It is one of the mood disorders or conditions defined by intense emotional state as well as related behavioral, cognitive, and physical symptoms." (Kendall & Hammen: 1995)

Causes of Depression vary individual to individual and society to society. Same situation exists in Balochistan where a huge population is suffering in mental discomfort as they are emotionally inconsistent, miserable and tense. An immense cause of these problems might be in genetics or hormonal. "Genetic researches have advanced; it has become possible to identify carriers of illness and to test the fetus for the presence of particular life-threatening or severely debilitating illnesses." (Taylor: 1995) The *Hand Book of Child and Adolescent Psychiatry—Advances and New Directions* describing biological factors narrates: "Latest psychological researches are found that nature and nurture must be studied for investigations of symptomatology clinical depression, genetical predisposition and hormonal transformation process and if growth and maturation are not developed then human beings suffer in psychological,

medical and social problems. Endogenous depression has been related to a decrease of brain norepinephrine and serotonin as well as changes in amounts of dopamine and acetylcholine" (McGuigan: 1994) Norepinephrine force is related to consideration and energy as well as anxiety, concentration, and interest in life, while serotonin to anxiety, passion, and pressure; and concentration, incentive, happiness, and motivation, and life's satisfactory activities. Clinical depression occurs when brain's chemical and hormones are disturbed and this disturbance initiates the psychological stress while generally one or more stressors are involved to initiate the stress.

Together with these, the understanding of nature and causes of depression have progressed over the centuries, though this understanding is incomplete and many aspects of depression are still to be investigated and determined through researches. Psychological, psychosocial, hereditary, evolutionary and biological causes have been proposed behind the psychological disorders while theories of personality, interpersonal communication, and learning form the base for psychological treatments. Monoamine chemicals, serotonin, norepinephrine and dopamine naturally present in the brain and assisting communication between nerve cells are being focused by most biological theories. Monoamines have been implicated in depression and as such most antidepressants work to increase the active levels performance decreasing the depressive state.

METHOD

Objective: To determine the biological and chemical causes of depression in Balochistan.

Study Design: Case study method is adopted for this research.

Study Settings: This study was carried out in Psychiatry Department of Bolan Medial Complex (Hospital) Quetta.

Sample: For this study, five clinical depressive patients (19 to 25 years age group) were selected based on certain criteria including indoor patients. They were admitted in hospitals before two to three times for treatment of depression and other psychiatric problems.

CONTROLS:

- Age.....	(19-25 years)
- Period of depression.....	5 years
- Financial status.....	middle class
- Gender.....	Male

INCLUSION/EXCLUSION CRITERIA:

- Patients (19-25 years of age) of Balochistan; male distressed due to clinical depression from five years. All patients undergoing ECT (electro convulsive therapy) during the study period are included;
- People representing rest of the age-groups suffering from different other medical and psychiatric problems, are excluded.

Measures:

1. Daily clinical assessment report was selected for study.
2. Medical examination reports and case history sheets are also studied.

These five persons namely Ali Ahmad (19 years), M. Aslam (22 years), M. Asif (24 years), Sadique (25 years) and Attaullah (23 years) were found depressed due to biological and chemical factors. Their family and medical history shows that they have predisposition causes of depression. They were admitted two to three times in hospitals for treatment of depression, because Sadique, Aslam and Asif complained headache problems and stress or burden on head due to which they were not concentrating on their tasks for the last 10 years. As per their case history sheet, one or both of their parents or the elders had also suffered in stress and clinical depression. The referral sources of the patients informed that doctors were treating them with some medication and ECT. "Effective biological treatments for depression are electro-convulsive therapy, monoamine oxidase (MAO) inhibitors, drugs that inhibit the reuptake and norepinephrine and serotonin". (Carlson: 1999)

Attaullah and Ali Ahmad worked with different people and because of their clinical depressive state they attempted attacks and injuries to their colleagues on pity matters and minor arguments. They also attempted to suicide many times because they were continuously using drugs for the last 10 years and were not able to control their emotion while their perception was also disturbed. All the five cases were already admitted in hospital two

to three times for treatment of repeated complaints. The origin causes of these disorders were investigated by physical and medical examination, which revealed hormonal imbalances, genetical and chemical deficiencies, or brain injuries etc. Hormonal imbalance might lead to intense anxiety, depression and tiredness and mood disorders. Two important causes were same in all five cases including hormonal imbalances which initiate clinical depression and blockages in norepinephrine and serotonin which are two neurotransmitters that play an important role to contribute towards clinical depression as both of them directly linked with limbic system and hypothalamus which directly control emotional behavior. Portion of Limbic system are involved in the expression of emotions of fear, rage, as well aggressive behavior **(King, Weisz, Schopler & Morgan: 1986)**

Unstable or low brain chemicals can cause clinical depression. Complete nutrition vitamins and proper minerals are very important for mental health. This type of problem could be marked out easily in Balochistan due to lack of insufficient treatments because large number of Balochistan's population is experiencing socio-economic unrests due to scarce resources while malnutrition problem is an important challenge of the time.

Complete food and minerals are imperative for mental and physical development and survival for healthy and fit life. The blood test reports of all these cases show that they suffer with malnutrition and vitamins deficiency. Though malnutrition is not a biological cause or chemical cause, but due to this deficiency, level of psychological discomforts increases. Vitamins are essential for physical and mental health while deficiency of Vitamin B12 is one constant cause of depression in all five cases found with this deficiency which affects nervous system and formation of red blood cells which causes anemia and lethargic mood. In Balochistan, most of the Psychological disorders and mental illness are the devastating effect of biological and substance problems.

“Economic progress during the past century has contributed significantly to health advances. Nutrition has improved not only from higher agricultural outputs person and a greater ability to deal with local famines, but also from the introduction of a more varied diet. Child malnutrition rates in low and middle incoming countries are now 20 percent lower than they were 30 years ago while certain nutrient deficiency diseases have almost disappeared in some countries”. **(Health, Nutrition & Population: World Bank Report: 1997)** People from poor socio-economic status visit Government hospitals for treatment and they are unable to getting treatment form private hospitals due to their economic conditions.

Balochistan is the richest province in terms of natural resources and coast but is the least developed area and majority of the population is from poor background resulting in deficiency of nutrition which is one of the causes of depression in this province. Complete diet and proper vitamins are essential for physical and mental health as well to enhance the healthy functions of biological and chemical process while deficiency of Vitamins B₁₂ is another cause of Clinical depression among these factors because it affects nervous system and formation of red blood cells which causes anemia existent in many parts of Balochistan.

During the case study of clinical depressive patients, biological factors varied individual to individual and group to group while genetic constitution prefers to study these cases by their family history as has been conducted in the present study. The most elementary proposition is that depression is a genetic disorder and is transmitted in a predetermined manner. Clinical depression is complex mood disorder which has recently been shown to have a strong genetic component, family history as has been conducted in the present study.

TREATMENT & DISCUSSIONS:

- It was found that all cases have different problems with different reasons and symptoms. Biological and Biochemical factors are an important part for marinating the mood and emotions, and whenever these factors are disturbed they may be the cause of different problems and depression is one of them.
- Majority of the biologists, psychologists, psychiatrists and medical professionals rely that biological, chemicals and genetic risk factors might be the cause of depression. In case of Balochistan, the biological factors vary individual to individual and group to group while genetic constitution prefers to study these cases by their family history as has been conducted in the present study.
- In Balochistan, most of the Psychological disorders and mental illness are the devastating effect due biological and substance problems.
- Reliable risk factors of any problem are very serious and important and need concentration by the different concerned quarters. Consequences of consistent risk factors are very complicated and their improvement is poor. These contributing factors are associated with each other, though the severity of these disorders increases rapidly. "Physiological conditions may be genetically determined". (Meyer: 1999)

- Number of clinical studies show that genetics and hormones affects in some cases are found long lasting in individual, which might cause depression, anxiety, stress and different other illnesses. It is studied that all cases have different problems with different reasons and symptoms. Biological and biochemical factors are an important part for marinating the mood and emotions, and whenever these factors are disturbed they may be the cause of different problems and depression is one among them.
- As stated above that majority of the biologists, psychologists, psychiatrists and medical professionals rely that genetic risk factors might be the cause of depression, biogenetic and other medical problems are proposed to clinical depression. There are different theories which contain genetic information about the theory of causation of depression.
- As also found in the case study of clinical depressive patients, biological factors varied individual to individual and group to group while genetic constitution prefers to study these cases by their family history, the most elementary proposition found is that depression is a genetic disorder and is transmitted in a predetermined manner. Monoamine chemicals, serotonin, norepinephrine and dopamine naturally present in the brain and assisting communication between nerve cells are being focused by most biological symptomatology of depression while during the present study this theory was found existent as patients had monoamine chemicals imbalances as they replied in positive about reduction in their depressed state following intake of antidepressants. When psychiatrists were consulted they had a general reply that most of the patients suffering in depression and other psychological problems insist for prescriptions with antidepressants.
- Findings of this study point out that all five cases of clinical depression are serious indication for all stakeholders. As in Balochistan a very few studies have been carried out on biological and chemical factors of depression, thus more studies and practical steps are needed to be taken in this regard.
- Depression is outcome of prolong stress experiences, inferior complexes, lack of confidence and frustration; and as such our study reveals that youth of Balochistan are on high risk of mental health issues because of the similar problems and challenges which are leading them towards psychiatric illness. Progress of every nation

depends upon the satisfaction of their citizens and the mental health is considered as unavoidable for development while adolescents' who are an important segment of the society can play key role for development need more attention towards their mental health. The nations ignorant of adolescents face difficulties for progress due to depressive behaviors and inappropriate activities contributing dissatisfaction to the environment and society.

- . Promotion of adolescent mental health is one of the essential national and international objectives. Adolescent's development programs and activities are executed by different international, national and local organization, but unfortunately there exist no any governmental or non-governmental organization found working specifically for the promotion of mental health in Balochistan.
- ▾ Poverty, poor health conditions, lack of education and low self-esteem problems are caused by socioeconomic factors. Variety of mental health issues are relevant to uncertain aspects which are not concerned to human expectations. Most of the parents and family members were found unwilling to acquire health facilities for solving their suffering members which is another dilemma.

REFERENCES:

- Carlson, Neil, R. (1999), "Foundations of Physiological Psychology 4th ed" Allyn and Bacon, USA. p451.
- Carlson, Neil, R. & Buskist, William, (1997) Psychology the science of Behavior 5th ed." Allan and Bacon, USA. P85.
- Comer, Ronald J. (2002), "Fundamental of Abnormal Psychology 3rd ed.", Freeman and Company, USA. p. 157.
- Conger & Galambos, Johan Janeway & Nancy L. (1997), "Adolescent and Youth, Psychological Development in a Changing World" 5th ed., Addison-Wesley Educational Publishers Inc. pp. 56 & 293.
- Feldman, Robert S., (2005), "Understanding Psychology 7th ed.," McGraw Hill Companies, USA. P 547.
- Health, Nutrition and Population (Sector Strategy 1997), Human Development Network, World Bank Group, Washington, D.C., USA. pp. 1 & 2.
- Kendall, Philip C. & Hammen, Constance (1995), "Abnormal Psychology", Houghton Mifflin Company, USA. Glossary G-11 & pp. 221.
- King, Richard, Weisz, Johan .R, Schopler, John & Morgan, Clifford T. (1986) McGraw-Hill Inc.P62.
- McGuigan, J. F. (1994), "Biological Psychology, a Cybernetic Science"; Prentice_Hall, USA.P, 186.
- Meyer, Robert, G. (1999), "Case Studies in Abnormal Behavior 4th ed" Allyn Bacon, USA.p24.
- Taylor, Shelley, F. (1995), "Health Psychology" 3rd ed., McGraw-Hill International Editions, Psychology Series. pp. 9, 13 & 259.