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Research Article

RHEUMATOID ARTHRITIS ETIOLOGY, PSYCHO-SOCIAL FACTORS AND MANAGEMENT: A SYSTEMATIC REVIEW OF LITERATURE

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ABSTRACT

Rheumatoid arthritis (RA) is a common physical disorder having a prevalence of 0.6-1.3% in the general population. The present study examined the psychosocial risk factors in rheumatoid arthritis disorder, on the basis of review of the different studies related to the rheumatoid arthritis disorder. The study used electronic databases, there were 50 studies related to rheumatoid arthritis and 18 studies were dealt with etiology of RA disorder. The study finds that some psychosocial factors were associated in the genesis and prognosis of rheumatoid arthritis disorder.

INTRODUCTION

Rheumatoid arthritis (RA) is a common physical disorder having a prevalence of 0.6-1.3% in the general population (WHO).Twenty one percent(21%) of patients with RA have been reported to suffer from neuropsychiatric disorder (Murphy, Creed & Jayson, 1988; Frank, Beck & Parker,1988). American Rheumatology Association (A.R.A.) developed revised criteria for diagnosis of RA in 1987 which includes morning stiffness, arthritis of 3 or more joints, arthritis of small joints, symmetric arthritis, RA nodule, serum RA factors positive and radiological changes (Arnett *et al*., 1988). Various factors including genetic (Cobb, 1959), immunological (Solomon & Moss, 1964), social and psychological (King, 1995; Moos & Engett, 1962), are considered in the initiation of disease process. Several thoughtful and comprehensive reviews have linked psychological and social factors with initiation and maintenance of disease process (King& Cobb, 1959; Affelck&Urrows 1997).

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The diagnosis category "Psychological factors affecting medical conditions recognizes the variety of ways in which specific psychological and behavioral factors affected medical illness (WHO, 1995; APA, 1994).According to World Health Organization (WHO) data the prevalence rate of this disorder in the population is 0.6-1.3%. Women suffer from RA more often, the ratio of women to men is 3:1. All over the world, there are 58 million patients suffering from RA with an annual incidence of new cases of about 200 per million per year, out of which 5% of women and 2% of men over the age of 55 years are affected. In case of Indian population prevalence rate of 0.75% projected to the whole population, making a total of about 7 million patients in India (Malaviya *et al*., 1993).

Some psychological factors were associated in individual belief about the nature of their condition (illness perception) from a key part of Leventhal'sself regulatory model or common sense model, which provides a framework for understanding the impact that illness beliefs and emotion have, on how an individual copes, adapts, and responds to illness (Leventhal's, *et al*., 1980). The model can be represented as a three stage process in which a patients perception of his illness (stage 1) guides a coping or an action– planning response (stage 2),

followed by the appraisal stage (stage 3), whereby the individual monitors the success or failure of the coping process (Leventhals *et al*.,1992). Belief in significant negative consequences and a chronic timeline of disease durations are other dimensions that have been reported to be associated with a number of outcomes in RA, including greater disability(Greaves *et al*, 2009),pain (Carlisle *et al*, 2005) and low mood (Sharpe *et al*, 2001). Anxiety and depression are common among patients with RA, with the prevalence being higher than that of the general population (28-44% versus 6.6%)(Isik, Koca, Ozturk&Mermi, 2007; Kessler, Berglund, Demler, Jin, Koretz, Merikangas, *et al*., 2003). Many studies have shown that those who perceive their RA as having serious negative consequences experience high states of anxiety, than those who have more severe depression in RA (Graves *et al*., 2009 & Murphy *et al*., 1999).

OBJECTIVES

The objectives is to review studies and research in RA with regard to

- Etiological factors.
- Psychosocial & environmental factors.
- Effectiveness of behavioral intervention programme.

METHOD

Rheumatoid arthritis disorder related studies were searched for different electronic sources from 1980 to 2014. A total 50 studies were found to be related to rheumatoid arthritis and 18 studies were most relevant to the present objective.

REVIEW OF LITERATURE

Cordingley *et al* (2014) studied that the psychological factors and found that cognition and mood are strongly associated with rheumatoid arthritis.

strongly associated with severe rheumatoid arthritis. Gupta *et al*. (2008) examined the psychiatric morbidity, disease parameter and personality dimension with the rheumatoid arthritis. Forty (40) patients with RA from the Centre of Rheumatoid Arthritis clinic of P.B.M. Hospital of Bikaner, India participated in the study. The patients were subjects to the ICD-10 module of International personality Disorder Examination (IPDE), Social and Occupational Functioning Assessment Scale (SOFAS), Hamilton Rating Scale for Depression (HAM-D) and Presumptive Stressful Life Events Scale (PSLE). The data was subjected to statistical analysis with Bivariate Student t-test and ANOVA. Finding of the study was suggesting the severity of rheumatoid arthritis correlates with the psychiatric morbidity. Chris *et al*. (2002) reviewed thatdepression, socio-demographic characteristics and level of pain between RA. The study used in CD-Rom database and bibliographic method.

The result states that depression is more common in patient with rheumatoid arthritis than in healthy individual. Strahl *et al*. (2000) examined the emotional reaction in pain and chronic pain. Using the PASS Scale and AIMS-2 scale. The PASS (pain anxiety symptom Scale) is a four factor scale viz.- cognitive anxiety, fearful appraisal, escape avoidance & physiological anxiety, whereas AIMS-2, is a five factor scaleviz- physical functioning, affective experience, symptoms, social interactions and role function.

The hierarchical regression suggested that the role anxiety along with contribution of self-efficacy and coping is associated with pain disorder. Fitzpatrick *et al*. (1999) examined psychological wellbeing in rheumatoid arthritis. In a study which include158 subjects diagnosed as RA. The finding of the study suggests that the social support and psychological well being were more favorable in rheumatoid arthritis. Scharloo *et al*. (1998), investigated illness perception and coping strategies.

Table 1. Shows Prevalence Rate of Rheumatoid Arthritis disorder.

S.N	Autoimmune Disorder	Prevalence Rate		Male/Female Ratio#	Source/ References
		World*	India**		
					*#WHO **Malviya(1993)
1.	Rheumatoid arthritis	0.6-1.3%	0.75%	1:3 (M<F)	

Note – Data of Rheumatoid Arthritis disorder in Chhattisgarh State (India) are not available.
*- Source and references of diseases (world).
**- Source and references of diseases (India) # - Source and references of diseases (male/female ratio)

Table 2 Shows the Pathophysiology and Epidemiology of Rheumatoid Arthritis disorder

SN	Auto - immune Disorder	Age of onset (years)*	Trigger gene**	Risk factor	Risk factor (psycho-socio)	Symptoms	Source/ References
1.	Rheuma -toid arthritis	40-50	-PTPN 22 -PAD 14	-genetic -viral/bacteria -trauma -smoking	-emotional affects -stress	-morning stiffness. -two or more joint swollen. -RA factor +ve	*WHO **Malviya (1993)

Note – Data of Rheumatoid Arthritis disorder in Chhattisgarh State (India) are not available.
HLA- Human Leucocyte Antigen
PTPN- Protein Tyrosine Phosphatase Non receptor type

The study used a cross-sectional design including 322 subjects with a diagnosis of rheumatoid arthritis. The Illness Perception Questionnaire (IPQ), the Belief about Medicines Questionnaire (BMQ) and the Hospital Anxiety and Depression Scale (HADS) were used to collect the information from participants. The findings suggest that cognitive factors and depression are

The study used a cross-sectional design and used the Illness Perception Questionnaire and the Utrecht Coping List. it included 244 adults with another medical condition e.g. 80 with chronic obstructive lung disease, 84 with rheumatoid arthritis, and 80 with psoriasis. The stepwise regression analysis was used for data analysis and the result suggested that coping by

seeking social support and belief is controllability/curability of the rheumatoid arthritis. Banks & Kens, (1996) studied the management technique in depression and suggested that cognitive behavior model sufficiently reduced depression in rheumatoid arthritis.The study explored those unique psychological experiences of living with chronic pain that accounted for the higher prevalence of depression in RA. Young, (1992), reviewed the development in psychological researches related to rheumatoid arthritis. The literature suggested that psychological variables e.g. affective reactions, disease related beliefs and coping strategies are associated with rheumatoid arthritis. Jensen *et al*. (1991), reviewed relationship between belief, coping and adjustment to chronic pain with rheumatoid arthritis. The finding suggested that RA patient believed that they could control their pain, avoiding catostrophizing about their conditions, coping strategies is strongly associated to adjustment in chronic pain.

Brown *et al*. (1989), examinedthat the role of pain episode and the role of active coping, passive pain coping strategies and depression. The study conducted on 287 rheumatoid arthritis subjects using a cross-sectional study design prospectively over a 6 month time interval. The study suggested that pain, passive coping contributed independently on all accounting for higher depression in rheumatoid arthritis.Keefe *et al*. (1989), studied catastrophizing in rheumatoid arthritis, in 223 RA subjects in a longitudinal study usingCatastrophizing Scale of the coping strategies Questionnaire (CSQ) on comonths, which is designed to measure negative self-statements, catastrophizing thoughts and ideation. The finding of the study suggested that catostrophizing is a maladaptive coping strategy involved in rheumatoid arthritis.

Manne&Zautra (1989), investigated spouse/husband of women with RA for support of their problem and psychological adjustment. The study was conducted on spouses of 103 RA positive women. The finding of the study suggested that highly critical spouse engaged in more maladaptive coping behavior and poorer psychological adjustment .The patients perceived their spouse being supportive engaged in more adaptive coping and better psychological adjustment. Revenson& Felton. (1989), studied the contribution of functional disability and coping efforts in RA management. The hierarchical regression analysis ofdata indicated that increase in disability was associated with decreased acceptance of illness and increased negative affect, whereas coping was related to increase in positive affect.

Hawley & Wolfe (1988), investigated that psychological and clinical factors in rheumatoid arthritis. The study was conducted on 400 RA positive participants using Arthritis scale (AMS)over a period of 6 months (mean 3.1). The finding of the study showed thatinitial psychological factors are associated with subsequent pain level of rheumatoid arthritis. Revenson (1988), considered in social network interactions as a potential source of stress & social support for individuals for coping with a chronic illness. The study was conducted on 101 currently RA diagnosed persons and the data was subjected to the hierarchical regression analysis for conjoint effect of social support and depression. The findings of the study emphasized the need to consider positive and negative aspects of support transaction conjointly in assessing their stress reducing and health protective potential.

Tanya *et al*. (1988), studies depression as a predictor in the management for rheumatoid arthritis. The study conducted on 134 participants with cross-sectional survey design using center for Epidemiological Depression Scale (CES-D). The finding of the study is suggested that depression was associated with high tension, low self esteem and perceived impact of rheumatoid arthritis.Anderson *et al*.(1985), reviewed the psychological literature related to the etiology, efforts and treatment of rheumatoid arthritis. The finding of the reviewhighlighted that psychological factors such as chronic stress was important factor for development of rheumatoid arthritis.

Conclusion

The review on psychosocial risk factors revealed that Rheumatoid Arthritis disorders have been studied for deferent aspects. There is paucity of researches revealing personality association with Rheumatoid Arthritis risk factors. The psychosocial issues have been given less attention. A study revealing personality association and psychosocial issues may be undertaken for the research work. The studies focusing on etiological and interventional issues have revealed that genetic and environmental factors are responsible, although these studies have been conducted on various dimensions like social support, stress coping and depression.

Although there is no prevalence study available with regard to autoimmune disorder in the State of Chhattisgarh, the number of cases of Rheumatoid Arthritis seems to be higher in various clinical settings. These disorders have been equally reported in significant numbers in urban as well as rural areas. Whatever the mechanisms that underlie this relationship, psychosocial factors that reduce stress, may help prevent or ameliorate the course of disease. There is some evidence that religious practices may alter the course of RA condition. Better understanding of these risk factors will likely lead to a better understanding of mechanism for the onset of RA disorder. Effective strategies for prevention will require identification of psychosocial triggers before the onset of clinical disease. We have only begun to scratch the surface of various psychosocial factors affecting RA disorder, making this a fertile ground for future study.

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Conflicts of interest

There are no conflict of interest.

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