General Health Status in patients of Adhesive Capsulitis Visiting Rehabilitation Department of Fauji Foundation Hospital Rawalpindi

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Significance:
Adhesive capsulitis is a serious condition which causes stiffness and disability to patients. Change in muscle tone and range of motion reduce the activities of daily living and disturb the sleep pattern. Current study investigated about general health status in patients suffering from this condition.

ABSTRACT

Objective: To investigate the general health status in patients of Adhesive Capsulitis

Study Design: Prospective study

Place and duration: Occupational Therapy Unit of Rehabilitation Department of Fauji Foundation Hospital Rawalpindi from July 1, 2019 to September 30, 2019.

Methodology: There were many patients suffering from shoulder pain. Among them, 52 patients who were suffering from adhesive capsulitis included. After the history of subjects, assessed for pain and restriction of range of motion in their affected shoulder. Lateral rotation, abduction, and medial rotation (LAM) test was performed. The inclusion criteria for subjects was symptomatic shoulder problems with restricted active and passive range of motion along with positive (LAM) test in ages between 30 to 80 years. The exclusion criteria was: (1) any neurological conditions affecting shoulder (2) any pathology other than adhesive capsulitis (3) any surgery of head, neck or upper limb. Data was analyzed using SPSS 25.

Results: Our study showed that all 52 patients were suffering from a very acute state of pain, sleep cycle disturbance, difficulty in activities of daily living (ADLs) and recreational activities. Some patients were jobless due to acute shoulder pain of adhesive capsulitis.

Conclusion: Adhesive capsulitis disturbs the daily life, sleep cycle, activities of daily living and difficulty in recreational activities. it is advocated that further researches must be conducted to point out the difficulties of such patients.

Introduction

Adhesive capsulitis is an extremely acute and serious painful state which causes stiffness and disability. It is typically clinically diagnosed disorder made on the basis of past history and physical assessment. It is a musculoskeletal condition due to vitiated soft tissue and articular capsule of glenohumeral joint of shoulder and characterized by inflammation and adhesions. (1) It has more frequency in females especially suffering from diabetes among ages of 40 to 60 years and 2 to 5% of population is affected by adhesive capsulitis. (2) Clinical features of adhesive capsulitis are acute which can disable an individual's ability to carry out daily activities at domestic and workplace. It costs a very significant economic loss with a lot of poor work performance. The shoulder joint is an essential to withstand heavy physical activity due to its ball and socket joint which provide a wide range of motion. (3) There are multiple etiological and referral factors which causes shoulder pain such as local pathologies, abdominal pathologies affecting the viscera, diaphragm and liver. Range of specific shoulder disorders as adhesive capsulitis are main cause of shoulder pain. (4) Shoulder joint provide wide range of motion and its extraordinary flexibility is due to scapulo-thoracic, acromioclavicular, glenohumeral and sterno-clavicular joints. support system of muscles and tendons supports the capsule within and outside of structure. This complex structure is more prone to injury, strain and sprain due to many idiopathic and secondary to other etiologies. (5) Pain, stiffness, or pain and stiffness both are main sources of physical impairment of shoulder joint result in sleep deprivation and other ADLs loss. It also has greatest influence to cause psychological and mood disorders such as anhedonia, depression and elation. (6) On inspection, the patient often presents acute pain while holding the arm in adduction and internal rotation. (7) Sometimes, atrophy of the shoulder muscles can be found. On palpation, there can be diffuse tenderness along the shoulder joint. There is a global restriction of movements of the shoulder, painful during early and middle stages of disease. Of particular importance is an almost complete loss of external rotation, which is almost pathognomonic. (8) This is confirmed by testing the active and, more importantly, the passive ranges of movement. Adhesive capsulitis is generally a clinical diagnosis and normally does not require extensive investigations. Plain radiographs of the shoulder to exclude osteoarthritis of the joint or other pathologies are usually sufficient. Blood tests, including infection markers, are normal in true frozen shoulder. (9) Typically, three phases are seen as frozen shoulder progresses, described as “freezing, frozen and thawing”. These stages last for approximately two years, with initial onset over days or weeks. The initial phase (freezing) is characterized by marked pain and lasts approximately three months. (10) The frozen (adhesive) phase lasts for 3-9 months, with significant stiffness and pain at the extremes of movement. The thawing (resolution) phase lasts for 9-18 months, is relatively painless, with stiffness

improving steadily during this phase. Several authors have described frozen shoulder as a self-limiting condition that resolves in 12-36 months. (11)

Materials and Methods

We designed this prospective study after approval of the Research Ethical Committee of Fauji Foundation Hospital and completed the research goals in 90 days from July through September, 2019. We conducted the research at Occupational Therapy unit of the Rehabilitation Department of Fauji Foundation Hospital, Rawalpindi, Pakistan. Patient's data was collected who visited Occupational Therapy Unit of Rehabilitation Department of Fauji Foundation Hospital during July 2019 to September 2019 for patient's ADLs, recreational activities, sleep cycle and mood issues. There were many patients suffering from shoulder pain and visiting Rehabilitation Department of Fauji Foundation Hospital Rawalpindi but 52 patients were those who were suffering from adhesive capsulitis. After the history of subjects, assessed for pain and restriction of range of motion in their shoulder. Lateral rotation, abduction, and medial rotation (LAM) test was performed to confirm diagnosis. The inclusion criteria for subjects were symptomatic shoulder problems with restricted active and passive range of motion along with positive LAM test in age between 30 to 80 years. The exclusion criteria were: (1) any neurological conditions affecting shoulder, (2) any pathology other than adhesive capsulitis, (3) any surgery of head, neck or upper limb. Data was analyzed using SPSS 25.

Results:

Lateral rotation, abduction, and medial rotation (LAM) test was performed on all patients who visited Occupational Therapy Unit of Rehabilitation Department of Fauji Foundation Hospital Rawalpindi with acute shoulder pain. Among them only 52 patients showed positive (LAM) test. Out of these, 20 (62.5%), 7 (21.9%) and 5 (15.6%) were at stage 1, 2 and 3 respectively. All these patients were unable to wash their lower back with hands due to restricted movement and acute pain at shoulder joint. 7 (13.5%) patients were suffering from hemiparesis. 13(25%) patients reported sensory loss at their affected limb. 49 (94.2%) patients were able to complete range of motion partially and only 3(5.8%) were able to complete full range of motion at their shoulder joint passively. None of these patients can complete active Range of motion. All subjects reported sleep disturbance. 49 (94.2%) were in mild depression and 3 (5.8%) did not report any mood swings. Only 5 (9.6%) patients were able to sleep on affected side. 29 (55.8%) patients reported that shoulder pain had very severe impact on their life, 20 (38.8%) reported severe impact and 3 (5.8%) reported moderate effect. Among study subjects, 5 (9.6%) were suffering from moderate pain, 23 (44.2%) were suffering of mild pain and 24 (46.2%) did not feel any pain during rest. 8 (15.4%) patients presented very severe pain during ADLs, 29 (55.8%) presented severe and 14 (26.9%) presented moderate and 1 (1.9%) presented mild while performing any task. 4 (7.7%) reported difficulty in sleep every day in past month, 33 (63.5%) several days per week, 12 (23.1%) one day per week and 3 (5.8%) less than one day per week. 19 (36.5%) patients were suffering from very severe limitation to use their shoulder joint to perform any activity,25 (48.1%) faced severe limitation, 4 (7.7%) endured moderate limitation while 4 (7.7%) under mild limitation. 13(25%) out of 52(100%) patients were unable, 29 (55.8%) out of 52(100%) faced severe difficulty and 10(19.2%) out of 52(100%) were facing moderate difficulty in putting on or removing a pullover in last month.24(46.2%) out of 52(100%) patients were unable, 28(53.8%) out of 52(100%) patients confronted with severe difficulty while combing or brushing their hair. 22(42.3%) out of 52(100%) were unable and 18(34.6%) out of 52(100%) faced severe difficulty ,9(17.3%) out of 52(100%) faced moderate difficulty and 3(5.8%) out of 52(100%) faced mild difficulty to reach shelves overhead. 32(62.7%) out of 52(100%) patients were unable, 19(37.3%) out of 52(100%) were bearing severe difficulty to search or wash their lower back with their hands due to restriction at affected shoulder joint. 13(25.00%) out of 52(100%) were unable, 32(61.5%) out of 52(100%) faced severe difficulty and 7(13.5%) out of 52(100%) faced moderate difficulty while lifting or carrying a full bag of groceries by using affected side. 18(34.6%) out of 52(100%) were facing very severe limitation, 34(65.4%) out of 52(100%) were countering with severe limitation in shoulder functions while performing recreational activities. 11(21.2%) out of 52(100%) patients were unable, 37(71.2%) out of 52(100%) were facing severe difficulty to throw a ball over head. 6(11.5%) out of 52(100%) patients were unable, 46(88.5%) out of 52(100%) were facing severe difficulty in performing activity and were unable to enjoy and faced degree of limitation on their frozen shoulder side. 25(48.1%%) out of 52(100%) patients did paid work , 16(30.8%%) out of 52(100%) did work at home , 6(11.5%) out of 52(100%) were unable to do any work due to adhesive capsulitis complications and 5(9.6%) out of 52(100%) were retired and bound to house and they were not doing any task. 31(59.6%) out of 52(100%) patients unable to perform their usual work all days of last month, and 21(40.4%) were facing difficulty several days per week due to adhesive capsulitis. 20(38.5%) out of 52(100%) were facing difficulty all days and 32(61.2%) out of 52(100%) were facing difficulty in several days of per week to do work carefully and efficiently. 20(38.5%) out of 52(100%) patients were forced to shorter their work in all days of last month and

32(61.5%) out of 52(100%) were those whom have to shorter their work several days per week due to adhesive capsulitis. 33(63.5%) out of 52(100%) were those who changed their way of usual work all days of month and 19(36.5%) out of 52(100%) were those who have to change the way of their work several days per week. 31(59.6%) out of 52(100%) were at poor level of satisfaction and 21(40.4%) out of 52(100%) were fair level of satisfaction. 45(86.5%) out of 52(100%) were those who want to improve their acute state of pain and 7(13.5%) out of 52(100%) were those who were want to change daily personal and house hold activities as shown in supplementary table 1 (available online).

Discussion

In this study, we collected data of 52 patients visiting to Rehabilitation department of Fauji Foundation Hospital, suffering from adhesive capsulitis. Due to adhesive capsulitis, their life was very disturbed, and they were facing difficulties in sleep, mood, activities of daily living (ADLs), leisure's and recreational activities. All difficulties and disabilities were demonstrated due to shoulder pain. All pain and disability issues were corelated with psychological factors (anxiety, mood disorders as depression) and physical or personal parameters. Onset of their experience was attributed to acute, incomprehensible pain leading to disability. To sweep over these characteristics and retrieving functional capacity was their first choice. Understanding the etiology, distressfulness and likely results of this acute state were also essential to these patients. They felt a state of comfort while sharing their issues to therapist. Desire of hope and encouragement through this confrontation, was main source of their happiness.

Our study focused mainly on their daily living issues, mood and sleep disturbances, and other conventional experiences. These frontiers and way of our investigation of parts of all difficulties of these patients are basic strength and essence of our study. Recruitment of patients was done at that setting where they have been managed for adhesive capsulitis. We have to face some hurdles to recruit them for study such as first difficulty was the initial diagnosis of this condition, and approach them in a very busy clinical routine. This was a such type of study whose spectrum was not very wide as we included data from very few patients of a same territory.

As a matter of all-inclusive searching and our know-how, we have not found any literature with which our study results can be compared directly. (12)proposed a qualitative study of patient's perceptions and priorities living with primary frozen shoulder. He only focusses on conventional way of care of patients of adhesive capsulitis. (13)only interviewed the patients who were going to take a Bown Therapy for adhesive capsulitis and he explained the experimental aspects of daily living with adhesive capsulitis including pain, stiffness, sleep disturbances , all that was according to our own but his main concentration was on the effects of Bown Therapy instead of patient's activities of daily living , recreational and pain issues investigation. (14)

Hush was the first person who systematically critiqued literature from United States of America, Canada, United Kingdom and Scandinavia and only focus on Musculoskeletal Physical Therapy Intervention for adhesive capsulitis rather than to search out difficulties of patients. His study is also not comparable with our study due to his focus differences. Our study directly comprehends and embrace the difficulties and satisfaction level of patients of adhesive capsulitis. Following our study results which clearly revealed that adhesive capsulitis has a major impact on activities of daily living, recreational activities and satisfaction of patients of adhesive capsulitis.

Conclusion

Adhesive capsulitis disturbs the daily life, sleep cycle, activities of daily living and difficulty in recreational activities. It is advocated that further researches must be conducted to point out the difficulties of such patients.

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