

Correlation of Chronic Pain with Anxiety and Depression in Young Adults

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Abstract: ***Purpose:** To find out the correlation of chronic low back pain with depression and anxiety in young adults. **Relevance:** This study helps in to evaluate the depression and anxiety with low back pain in young adults. **Participants:** 30 patients with low back pain were included on the basis of inclusion criteria and each patient has given a questionnaire (VAS, Beck Anxiety Inventory, Beck Depression Inventory) performed on volunteers of age 20-30 years. **Methods:** Asian hospital Faridabad, Manav Rachna International College Faridabad OPD, fortis escorts faridabad. Firstly, VAS, BECK ANXIETY INVENTORY, BECK DEPRESSION INVENTORY was explained by the researcher to the patients and filled by the patient itself. **Results:** There is correlation in patients having low back pain with anxiety but No correlation is found in patients having low back pain associated with depression. **Conclusion:** There is moderate degree of positive correlation between chronic back pain and anxiety and also low degree of positive correlation between chronic low back pain and depression this study concluded that patients with chronic low back pain with a moderate degree of anxiety are likely to be anxious and depressed.*

Keywords: visual analogue scale, beck anxiety inventory, beck depression inventory.

1. Introduction

“The international association for the study of pain used definition states:”pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”¹.

Pain can be classified into two terms:

- 1) Acute pain
- 2) Chronic pain
 - Acute pain: “pain lasting less than 3 to 6 months, or pain that is directly related to tissue damage”.
 - Chronic pain: “pain that lasts more than 3 to 6 months, or beyond the point of tissue healing”. Chronic pain is usually less related to identifiable tissue damage and structural problems. Eg, chronic back pain without determined cause, fibromyalgia.

1) Chronic Pain

Chronic pain is pain that has lasted for a long time, the distinction between acute and chronic pain has traditionally been determined by an arbitrary interval of time since onset; the two most commonly used markers being 3 months and 6 months since onset,² though some theorists and researchers have placed the transition from acute to chronic pain at 12 months.³ Others apply acute to pain that lasts less than 30 days, chronic to pain of more than six months duration, and sub acute to pain that lasts from one to six months.⁴ A popular alternative definition of chronic pain, involving no arbitrarily fixed durations is "pain that extends beyond the expected period of healing."⁵

Causes

- Cancer
- Fibromyalgia
- Spinal injury
- Headaches
- Back injury
- Arthritis
- Nerve inflammation or damage

Measuring Pain

According to W.H.O there are 3 methods of measuring pain:

- Mild pain: Mild pain is self-limited. It goes away either with no therapy at all or with the use of nonprescription medication.
- Moderate pain: Moderate pain is worse than mild pain. It interferes with function. Moderate pain may need stronger medications.
- Severe pain: Severe pain is defined as pain that interferes with some or all of the activities of daily living For severe pain, the World Health Organization recommends strong opioids, such as morphine,oxycodone, hydrocodone, hydromorphone, methadone, or fentanyl, as well as other medications.

2) Anxiety

- By Jacobs, K. et al (2004), defines anxiety as:
- "Characterized by an overwhelming sense of apprehension; the expectation that something bad is happening or will happen; class of mental disorders characterized by chronic and debilitating anxiety."

Causes

Anxiety disorders may be caused by environmental factors, medical factors, genetics, brain chemistry, substance abuse, or a combination of these. It is most commonly triggered by the stress in lives. Usually anxiety is a response to outside forces, but it is possible that make anxious with "negative self-talk" - a habit of always telling, the worst will happen.

Depression

“It is a state of low mood and aversion to activity that can affect a person's thoughts, behavior, feelings and physical well-being⁶. Depressed people may feel sad, anxious, empty, hopeless, helpless, worthless, guilty, irritable, or restless. They may lose interest in activities that once were pleasurable; experience loss of appetite or overeating, have problems concentrating, remembering details, or making decisions; and may contemplate or attempt suicide. Insomnia, excessive

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sleeping, fatigue, loss of energy, or aches, pains or digestive problems that are resistant to treatment may be present.⁷

Causes

- Alcohol or drug abuse
- Certain medical conditions, including underactive [thyroid](#), cancer, or long-term pain
- Certain medications such as steroids
- Sleeping problems
- Stressful life events, such as:
 - Breaking up with a boyfriend or girlfriend
 - Failing a class
 - Death or illness of someone close to you
 - Divorce
 - Childhood abuse or neglect
 - Job loss
 - Social isolation (common in the elderly)

2. Methodology

Inclusion criteria

- Age group 20-30 years
- Patients having low back pain for more than 3 months.
- Patients with post-surgical low back pain
- Sciatica
- Postural pain, herniated disc
- Traumatic low back pain.

Exclusion criteria

- Uncontrolled diabetes
- Pregnant women
- Thoracic outlet syndrome
- Peripheral nerve injuries
- Arthritis- spondylitis
- Post pregnancy

Procedure

After explaining the purpose of the survey, 30 subjects who were fulfilling the inclusion and exclusion criteria, were included in the study. The study was initiated only after taking an informed consent from the subject. Verbal description was given to the subjects prior to the beginning of the study. Demographic data of the study were collected which included name, age, severity of pain, pain assessment.

Subjects were given to fill the questionnaire:

Visual analogue scale:

Visual analogue scale (vas) is a self-rated questionnaire which assesses pain severity. Scoring of the Answers is based on 0 to 10 scales. Whereby 0 reflects negative, 10 extreme pain.

Beck anxiety inventory:

It consists of 21 questions about how much patient has been bothered by the symptoms in past months, including today, by circling the number in the table.

When the test is scored, a value 0-3 is assigned for each answer and then total grand score is compared to a key to determine the anxiety severity.

Standard cutoffs are as follow:

- 0-21: indicates very low anxiety
- 22-35: indicates moderate anxiety
- Grand sum that exceeds 36 is a potential cause for concern

Beck depression inventory

It consists of 21 questions about how the subject has been feeling in the last week. each question has a set of at least four possible answer choices, ranging in intensity.

When score test is scored, a value of 0-3 is assigned for each answer and then the total score is compared to a key to determine the depression severity.

The standard cutoffs are as follow:

- 0-9: indicates minimal depression
- 10-18: indicates mild depression
- 19-29: indicates moderate depression
- 30-63: indicates severe depression

3. Outcome Measures

- Visual analogue scale: A total score of 10, scale indicates that, if the subject marked "0" means no pain, "10" means worst pain ever.
- Beck depression inventory: a score of 10 – 18 on the BDI indicates that the subject is positive for mild depression. A score of 19-29 on the BDI indicates that the subject is positive for moderate depression. A score of 30 – 63 on the BDI indicates that the subject is positive for severe depression.
- Beck anxiety inventory: a score of 0-21 on BAI indicates that the subject is having low anxiety, if score is between 21-35 then the subject is experiencing moderate anxiety, when score is higher than 36 strong potential for anxiety problems.

4. Result

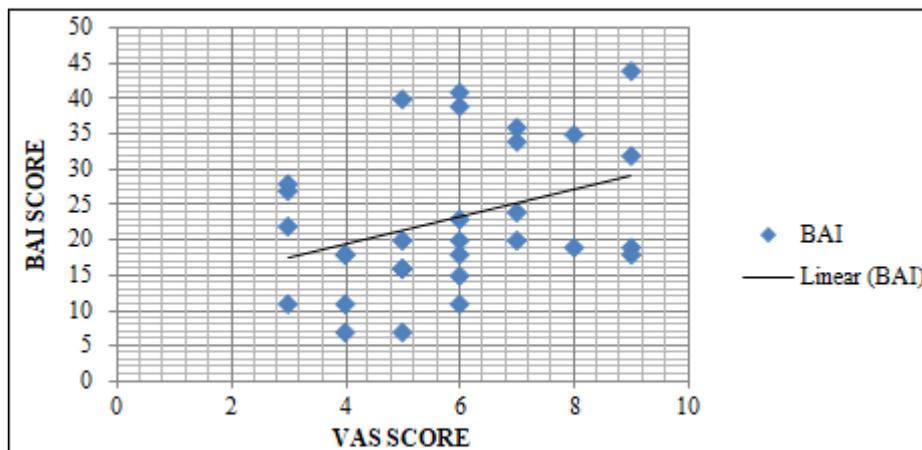
A total of 30 young adults were included in the analysis. The age of participants ranged between 20- 30 years males and females. The analysis shows that there is no correlation between pain and depression and moderate degree of positive correlation between pain and anxiety.

Correlation between pain and depression =0.065279: there is no correlation between pain and depression.

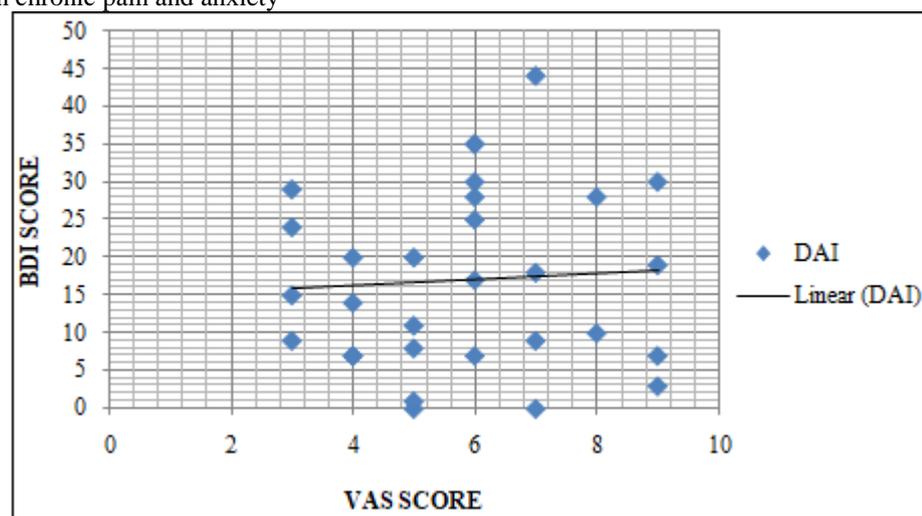
Correlation between pain and anxiety =0.358557: there is moderate degree of positive correlation between pain and anxiety.

Table 5.1: Correlation of Pain, Anxiety, Depression

Characteristics	Depression	Anxiety
Pain	$r = \pm 0.065279$	$r = \pm 0.358557$



Correlation between chronic pain and anxiety



Correlation between chronic pain and depression

5. Discussion

Result of study show that there exist a positive moderate correlation between pain and anxiety and no correlation between pain and depression.

Through this survey it was found that most of the patients with chronic low back pain experience anxiety due to psychological factors.

The study signifies that the lesser the lower back pain, less will be the anxiety.

These results are supported by previous studies which indicate that when pain is severe, it impairs functions and associated with more depression and anxiety.

In 2003 Matthew^{8,9} J Bair, reports that, the presence of pain negatively affects the recognition and treatment of depression. When pain is moderate to severe, impairs function, and/or is refractory to treatment, it is associated with more depressive symptoms and worse depression outcomes (e.g, lower quality of life, decreased work function, and increased health care utilization).

Robert L. woolfolk¹⁰ in 2011 stated that patients with fibromyalgia pain treated by behavioral and cognitive therapy shows a strong correlation between chronic

fibromyalgia pain with fatigue, depression, mental status and general health status. An individually administered affective-cognitive behavioral treatment¹¹ results in sustained improvement in pain and related symptomatology in patients with FM.

6. Conclusion

The subject's responses on the questionnaire were then calculated and a score was yielded for each questionnaire the subject had filled.

There is a moderate degree of positive correlation between chronic pain and anxiety and also low degree of positive correlation between chronic pain and depression. These results indicate that patients with chronic low back pain with a moderate degree of anxiety are likely to be anxious and complain of depression.

These findings suggest the need for studies of strategies to relieve chronic pain and improve muscle strength.

By avoiding too much of activity and proper body mechanics chronic low back pain can be prevented, too much lifting, bending or twisting often leads to back pain. The lower back supports most of the weight of the body and is subject to the most mechanical stress (bending and lifting place more stress on the lower back than the upper back). As

a result, the lower back is commonly injured. The risk of injury can be reduced with proper bending and lifting techniques, with proper lifting techniques, lifting more weight than one is capable of places one both at risk of herniated discs and strained back muscles. Twisting too far may injure discs and spinal joints as well as injure muscles, tendons, and ligaments.

Lack of activity or sedentary lifestyle leads to decrease in muscle strength and flexibility provokes back pain and it can be relieved by maintaining good posture and doing exercises.

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