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Influence of Anxiety Sensitivity and Pain on Quality Of Life of Rheumatoid Arthritis Patients

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Abstract – The study examines the influence of anxiety sensitivity and pain on quality of life of patients with rheumatoid arthritis. The sample of the study was comprised of 140 patients [70 in rheumatoid arthritis (RA) group and 70 in acute pain (AP) group] from a Multi-Specialty Hospital located in Secunderabad, Andhra Pradesh. A between group design with a cross-section comparison was employed.The major findings of the study revealed that patients of Rheumatoid Arthritis group scoring high on Anxiety Sensitivity had significantly more score on Pain. The Quality of life however, correlated negatively with Pain suggesting more the pain reported by the individual, more the Anxiety sensitivity and lower Quality of life of the individual.

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INTRODUCTION

One of the greatest challenges that will face Health systems globally in the twenty-first century will be the increasing burden of chronic diseases (WHO, 2002). Chronic conditions are defined by the World Health Organization as requiring “ongoing management over a period of years or decades” and cover a wide range of health problems that go beyond the conventional definition of chronic illness, such as heart disease, diabetes and asthma. People with chronic health problems are more likely to utilize healthcare, particularly when they have multiple problems. For example, in England, people with chronic illness account for 80% of general practice consultations and approximately 15% of people who have three or more problems account for nearly 30% of inpatient days (Wilson et al, 2005). Chronic diseases place a substantial economic burden on society (cf. Nolte and Mckee, 2008).

Arthritis is one of the most common medical problems in the world, and also one of the most ancient. The word Arthritis is a blend of the Greek words “arthron” for joint, and “itis” for inflammation. Arthritis literally means “joint inflammation”. Arthritis strikes people of all ages, of both sexes, across geographical locations and ethnic backgrounds. Women are at special risks, accounting for almost two- thirds of people with arthritis (Hunder, 2006).

There are several forms of arthritis which do begin as significant inflammation in the joints and this inflammation causes damage to the joints (Schotzhauer and McGuire, 1993).

American College of Rheumatology (ACR) criteria for rheumatoid arthritis (Klareskog et al, 2009).

A patient is said to have rheumatoid arthritis if he or she meets at least four criteria

- Morning stiffness lasting at least 1 h, present for at least 6 weeks.
- At least three joint areas simultaneously with soft-tissue swelling or fluid, for at least 6 weeks.
- At least one area swollen in a wrist, metacarpophalangeal, or proximal interphalangeal joint, for at least 6 weeks.
- Simultaneous involvement of the same joint areas on both sides of the body, for at least 6 weeks.
- Subcutaneous nodules seen by a doctor.
- Positive rheumatoid factor.
- Radiographic changes on hand and wrist radiographs (erosions or unequivocal bony decalcification).

Anxiety Sensitivity and Chronic Pain conditions

According to Reiss and McNally (1985)anxiety sensitivity (AS) refers to the fear of bodily sensations associated with anxious arousal due to a belief that these sensations will have harmful somatic, psychological, or social consequences. Clark (1986)

although AS is considered a critical component in the development and maintenance of anxiety and other emotional disorders, recent evidence indicates that AS may be a risk factor for conditions other than anxiety disorders (cf. Tsao et al, 2009).

As there is dearth of studies on Anxiety sensitivity in the people with Rheumatoid Arthritis, however some studies report that AS is linked with lower quality of life and poorer overall functioning in children with chronic pain (Tsao et al, 2007).It has been proposed that high anxiety sensitivity amplifies a number of fears and anxiety reactions. A study done by Asmundson and Norton (1995) examined whether anxiety sensitivity influences pain-related anxiety and associated cognitive and affective reactions in patients with physically unexplained chronic back pain. Seventy patients with chronic back pain were included in the study. Fourteen patients (20.0%) were classified as high, 44 (62.9%) as medium and 12 (17.1%) as low anxiety sensitive. Multivariate analysis of variance indicated that the high anxiety sensitive patients were more negatively affected by their experience with pain. Specifically, high anxiety sensitivity patients exhibited greater cognitive disruption and anxiety in response to pain, greater fear of negative consequences of pain, and greater negativity of affect. The proportion of high anxiety sensitive patients reporting current use of analgesic medication was, however, significantly greater than the medium and low anxiety sensitive patients. Correlational analyses indicated significant associations between anxiety sensitivity and pain-related cognitive/affective variables that were independent of pain severity. These results suggest that chronic back pain patients with high anxiety sensitivity, despite equal levels of pain severity, are more likely to be negatively affected by their pain experiences than those with medium and low anxiety sensitivity.

PAIN AND RHEUMATOID ARTHRITIS

The international association for the study of pain (1994) defines pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage” (cf. Oliver and Ryan, 2004).Pain is an entirely subjective phenomenon and is the symptom of most of the musculoskeletal conditions. When pain persists beyond the time of healing or longer than 3 months, this is termed chronic pain. Chronic pain can continue without the occurrence of ongoing degenerative illness or additional injury. Chronic pain persists after healing is completed, due to continued activation of neural pain pathways and muscle spasm (Marcus, 2005).

According to Benzing (1998) pain is one of the most universal types of stress. Statistics show staggering figures on the number of patients for whom pain is a major problem, including those with arthritis, back pain, or headache. Estimates of the prevalence of chronic pain in the generalpopulation range from 2% to 40%. Patients with chronic pain pose a problem in terms of their suffering, the impact on their families, time lost from employment, medical expenses, costs associated with disability compensation, and the utilization of health care resources. Recurrent nociception was demonstrated in the pain of patients with arthritis and migraines, there were no definite organic findings for about half of the chronic pain patients (cf. Kraaimaat and Evers, 2003).

QUALITY OF LIFE AND RHEUMATOID ARTHRITIS

According to the WHO, Quality of life is defined as “the individuals’ perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns (cf. Haroon et al, 2007).

Rheumatoid arthritis (RA) is a chronic inflammatory disabling disease with significant impact on the QOL of patients. The strongest determinants of lower QOL in Korean RA patients were functional disability, higher disease activity, and subjective pain. Studies confirm that patients with RA have significantly lower QOL than healthy subjects (Cho et al, 2012). The Quality of life of patients with RA has been reported to be worse than patients with other chronic diseases like Sjögren’s syndrome, asthma/chronic bronchitis, heart disease, diabetes mellitus, migraine and dermatological disease (Strombeck et al, 2000).Functional disability, as reflected by HAQ, is the most important factor affecting QOL in RA (Haroon et al, 2007). Among a community based cohort, elderly onset RA was strongly associated with functional disability and reduced quality of life (Mikuls et al,2003).

Bedi (2005) studied 81 patients with RA from a rheumatology clinic in India. Age, gender, disease duration, educational status, constitutional symptoms, rheumatoid factor positivity, erosions and deformities did not influence HRQOL. Disease activity had a negative influence on the physical and psychological domains. Results reveals that physical domain of HRQOL is the one which is most impaired in Indian patients with RA. Disease activity has a significant negative influence on physical and psychological domains of QOL

OBJECTIVES

1. To compare Anxiety Sensitivity, current pain and Quality of life in Rheumatoid Arthritis group and acute Pain group.

2. To find the correlation of pain with quality of life and Anxiety Sensitivity.

HYPOTHESIS

A null hypothesis was examined with respect to all variables.

DESIGN

A between group design with a cross-section comparison was employed.

SAMPLE

Purposive sampling method was employed to recruit patients for Rheumatoid Arthritis and Acute Pain groups. Patients in both groups were recruited from a Multi-specialty Hospital located in Secunderabad, Andhra Pradesh. The required permission of the Specialists and the administrative authority was obtained prior to start of the study. The confidentiality of the information obtained directly from the patients and the data collected through various measures were assured in all cases. Patients attending the Rheumatology Department were contacted during their waiting period and requested for their time, and the objectives of the study were explained. Those consenting to participate in the study were screened using the inclusion and exclusion criteria developed for the purpose of this study (appended below). The same procedure was followed for recruiting patients for Acute Pain group, except that the patients were contacted and recruited from Dental, Surgery and Medicine OPD clinics. Total 150 patients in RA group and 180 patients in Acute Pain group were screened during the study period (November 2011 to April 2012) to meet the target of 70 subjects per group as required sample size.

Inclusion Criteria

- Patients diagnosed to have Rheumatoid arthritis for a minimum period of 1 year
- Either Sex
- Age between 35 and 50 years
- Consenting to participate

Exclusion Criteria

- Patients with comorbid chronic physical illness such as COPD, Asthma, Chronic GI infections, Neoplastic diseases, Seizure disorders, Chronic Pain
- Current or past history of psychiatric illness, substance dependence, trauma or head injury

TOOLS

Socio-demographic data sheet

A Sociodemographic data sheet was developed for the purpose of this study and employed to collect the relevant information such as age, gender, religion, marital status, family type, domicile, duration of illness, treatment and its duration.

Anxiety Sensitivity Index (ASI) (Reiss et al, 1986)

ASI was developed by Reiss et al (1986). It is a 16-item questionnaire in which participants indicate on a 5-point Likert-type scale (0 = very little to 4 = very much) the degree to which they fear anxiety symptoms. Among clinical and non-clinical Caucasian samples, the ASI has been demonstrated to have good internal consistency (range of a coefficients .79–.90) and good test–retest reliability (r = .75) (Cintron et al, 2005).

Visual Analogue Scale (VAS)

It is a tool widely used to measure pain. A patient is asked to indicate his/her perceived pain intensity along a 100 mm horizontal line, and this rating is then measured from the left edge (=VAS sore). A score of 0 indicates “No Pain” and score of 10 indicates “worst possible pain” (Myles et al, 1999).

Quality of life – Rheumatoid Arthritis (QOL-RA) (Danao et al, 2001)

QOL-RAScale is an RA-specific Health Related Quality of Life instrument. It is developed by Danao et al in 2001. It is an 8-item scalethat measures the Health related Quality of life of persons with RA. Each item starts with the definition of an element to be considered in rating one's quality of life, followed by a question on rating one's quality of life on a horizontal 10-point scale anchored with 1 (very poor) at one end and 10 (excellent) at the other end. The elements are physical ability, pain, interaction with family and friends, support from family and friends, mood, tension, arthritis, and health. The higher the QOL-RA Scale score, the higher the HRQOL. Cronbach's alpha coefficients of the QOL-RA Scale in the Caucasian/English and Hispanic/Spanish groups were 0.90 and 0.87, respectively (Danao et al, 2001).

PROCEDURE

Patients for Rheumatoid Arthritis and Acute Pain groups were recruited as described above. On inclusion all patients were interviewed in an adjacent room located in the Main OPD of the hospital and basic sociodemographic information was collected and recorded in specially developed proforma for the purpose of this study. Following this phase, all patients in both the groups were administered the study measures in one-to-one session. Each session lasted approximately 1-hr. Doubts if any, were cleared during the assessment. Telugu Translation questionnaires were given whenever necessary. After completion of the administration of measures, the

subjects were thanked for their cooperation and were guided to meet their Physician in-charge.

STATISTICS

- Descriptive statistics option applied on socio-demographic data.
- Students' 't' test was employed to determine significance levels of between groups.
- Pearson Correlation Coefficient analysis was used to determine the degree of relationship between the variables.

RESULTS

Table-1: Mean (±SD) score on Anxiety Sensitivity and Current Pain in Rheumatoid Arthritis (RA) and in Acute Pain (AP) groups.

Variable	RA (Mean ± SD)	AP (Mean ± SD)	"t"	"p"
Anxiety Sensitivity	22.84 (± 11.29)	19.31 (± 12.84)	1.72	0.08
Current Pain	5.60 (±2.29)	5.25 (±2.44)	0.85	0.39

As shown in Table-1. RA group as compared to AP group did not differ significantly on Anxiety Sensitivity and variable Pain.

Table-2: Mean (±SD) Score on Quality of life in Rheumatoid Arthritis (RA) and Acute Pain (AP) groups.

Variable	RA (Mean ± SD)	AP (Mean ± SD)	"t"	"p"
Quality of life	46.97(±9.66)	63.65 (± 8.14)	-11.04	.005

As shown in Table-2. RA group as compared to AP group did differ significantly on Quality of life. As seen in the table the RA group had lower degree of Quality of life.

Table-3: The correlation of Present Pain with Quality of life and Anxiety Sensitivity in Rheumatoid Arthritis (RA) group.

	Quality of life	Anxiety sensitivity
Pain	-.538*	.573*

* p< 0.05 (2- tailed)

As shown in Table-3. In RA group a significant positive correlation was evidenced between Pain and Anxiety sensitivity. The quality of life however, correlated negatively with Pain.

Table -4: The correlation of Present Pain with Quality of life and Anxiety Sensitivity in Acute Pain (AP) group.

	Quality of life	Anxiety sensitivity
Pain	-.033	-.032

As shown in Table-4. In AP group no significant correlation was evidenced between any of the variables.

DISCUSSION

The present study consisted of 40 females (57.1%) and 30 males (42.9%) in both Rheumatoid arthritis and Acute pain groups. Many rheumatic diseases, including Rheumatoid arthritis (RA) are more frequent in females than males. About 1.3 million American adults have RA. Nearly three times more women have the disease than men (Nazario, 2012). A study done by Kvein et al (2006) found that the prevalence of RA is higher in females than males, the incidence is 4-5 times higher below the age of 50, but above 60-70 years the female/male ratio is only about 2.

Anxiety sensitivity group median showed significant differences indicating that Individuals scoring above the group median tended to have significantly higher mood symptoms than the individuals scoring below the group median in both Rheumatoid Arthritis group and Acute pain group. McCoy (2011) investigated the relationship among PTSD, anxiety sensitivity, depression and concerns about pain in 39 outpatient, treatment-seeking, recently traumatized individuals. Regression analysis indicated that greater concerns about pain and greater anxiety sensitivity were associated with greater depression, whereas only greater anxiety sensitivity was associated with greater PTSD.Another study done by Gonzalez et al (2010) explored facets of anxiety sensitivity (AS—social, physical and mental concerns) in regard to somatization, anxiety and depression symptoms among people with HIV/AIDS. Together, AS subscales were significantly related to depression symptoms (ΔR^2 = .11; p = .006), but no one subscale was independently related. Another research showed that Chronic musculoskeletal pain patients (N=70) underwent cold pressor and mental arithmetic tasks while cardiovascular, self-report, and behavior indexes were recorded. They completed measures of pain anxiety, anxiety sensitivity, fear of negative evaluation, depression and trait anxiety.

In summary, the results of the present study suggested that patients of Rheumatoid Arthritis group

scoring high on Anxiety Sensitivity had significantly more score on Pain. The Quality of life however, correlated negatively with Pain suggesting more the pain reported by the individual, more the Anxiety sensitivity and lower Quality of life of the individual.

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