

Depression and ways of coping in SLE induced arthritis patient: a case study

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Abstract: Systemic lupus erythematosus is a systemic autoimmune disease (autoimmune connective tissue disease) that most often harms the heart, joints, skin, lungs, blood vessels, liver, kidneys and nervous system. One of the outcomes of SLE is arthritis which is a group of conditions involving damage to the joints of the body. One of the most common types is rheumatoid arthritis which is an autoimmune immune disease. This SLE induced arthritis has many impacts on every aspect of life including biological, psychological, social and financial domains. In most of the cases arthritis is associated with depression and anxiety. It is envisaged that people with arthritis suffer more from depression as compared to general population. The present study was designed to evaluate depression using Zung Self Rating Scale and coping using two scales: Ways of Coping and Coping Self Efficacy in a 27 years old female participant with SLE induced Arthritis. The results of the two paradigms and detailed case history revealed that the level of depression lies in the normal range that coincides with the use of effective coping strategies. Thus the participant's positive outlook enabled to improve the quality of life.

Keywords: Systemic lupus erythematosus, arthritis, depression, coping self efficacy.

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INTRODUCTION

Systemic lupus erythematosus (SLE) often abbreviated as SLE or lupus is a systemic autoimmune disease (autoimmune connective tissue disease) that can affect any part of the body. As occurs in other autoimmune diseases, the immune system attacks the body's cells and tissues, resulting in inflammation and tissue damage¹. It is type III hypersensitivity reaction caused by antibody-immune complex formation. The course of the illness is unpredictable with periods of illness called flares, alternating with remissions. The disease occurs nine times more often in women than in men, especially in women in child-bearing ages 15 to 35, and is more prevalent in those also of non-European descent². Currently SLE has no cure but it's treatable through addressing its symptoms, mainly with cyclophosphamide, corticosteroids and immunosuppressant.

SLE has no one specific cause. A number of environmental factors like lipstick usage^{3,4}; genetic susceptibilities⁵ and reactions to drugs like procainamide, hydralazine, phenytoin and quinidine² trigger SLE. SLE most often harms the heart, joints, skin, lungs, blood vessels, liver, kidneys and nervous system. SLE is predominated by its musculoskeletal manifestations in the form of joint pains where the small joints of the hand and wrist are mostly affected. The pain as a result of group of conditions involving damage to the joints of the body known as Arthritis⁶ may be constant and localized to specific joint. This pain associated conditions include; inflammation around the joint, wear and tear of joint, muscle

strains caused by forceful movements against stiff, painful joints and fatigue⁷.

Researchers suggested that there might be an association between rheumatoid arthritis and SLE and that SLE is associated with an increased risk of bone fracture in relatively young women⁸. Unlike rheumatoid arthritis, lupus arthritis is less disabling and usually does not cause severe destruction of the joints.

SLE induced arthritis has a major impact on the daily life of the patients, especially on the way they perform activities. The biological causes of SLE induced arthritis are in the form of genetic changes⁹⁻¹¹ and changes in sex hormone metabolism¹². It also strongly influences the mood and social life and leads to anger and depression¹³ in SLE induced arthritic patients. The patients usually take social withdrawal to avoid awkward experiences in social situation. Along with the patient himself, the immediate family also experiences impacts of arthritis. Subsequently the role positioning of the affected person in the family also changes. Arthritis has negative influence on the working capabilities of the patient and is superimposed by financial burden due to the expensive medical and surgical treatments. Psychological impacts of SLE induced rheumatoid arthritis include anger, frustration, sadness, disappointment, distress and jealousy.

Patients with chronic diseases like Rheumatoid arthritis are at high risk of psychological distress¹⁴ significantly in the form of depression in patients¹⁵. Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behavior, feelings and physical well being¹⁶. Depression makes a person feel sad, hopeless, worthless, pessimistic

and guilty. Difficulty in concentrating and in decision making is also experienced by the depressed person along with non discontinuing period of emptiness and despair¹⁷. Psychological symptoms like depression and others have a negative impact on the quality of life¹⁸ and on the course and outcome of the chronic disease^{19,20}. The mental distress also plays a role in the non-compliance with the medical treatment²¹. Researchers report that rheumatologic patients are prone to severe depression²².

The prevalence and level of the depression varies from person to person. The occurrence of depression and other psychological symptoms in rheumatoid arthritis patients is closely linked to the individual ways of coping with the disease and the corresponding impacts of disease on daily life²³. Coping refers to the thoughts and actions used to deal stress. It also depends on the belief of having coping resources to deal with the challenge. This perceived belief about the capabilities to produce designated levels of performance in a situation is known as coping self efficacy. Self efficacy belief determines how people feel, think and motivate themselves towards a behavior²⁴. In coping with stress people tend to use one of the three main coping strategies either appraisal-focused, problem focused or emotion focused²⁵. Each of the above respectively focus on the modifying either the way of thinking, causes of the problem or releasing pent-up emotions. Problem-focused is suggested to be most effective means of coping as it provides greater control over the problem²⁶. Ineffective coping strategies leading to feelings of helplessness subsequently induce greater depression as a systemic feature in RA patients²³.

On the basis of the previous findings, the present study was designed to evaluate the depression and coping mechanisms in an SLE induced arthritic patient.

MATERIAL AND METHODS

The study was conducted by obtaining a detailed case history of the participant along with the questionnaires of depression and coping.

Case report

A 27 year old woman, university student, reported her absence from the routine classes due to her pregnancy and SLE induced arthritis. Although arthritis interferes with the normal functioning of a participant and with daily life activities leading to pain associated depression, the lady was very active, mobile and lively. Her studies play a vital role in the management of depression caused by SLE induced arthritis.

None of the maternal and paternal relatives suffered from SLE as reported by the participant. The disease initiated with the infection of lungs. When she consulted a doctor she was mistakenly diagnosed for tuberculosis and was treated with anti-tuberculosis drugs. However, she went through the inflammation of the joints, stiffness, swelling and deformity. The disease was diagnosed at the age of 25 during pregnancy. The relevant laboratory data showed that ESR was elevated. The participant's test for ANA and cross linked N-telopeptide test was positive. The RA factor was greater than the normal range. The serum anti double stranded DNA showed active SLE. Thus, the participant was diagnosed with SLE induced arthritis. The participant was recommended the drugs Nebrolfort, HCQ, Imuran and steroids. In addition to daily activities, the participant is pursuing BS studies as well.

Considering the possible impacts of SLE induced arthritis and participant's response to daily life, the participant was selected with consent to evaluate the psychological distress, self efficacy in coping and ways of coping in influence of the disease.

Zung self-rating depression scale²⁷

This is a short self-administered survey to quantify the depressed status of a patient. It is useful in screening and using in cross-cultural studies. There are 20 items, 10 positively worded and 10 negatively worded, that rate the four common characteristics of depression: the pervasive effect, the physiological equivalents, other disturbances and psychomotor activities. The participant is required to indicate the frequency of experiencing a symptom. The scoring is on the scale of 1 through 4. Item scores are added to form 20 to 80 with higher scores indicating depression. The raw score is converted to index score dividing by 0.8. The interpretation of index scores are as follows: less than 50 indicate within the normal range, 50 to 59 indicate mild depression, 60 to 69 indicate moderate depression and above 70 indicate severe depression.

Coping self efficacy scale²⁸

This is a 26-item measure of perceived self-efficacy for coping with challenges and threats. The scale items were developed by several of the authors (Margaret Chesney, Susan Folkman, and Jonelle Taylor) by creating sample items based upon stress and coping theory and the Ways of Coping Questionnaire, with consultation from Dr. Albert Bandura of Stanford University. Respondents are asked, "When things aren't going well for you, or when you're having problems, how confident or certain are you that you can do the following:?" They

are then asked to rate on an 11-point scale the extent to which they believe they could perform behaviors important to adaptive coping. Anchor points on the scale are 0 ('cannot do at all'), 5 ('moderately certain can do') and 10 ('certain can do'). An overall CSES score is created by summing the item ratings ($\alpha=0.95$; scale mean=137.4, $SD=45.6$). The standard scoring rule with summated rating scale scores is that respondents must answer at least 80% of the scale items. For respondents missing an item or items, an estimate of the individual's score for the missing item(s) is obtained by adding in their mean for the items that they answered for each item that they skipped, resulting in a "corrected sum." The three ranges of self efficacy from the questionnaire are: 0-87 indicates mild self efficacy, 87-174 indicates moderate self efficacy and 174 to 260 indicate high self efficacy.

Ways of coping

The WCQ consists of 50 items (plus 16 fill items) within eight empirically derived scales²⁹ that assess and identify the thoughts and actions that individuals use to cope with stressful encounters of daily living. It comprises of eight scales including: Confrontive coping (6 items), Distancing (6 items), Self-controlling (7 items), Seeking social support (6 items), Accepting responsibility (4 items), Escape-avoidance (8 items), Planful problem solving (6 items), Positive reappraisal (7 items). The response format is based on the four-point Likert rating scale.

RESULTS

The participant was homogenously positive for ANA test which shows the presence of SLE. The level of cross linked N-telopeptide is also elevated i.e. 42nMBCE/L which shows presence of Osteoporosis. The serum anti double stranded DNA is 3.9IU/ml which shows active SLE in patient. The level of depression in participant is 31.25 that is within the normal range. The extent of self efficacy coping was 182 that indicates high self efficacy of the participant. According to the questionnaire of Ways of Coping, the most powerful strategy used by the participant was problem focused and seeking social support. Then most employed method that follows includes wishful thinking. Least used way is self blame.

DISCUSSION

SLE induced arthritis is an autoimmune disorder characterized by inflammation and pain in joints. The arthritic conditions are likely to induce depression³⁰.

The level of depression experienced is related to the self efficacy in coping and ways of coping practiced. The present case study is used to identify the levels of depression and self efficacy in coping and the use of strategies for coping in 27 year old women.

The case that was presently studied identified pains in the joints and does not report depression which is contradictory to the studies previously conducted. The participant is young and energetic and is carrying out her daily life activities along with studies. Some studies also show that depressive symptoms are common in older people with arthritic pain as compared to young³¹. Another factor that supports the participant being less depressive is awareness and knowledge as people who are more educated about their conditions are less likely to suffer depression³². Arthritis is a chronic disease that can greatly affect patient's psychosocial well-being and the subsequent depression can also affect patients' adherence to treatment regimens³³. In the case of the current participant, the psychosocial impact of the disease is not very evident and this is associated to the sound spousal and family support. Along with this the participant makes less use of the coping strategy of self-blame as reported in the questionnaire that decreases the chances of depression. This is supported by the findings that self blame is core component of depression³⁴.

The active social support from the family alleviate many symptoms like job and family crisis, worry about health and family being harmed, worry about daily life being restricted and physical experience being altered, fear of decline in social ability and fear of decline in physical functions which arise due to a chronic illness in the case of our participant³⁵. This inculcates hope in the participant and makes it easy to carry out the chores of the life and still enjoy the life. Depression due to arthritic conditions is a self-consuming cycle, where one symptom feeds into another. The physical symptoms and major life changes when diagnosed with a disability may affect mood³⁶ and the reaction to it depends on chances of acquiring depression.

Depression in arthritic patients is also due to the loss of freedom coupled with the physical pain. It is important for the patients to identify the warning signs of depression to stop the self consuming cycle of depression and arthritic symptoms³⁷. The participant is at the early stage of arthritis and is combating it effectively through her coping strategies and support system.

The participant's high extent of self efficacy is evident from the positive talks to oneself and engagement in new hobbies and recreation like doing

of Montessori course to be busy. The creativity and ability to extract positive even from a negative situation is a powerful tool for psychological well being.

Patients with chronic illness must continuously revise their lifestyle adapting to the behavioral limitations imposed by their state of health³⁸. This is evident from the participant's life in the form of involvement in household work, pursuing of education and also opting for the outdoor enjoyments with friends.

“Approach” coping e.g, planning, seeking social support, positive reinterpretation, acceptance and turning to religion are all very effective in chronic illness like arthritis³⁹. The participant reports to be sharing and speaking about everything to the spouse who is a friend along with a great belief in Almighty Allah and prayers.

Along with the personality characteristics the medications to treat SLE and Arthritis namely corticosteroids also give strength to cope the challenges of life⁴⁰. The participant is on corticosteroids, the synthetic cortisol, that decreases inflammation and reduces activity of immune system⁴¹ and strengthens emotionally that enables the patient to overcome the depression and face challenges arising due to lupus and arthritis⁴². The corticosteroid specifically taken by the participant is ‘deltacortril’ that decreases inflammation and prevents the release of certain chemicals that are important in the immune system⁴³.

Some studies report that anxiety is more dominant psychological paradigm as compared to depression in SLE induced arthritis patients⁴⁴ thus this could be the limitation of the study that other psychological paradigms were not taken into consideration for evaluation.

Despite the general idea of the depression inducing impact of arthritis, the participant of the present study reports less vulnerability to depression due to strong social coalition and strong coping self efficacy using effective strategies in the two years course of the SLE induced arthritis.

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