IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 14, Issue 9 Ver. IV (Sep. 2015), PP 49-50
www.iosrjournals.org

Case Study on Knee Osteoarthritis using Yoga and Physioball Exercises.

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Abstract: *Osteoarthritis Affecting the Knee joint is the major cause of disability among elderly. It causes pain, Physical disability and reduced quality of life. This case study involving a 66 Year old obese man with Bilateral OA knees, of Grade II, following treatment with selective Yoga postures and Resisted Exercises using Physioball gets significant in that along with Weight reduction, Improved Strength of Hips and Knees, improved WOOMAC scale score, he is now able to perform floor level activities and walk for more than ½ an hour. Hence combining Physioball Exercises with Yoga is effective in promoting quality of life in subjects with OA Knee.*

(Keywords: *OA: Osteoarthritis, Physioball: An Air Inflated ball of 55 cms To 75 cms), ROM: Range of Motion of Joint. WOOMAC Index: Subjective Evaluation on Various Functions involving Knee Joint.*

I. Introduction:

Osteoarthritis Knee is the most common single cause of disability (Kramer 1983) and the major reason for Knee replacements (Bulstrode 1987). Osteoarthritis Knee impose a huge health care burden (Altman etal 2010) coggon etal 2001,have reported obese individuals are likely to develop osteoarthritis Knee 6.8 times than normal weight subjects of their age. one in every third Indian are obese (Overseas Development Institute 2014). Traditional management of Knee OA are with Analgesic, Anti-inflammatory drugs (Zhang etal 2008).The conditions progress is slow and joints involved are bilaterally (mahbidazin 2008) and symptoms include pain, stiffness, decreases range of motion, which result in limited activity and reduced quality of life (Bukowsi etal 2006). sled etal 2010 have recorded Hip Abductors strengthening as p [art of have Exercises has decreased pain and increased function of the patients with Knee OA. Ebenezer etal 2012 studied the effect of yoga with physiotherapy has more positive effects than physiotherapy alone.

Profile:

Mr. XXXXX, aged 66 years, male came to this centre with a complaint of pain in both knees, right knee more painful than left. The pain increases an floor level activities, walking for more than 10 steps, stair case activities. his physical condition as on 02/01/2015 as below:

II. Medical History:

Endomorph, Non diabetic, Non Hypertensive, post Graduate in Management Studies from Indian Institute of Management, Ahmadabad Vegetarian, Non Smoker, Non Alcoholic.

Resting heart Rate = 84/ Minute

Resting Blood Pressure = 130/80 mm/hg

- Antalgic gait while walking, bilateral genu varum and pes planus on examination.
- Waist circumference was 111 cm at Xiphoid process.
- Genu varum intercandylar distance of knees lying3", standing 4"
- Laxity of right knee >left.
- Crepitus on bilateral knee movements in both active and passive means.
- Medial joint line tenderness of right knee positive.
- Bilateral hip abductors 3/5
  Extensors 3/5.
- Exagrated Lumbar lordosis, Abdominal Muscles Motor Power II/V.
- Vastus Medialis lag bilaterally.
- End range knee flexion restricted and painful, Also hip extension was restricted.

Provisional diagnosis:

- Bilateral OA Knees, Bilateral germvarurn, obesity.

Treatment:

- He was treated twice a week session of moderate Intensity exercises for 3 months.
- Strengthening of abdominal muscles, lower core muscle strengthening.
- Strengthening of Bilateral Hip, Spine.
- Yoga postures to stretch and tone upper and lower extremities. Such as butterfly, veerasan, vajrasan, cat and camel postures.
- Swiss ball exercises to combat obesity.
- Diet restriction.
- Physical activities using swiss ball to promote balance and resisted exercises are given.
- Alignment correction of Knee using Pillows in Supine, prone and Sitting postures.

His physical conditions as on 06/05/2015 are as follows:

- Abdominal muscles, both hip joint muscles have improved, motor power and functionally.
- He is advised to continue a set of exercises and to keep vigil on maintaining same weight with dietry restrictions.
- Also he is advised to take adequate rest in between severe exertional activities.
- Salient point to be noted is his mother has under gone Bilateral Knee Arthoplasty due to gem Varum.
- Key components of exercises includes Yoga, Physioball exercises and Alignment of Knee correction using Pillow in spine, prone and sitting postures.
- Based on western Ontario and MC Master Universities osteoarthritis index (WOMAC) has decreased from 79% to 24%.

Key Points of Progress Achieved in This Unique Case study are:

- Waist circumference has decreased from 111cm to 103cm.
- Gait is better, with an improved cadence and step length.
- All floor level activities he could perform presently.
- Knee ROM has improved adequately.
- He is able to walk for more than ½ hour without pain, with a pair of shoes.
- Able to perform stair case Ascending and Descending.
- This patient undergoing surgery is avoided but continuous follow up is required to sustain the progress.

III. Discussion:

Osteoarthritis is one of the most prevalent conditions leading cause of disability among elderly population. The economic costs of OA are high, related to treatment, for individual and family (Nordemar 1981) have shown hatha yoga to be effective among Knee Osteoarthritis (Gohlam 2013). Obesity has a huge impact on osteoarthritis (Lauren etal 2013). This conservative management of OA Knees using Yoga, Physioball, and Alignment correction are effective in improving quality of life but to substantiate and generalise the benefits for all subjects with OA Knee to undergo this line of conservative physiotherapy, Yoga and Physioball Exercises requires evidence from larger sample size.

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