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A Study of Neuroticism, Depression and Adjustment among People Suffering from Back Pain

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Introduction

The neurotic disorders are distinct from psychotic disorders in that the individual with neurotic symptoms has a firm grip on reality, and the psychotic patient does not. There are several major traditional categories of psychological neuroses. These include:

- *Anxiety neurosis.* Mental illness defined by excessive anxiety and worry, sometimes involving panic attacks and manifesting itself in physical symptoms such as tremor, chest pain, sweating, and nausea.
- *Depressive neurosis.* A mental illness characterized by a profound feeling of sadness or despair and a lack of interest in things that were once pleasurable.
- *Obsessive-compulsive neurosis.* The persistent and distressing recurrence of intrusive thoughts or images (obsessions) and repetitive behaviors or mental acts (compulsions).
- *Somatization (formerly called hysterical neurosis).* The presence of real and significant physical symptoms that cannot be explained by a medical condition, but are instead a manifestation of anxiety or other mental distress.
- *neurasthenia*

Causes

In 1996, a specific human gene and its corresponding alleles (two components of a gene which are responsible for encoding the gene) were linked to neuroticism.

The identified gene and its allele pair help to control the amount of *serotonin* (a central nervous system neurotransmitter) released into the body through the production of a protein known as a transporter. This transporter protein, which helps to carry the serotonin across the synaptic space (the gap between nerve cells) to stimulate nerve cells, also assists the cell in reabsorbing the serotonin (a process known as "reuptake"). In the case of the "neurosis gene," one possible version of its

corresponding alleles (called *s* for their short length) was found to produce an insufficient amount of this transporter protein, and the other (named *l* for long), a significantly large amount. If the amount of transporter protein produced is inadequate, an excessive amount of serotonin must remain in the synaptic gap while the protein "catches up" with reuptake, and the serotonin will continue to stimulate surrounding nerve cells, resulting in neurosis or neurotic symptoms. A corresponding study of 500 patients showed that patients who were assessed as having neurotic personality traits usually possessed the shorter allele pair (or a combination of one short and one long) that produced insufficient transporter protein. This finding is consistent with a study published the same year that found that women in 37 different countries scored consistently higher on measurements of neuroticism than men. The fact that such high scores were found across a variety of socioeconomic classes and cultures but specific to one gender seems to support a genetic basis for the disorder. However, a 1998 study of over 9,500 United Kingdom residents found that those with a lower standard of living had a higher prevalence of neurotic disorders. It is possible that genetic factors predispose an individual to anxiety and neurosis, and outside factors such as socioeconomic status trigger the symptoms.

Diagnosis

Patients with symptoms of mental illness should undergo a thorough physical examination and detailed patient history to rule out organic causes (such as brain tumor or head injury). If a neurotic disorder is suspected, a psychologist or psychiatrist will usually conduct an interview with the patient and administer clinical assessments (also called scales, inventories, or tests), to evaluate mental status. Tests which may be administered for the diagnosis and assessment of neurosis include the medico psychological questionnaire by Dr. Bharat raj .

Treatment

Neurosis should be treated by a counselor, therapist, psychologist, psychiatrist, or other mental healthcare professional. Treatment for a neurotic disorder depends on the presenting symptoms and the level of discomfort they are causing the patient. Modes of treatment are similar to that of other mental disorders, and can include psychotherapy, cognitive-behavioral therapy, creative therapies (e.g., art or music therapy), psychoactive drugs, and relaxation exercises.

The human back is the large posterior area of the human body, rising from the top of the buttocks to the back of the neck and the shoulders. It is the surface opposite to the chest, its height being defined by the vertebral column (commonly referred to as the spine or backbone) and its breadth being supported by the ribcage and shoulders. The spinal canal runs through the spine and provides nerves to the rest of the body.

Skeletal structure of the back

The central feature of the human back is the vertebral column, specifically the length

from the top of the thoracic vertebrae to the bottom of the lumbar vertebrae, which houses the spinal cord in its spinal canal, and which generally has some curvature that gives shape to the back. The ribcage extends from the spine at the top of the back (with the top of the ribcage corresponding to the T1 vertebra), more than halfway down the length of the back, leaving an area with less protection between the bottom of the ribcage and the hips. The width of the back at the top is defined by the scapula, the broad, flat bones of the shoulders.

Muscles of the back

The spine is bordered by several groups of muscles, including the intertransversarii muscle which facilitate movement between the individual vertebrae, and the multifidus spinae, which facilitate the movement of the spine as a whole.

Other muscles in the back are associated with the movement of the neck and shoulders. The trapezius muscle, which is named from its trapezium-like shape, runs between the neck, the anterior chain, the two shoulders, and the thoracic vertebra, T12. The large latissimus dorsi make a triangle from the shoulder to the hip.

Function of the back

The intricate anatomy of the back provides support for the head and trunk of the body, strength in the trunk of the body, as well as a great deal of flexibility and movement. The upper back has the most structural support, with the ribs attached firmly to each level of the thoracic spine and very limited movement. The lower back (lumbar vertebrae) allows for flexibility and movement in back bending (extension) and forward bending (flexion). It does not permit twisting.

The back in general is such a large area, incorporating everything from the pelvis to the very top of the neck and scapula (shoulder blades).

Low back pain (or lumbago) is a common musculoskeletal disorders affecting 80% of people at some point in their life. It accounts for more sick leave and disability than any other medical condition. It can be either acute, subacute or chronic in duration. Most often, the symptoms of low back pain show significant improvement within a few weeks from onset with conservative measures.

The causes of lower back pain are varied. A traumatic event may result in either muscular pain or a vertebral fractures. At the lowest end of the spine, some patients may have tailbone pain (also called coccyx pain or coccydynia). Others may have pain from their sacroiliac joint, where the spinal column attaches to the pelvis, called sacroiliac joint dysfunction. Physical causes may include osteoarthritis, rheumatoid arthritis, degeneration of the discs between the vertebrae or a spinal disc herniation, a vertebral fracture (such as from osteoporosis), or rarely, an infection or tumour.

Classification

One method of classifying lower back pain is by the duration of symptoms: acute (less than 4 weeks), sub acute (4–12 weeks), chronic (greater than 12 weeks).

Review of literature

Depression More Pervasive Among Back Pain Sufferers, A Study By Spine-Health.Com Reveals Article Date: 19 Jul 2007. A study by Spine-health.com, the leading health information website for consumers with chronic pain and back pain, reveals that depression may be much higher in back pain sufferers than previously thought. A Spine-health.com user poll conducted in June 2007 showed that 61% of people with chronic back pain also suffer from depression (n = 642). Previous clinical evidence estimated the incidence of depression in the chronic pain population at around 20% to 30%. In the general population, the incidence of major depression is around 5%. Depression is treated with a wide range of options, including lifestyle changes, support groups, professional counseling, and anti-depressants such as Cymbalta, Effexor XR, Lexapro, and Wellbutrin. "The fact that many people with chronic back pain also suffer from depression is no surprise," said William Deardorff, PhD, ABPP, a clinical psychologist and Medical Advisor for Spine-health.com. "Continuous pain drains a person physically, mentally and emotionally, and can make everyday activities difficult or impossible. What is surprising is the percentage of people self-reporting that they are depressed, which implies: (1) that depression may be under-diagnosed in the chronic back pain population and (2) that all medical professionals treating a chronic back pain patient, including surgeons, should be on the lookout for signs of depression." To address this issue, Spine-health.com is making more resources available to its chronic pain visitors and practitioners that deal with depression. "We have created a Chronic Pain Health Hub which is a resource center that addresses issues like depression," said Stephanie Burke, Spine-health.com's President and Co-Founder, "and we are proactively adding tools and access to our unique patient-driven resources, like our award-winning message boards, which provide a critical support network of peers for people with chronic pain." In the coming weeks, Spine-health.com will introduce additional resources that address depression and other important mental health issues.

Freburger JK, Holmes GM, Agans RP, et al. The rising prevalence of chronic low back pain. Arch Intern Med. 2009;169(3):251-258 .chronic back pain incidedence rising :obesity,depression among suspected causes. February 19th,2009
A recent study conducted at the University of North Carolina found that the incidence of chronic low back pain among North Carolina residents increased more than 5% from 1992 to 2006, doubling the group's incidence of this condition in 14 years. The study was funded by the National Institute of Arthritis and Musculoskeletal and Skin Diseases. In both 1992 and 2006, surveys were conducted via telephone to individuals 21 years or older; the same definition of chronic low back pain and similar questions were used in both instances. Survey questions focused on issues related to chronic low back pain, including levels of impairment and types of medical care received. Results reported an increase of 3.9% to 10.2% rate of chronic low back pain from 1992 (based on 4,400 respondents) to 2006 (5,300 respondents). The findings also suggested that diverse groups, including men and women of all ages and black and white races suffer equally from the effects of this condition. The exact cause of the increase in this population remains unclear, but researchers suggested that it may be due to obesity, depression, or increased awareness of the condition of low back pain. They also

suspect that a similar trend may be occurring in many other states. Increasing numbers of cases, along with the rising costs of treatment, are calling for an evaluation of the effectiveness of current treatment options for chronic low back pain.

Does back pain have you feeling depressed ? by Margaret McCraw, Ph.D (Currie and Wang, 2004). (Sullivan, Reesor, Mikail & Fisher, 1992). Have you been in a funk, not understanding the reason for your bad moods and lack of energy? Are you isolating yourself from others because you never know how you will feel from moment to moment? Have you noticed that friends and family members have backed away from spending time with you? Is living from day-to-day becoming more and more of a burden, with no light in sight? If you have answered yes to any of these questions, you may be experiencing a medical illness known as depression. Chronic pain and depression are two of the most common health problems that health professionals encounter, yet only a small percentage of studies have investigated the relationship between these conditions (Currie and Wang, 2004).

Stress and anxiety stemming from chronic pain, is frequently the source causing a major depression. Researchers estimate that depression and anxiety occur in 20% - 50% of patients with chronic pain (source - www.backandneck.about.com). Major depression is thought to be four times greater in people with chronic back pain than in the general population (Sullivan, Reesor, Mikail & Fisher, 1992). In a recent study it was found that the rate of major depression increased in a linear fashion with greater pain severity (Currie and Wang, 2004)

Research methodology

Aim of the study

To study neuroticism, depression and adjustment among people suffering from back pain.

Research design

The research design is ex post facto research design. The dependent variable is back pain and independent variables are depression, neuroticism and adjustment.

Technique of data collection

First of all a friendly rapport will be established with the subject. After doing so, the subject will be made to feel free and comfortable about the nature of work. The subject will be asked to record his/her responses on an individual level. The same pattern or procedure will be followed for every subject and the data will be collected in this manner

Face to face fixed response questionnaire will be used for data collection.

Method used for sampling

Purposive or judge mental sampling will be used for collecting samples as it is based on the typicality of cases that will be included in the sample.

Objectives

a. **To study neuroticism of people suffering from back pain on following dimensions:**
   - Hysteria
   - Anxiety neurosis
   - Neurasthenia
   - Reactive depression
   - Obsession compulsion

b. **To study depression among people suffering from back pain.**
c. **To study adjustments among people suffering from back pain on following dimensions:**
   - Home.
   - Health.
   - Social.
   - Emotional.
   - Occupational.

d. **To Study neuroticism among people suffering from back pain between males and females on following dimensions:**
   - Hysteria
   - Anxiety neurosis
   - Neurasthenia
   - Reactive depression
   - Obsession compulsion

e. **To Study depression among people suffering from back pain between males and females.**
f. **To Study adjustment among people suffering from back pain between males and females on following dimensions:**
   - Home.
   - Health.
   - Social.
   - Emotional.
   - Occupational

Research hypothesis

a. **There will not be neuroticism among people suffering with back pain on following dimensions:**
   - Hysteria
   - Anxiety neurosis
   - Neurasthenia

- Reactive depression
- Obsession compulsion

b. There will not be depression among people suffering from back pain.

c. There will not be adjustment problems among people suffering from back pain on dimensions:
- Home.
- Health.
- Social.
- Emotional.
- Occupational

d. There will not be neuroticism among males and females suffering from back pain on following dimensions:
- Hysteria
- Anxiety neurosis
- Neurasthenia
- Reactive depression
- Obsession compulsion

e. There will not be depression among males and females suffering from back pain .

f. There will not be adjustment problems among males and females suffering from back pain on following dimensions:
- Home.
- Health.
- Social.
- Emotional.
- Occupational

Setting

The sample for research will be collected from
- Department of Physical Rehabilitation of concerned hospital.
- Private setting of doctor who specialized in Physical therapy treatment.

Inclusion

a. Diagnosed patients with back pain from the past six months will be included.
b. Diagnosed patients with back pain within the age group of 25-40 years will taken up for research study.
c. Diagnosed patients with back pain of both the genders will be included in the research study.
d. Only patients who are willing and able will be included in the study.

Exclusion

a. Patients suffering from back pain from more than 6 months will be excluded from the study.
b. Patients who are below the age of 25 years will be excluded from the study.
c. Patients who are above the age of 40 years will be excluded from the study.
d. Patients who were suffering from and other psychological and neurological problem will excluded from study.
e. Patients who were not cooperative were also excluded from the research study.

Sample size

The total sample size will be 120 people suffering from back pain. The sample will be further divided into 60 males and 60 females.

Statistical analysis

T test will be used to find out the significant difference in order to analyse the data.

Tools of Data collection

1. Medico psychological questionnaire by Dr bharat raj to check level of neuroticism.
2. Bells adjustment inventory to compare level of adjustment among individuals.
3. Beck's depression inventory to see level of depression among individuals.

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