

TITLE : Weight Loss Protocols in Post – Menopausal Women with Osteoarthritis Knee Using Non-Surgical Weight Loss Procedures.

Name : Dr. V.V. MANJULA KUMARI,
MPT (Sports & Musculoskeletal), (DPT : Montana University, U.S.A.,)
(DBA : ABMTC, Switzerland), Fellowship in Medical
Cosmetology : Germany; PHd(HC); MIAP.
Director and Senior Physiotherapist : **KIITES** Slimming, Physiotherapy & Cosmetology Clinics, Guntur; India

Menopause is an inevitable stage in every women's life and it is associated with other conditions such as hormonal changes, that is, reduction in estrogen secretion, lowered metabolic rate leading to weight gain mainly in the abdominal region, osteoporosis, insomnia, mood swings, hot flashes and a few cases may also present with severe depression, may also be associated with other medical conditions like Hypertension and Diabetes; that are being managed by drugs and medical management.

When this Post-menopausal state is associated with OA knee and osteoporosis, leading to limited mobility and increased chances of weight gain and decreased sociability.

This weight gain gradually leads to obesity which is a preventable cause of morbidity and mortality, that has to be addressed promptly and properly under the guidance of the physiotherapist, who addresses both obesity management and OA Knee together.

As the weight bearing joints such as knee has to bear the head – arm – trunk (HAT) weight every I pound increase in the body weight poses 4 times increased loading of the weight bearing joints; that is each knee has to bear 4 times extra load and this loading increases during climbing uphill and other rigorous physical activities leading to more wear and tear of the joints.

When the knee joint is already prone to osteoarthritis, this over loading of joint due to weight gain worsens the pain and wear and tear in joint and presence of osteoporosis might result in stress fractures of bones as a resultant of over loading due to weight gain. So, rigorous physical activities which involve closed kinematic chain and weight – bearing exercises are not encouraged for fat loss and weight loss. Another associated symptom of menopause, that is, insomnia also contributes to the altered Ghrelin, (hunger hormone) & Leptin (Satiety hormone) mechanism leading to depressing Leptin hormone and hyper – activity of Ghrelin resulting in over eating and weight gain.

Before planning the treatment thorough evaluation and assessment of obesity, i.e., BMR, BMI, weight, height and waist circumference along with Assessment of OA Knee, that includes joint ROM, Pain on visual analogue scale, disability scale etc., and re-assessed periodically during the treatment process and the progression is kept on record, which could be helpful for any modifications in treatment protocols, if required to.

The Goals of the treatment includes.

1. Patient's performance goals should be given top priority.
2. Preserving the weight bearing joints.
3. Preventing the fractures in the bones due to Osteoporosis.

4. Maintaining the muscle strength around the affected knee reduction of pain and increase in joint ROM if any stiffness of joint is observed.
5. Planning for gradual and healthy weight loss.
6. Proper information to be given to the patient regarding balanced diet which is rich in vitamin D, B_{12}, iron and folate.
7. Proper socialization activities or group therapies are planned to prevent depression and insomnia.
8. Patient education and awareness regarding management of Hypertension and Diabetes.

Before proceding to treatment sessions the patient should always be assessed for hypertension and Diabetes.

The treatment protocols include TENS & IFT to reduce pain of OA Knee, Hydrotherapy for mobilization, electrical muscle stimulator to maintain the muscle mass, Manual mobilization techniques to improve joint ROM, IASTM for soft tissue mobilization along with muscle strengthening. Free partial & non-weight bearing exercises to maintain the ROM of the affected Knee, along with modified non-weight bearing exercises such as cycling, swimming are adviced for weight loss along with other supportive physiotherapeutic treatments such as.

EMS : - Electrical muscle stimulation which stimulates the motor end plate in the muscle and produces more number of contractions of that particular muscle, resulting in energy consumption & fat loss preserving the joints by preventing the exact movement.

ULTRA-SONIC CAVITIPOLYSIS:-

As the fat tends to deposit on the abdominal area in post-menopause, cavi-lipoysis treatment has to be planned, which works on the principle of cavitation of

fatcells using ultra-sonic energy at a frequency of 35-40 HZ is used along with Radio-frequency of 57-61C thermal energy that stimulates neo-collagenesis, thereby attaining reduction in circumference of that particular part.

OTHER THERAPIES:-

Massage therapy & Infra Red Radiation are also given for relaxation, improved lymphatic drainage, enhancing the blood circulation, pain relief and improving the mood of the patient.

DIETARY ADVICE:-

Being a healthcare professional basic nutritional advice by encouraging the patient to incorporate nutrients such as Vit – B_{12}, Vit D, iron and folate rich foods along with estrogen rich (if not allergic) soy foods and balanced – diet (depending on individual choices) and which are naturally available as well as economical.

GROUP THERAPIES :-

Planning therapies such as yoga, meditation etc., which could help the post-menopausal women to interact with the other women of almost similar symptoms, interacting with each other, thereby increasing the sociability, which reduces the risk of depression and insomnia; there by regulating Ghrelin & Leptin hormonal mechanism which in turn regulate weight maintainence.

PHYSICAL ACTIVITY :-

As the physical activity releases endorphins; the happy hormones, which reduces stress and perception of pain, keeping in view the osteoarthritic condition of knee that patient is encouraged to perform non-weight bearing activities for at least 20min/day on a bicycle ergometer or swimming, individually or as a group activity.

This combined approach is called as “Comprehensive approach in conservative management of obesity non-surgical”.

KEYWORDS:

Osteoarthritis knee, Post-menopause, osteoporosis, Ghrelin-leptin mechanism, depression, insomnia, non-weight bearing exercises, TENS, IFT, IASTM, Mobilization techniques, electrical muscle stimulator, cavi-lipolysis, Radiofrequency, IRR, Massage therapy, Group therapies, endorphins.

PRESENTING AUTHOR :

Name : **Dr. V.V. MANJULA KUMARI**

Contact Number : +91 – 9246485226

Twitter Account : Varanasimanju@varanasimanju

Linked In account : https://www.linkedin.com/in/manjula-kumari-v-v-44785a192

Session name/number : Women's Health and Palliative Care Track - 22

Category : E-Poster.

BIOGRAPHY :

Dr. V.V. Manjula Kumari, PHd(HC) has completed her master's in physiotherapy (Sports & Musculoskeletal) from Dr. NTR University of Health Sciences, Vijayawada ,Andhra Pradesh. India; currently she is working as "Senior Physiotherapist and Director" to "KIITES Slimming, Physiotherapy and Cosmetology Clinics; Guntur – India. She has 15 yrs, of clinical experience and has developed an innovative concept of "Comprehensive approach in conservative management of obesity non-surgical" by which she has treated 7500+obese patients successfully in a single clinic in 5 years 8 months for which she has achieved 3 world records in the categories of "First – of – its Kind" and "Highest" number of patients treated. She has also been awarded with many national and international awards along with an Honorary Doctorate from Swahili University, PANAMA.