

Objectives of investigation: To construct a power wheel chair which is cheapest and efficient

Methods used: 1) Cost comparison study; 2) Functional Evaluation of Wheel Chair Questionnaire :Using this validated questionnaire we have assessed patient satisfaction and functional ability in comparison with those using our wheel chairs with that of another company wheel chair with similar specifications

Results: Cost of our wheel chair was only 20%-33% of other similar companies while patient satisfaction was comparable with the compared wheel chair-on pilot study with 5 persons.

Our study is ongoing one and hopefully we expect better result as we modify our wheel chair and make it of custom moulded fashion

Conclusion: This study will be completed by dec31 this year which completes the second stage of our research development. With indigenous material and proper scientific attitude we can make quality assistive devices at very cheap cost.

Keywords: Power wheel chair, Assistive technology, Low cost, Functional evaluation of wheel chair questionnaire

O12

Nutritional status of adolescent children with reference to prevalence of obesity in a Chandigarh school – a pilot study

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Aims: To estimate the prevalence of Obesity in adolescents attending school in the north Indian city of Chandigarh.

Research Design and Methods: A Pilot Project was undertaken on total of 75 adolescents (Boys/Girl= 42/33) attending a private school (aged 11-15 years) participated in a community-based cross-sectional survey. Anthropometric examination included height, weight, body mass index, waist circumference, hip circumference, waist-hip ratio and blood pressure measurement. Socio-demographic characteristics and Lifestyle parameters were investigated using a questionnaire. Nutritional status in terms of BMI, was determined, using Centre for Disease Control (CDC), USA, BMI for Age percentile charts.

Results and conclusions will be shared in the presentation.

O13

Role of physical activity and dietary measures in addition to calcium and vitamin D supplementation in the prevention of osteoporosis in postmenopausal women

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Background: Inadequate physical activity and dietary intake of calcium and vitamin D contribute to the high prevalence of osteoporosis among elderly women. The purpose of this study was to find out the relation of diet, physical activity and calcium, vitamin D3 to bone mineral density in postmenopausal women and to assess

their effects in the prevention of osteoporosis in postmenopausal women.

Methods: We screened elderly postmenopausal women (age >50 years) without any co-morbidities (subjects N=73) on OPD basis for bone mineral density (using DEXA scan of 3 sites spine, hip and neck of femur and total body). On the basis of detailed present and past history of diet (calcium content), physical activity levels (using duration and type of activity as per GPPAQ general practice physical activity questionnaire) and laboratory tests (serum calcium, serum phosphorus, vitamin D3 levels), we identified effects of each of them on bone mineral density (age matched Z scores). The subjects were then classified into 2 groups A and B. Group A (N=23) included osteoporotic subjects (BMD T<-2.5) and Group B (N=50) included osteopenic subjects (BMD T>-2.5). All subjects were given dietary advice and asked to practice regular physical activity including exercises along with rich diet supplemented with 500 mg of calcium plus 700 IU of vitamin D (cholecalciferol) per day. Bone mineral density (age matched Z scores) was measured by dual-energy x-ray absorptiometry every twelve months.

Result: The correlation between physical activity, calcium, vitamin D3 levels and bone mineral density was determined by regression analysis. The strongest association was found between stair climbing and walking speed and duration of weight bearing activities and hip (femur) total body bone mineral densities.

Conclusion: The positive association between stair climbing and walking speed and duration of weight bearing activities and hip (femur) cortical bone measures in postmenopausal women may indicate a lifestyle factor in addition to calcium and vitamin D3 supplementation that can help prevent bone loss. Given the significantly greater hours per week of weight bearing physical activity done by subjects, duration is an important determinant of the effect physical activity has on bone.

Keywords: General Practice Physical Activity Questionnaire, bone mineral density

O14

Obesity and depression—are they related....?

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Background: Obesity and depression –both are common clinical conditions with important deleterious effects on health outcomes. Strong evidence suggests their association with functional limitations. Hence, a study was taken up to assess the relation between obesity and depression.

Study design: Descriptive study.

Objectives: To study the prevalence of depression in obesity and to assess if there is an association between the two conditions.

Setting: Lifestyle disease management clinic, Dept. of PM&R, Medical College, Calicut

Methods: Anthropometric measures were taken, BMI calculated by dividing the subject's weight in kilograms by the square of his or her height in metres. Depression was assessed using PHQ [Patient Health Questionnaire]. Statistical analysis was done using spss16 software.

Results and conclusions: Prevalence of depression was found to be more amongst the obese compared to those with a normal BMI. There was found to be a significant association between obesity and depression. [p value <0.05]. Thus, it is important to evaluate

and treat depression in persons who seek treatment for obesity to enhance clinical outcome.

Keywords: obesity, depression.

O15

Effectiveness of metformin in the management of obesity among young adults

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Primary Objective: To assess the effectiveness of metformin in a dose of 1000mg. sustained release daily for six months in the management of obesity along with the Life Style Interventions compared to the Life Style Intervention alone among the patients with BMI >25, aged 20 to 60 yrs attending Obesity Clinic, Medical College, Trivandrum.

Methods: A Randomized Control Trial was conducted in the Obesity Clinic, Department of PM&R, Medical College, Trivandrum. Sample size of 40 Patients satisfying the inclusion and exclusion criteria were randomly divided into two groups by block randomization technique. In both groups, Life Style Intervention and Dietary advice were given. In addition to this, Metformin 1000mg sustained release tablet was given to the group II, daily orally for six months.

Body weight, Height, Fat Percentage, Waist Circumference, Blood Pressure, Post prandial blood sugar were checked at the first visit, after 1 month, 3 month and six months intervals. The values obtained were put into the software, SPSS.

Findings: At the end of six months, the mean weight reduction in the control group was 1.49kg with a standard deviation of 1.48. The mean weight reduction in the metformin group was 5.88 kg with a standard deviation of 2.03. The P value was <0.001. The mean BMI reduction in the control group was 0.58kg/m² with a standard deviation of 0.78; in the metformin group it was 2.45kg/m² with a standard deviation of 0.98. The P value was 0. The mean fat percentage reduction in the control group was 1.5% with a standard deviation of 4.96 and in the metformin group was 6.65% with a standard deviation of 7.02. The P value was 0.011. The mean reduction of waist circumference in the control group was 3.1cm with a standard deviation of 2.59 and in the metformin group was 4.55cm with a standard deviation of 3.59. The P – value is 0.151. There was no much change in the PPBS of both control and metformin group.

Conclusion: The observations clearly show the effectiveness of metformin in the management of obesity. The reduction of weight, BMI and fat percentage was significant in the metformin group than in the control group (P value <0.05%). But the reduction of waist circumference was not significant. No hypoglycemia was associated with metformin.

Limitation of the Study: Short duration study.

O16

Preliminary study on risk factor assessment of osteoporosis in post menopausal women

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Brief Summary: Osteoporosis is a skeletal disorder characterized

by low bone mass, increased bone fragility and susceptibility to fracture. Approximately one in two women will have osteoporosis related fracture in their life time putting a lot of burden on health care facility and the patients. Life style factors such as tobacco use, exercise and body weight, nutrition etc. appears to play a role in bone health and osteoporosis risk.

Aim & Objectives: To assess the prevalence of osteoporosis in healthy ambulatory post-menopausal women.

To study the various Risk factor and their influence on bone mineral density including various life style factors like dietary intake of calcium, vitamin D3 level, body mass index, activity level measured by General Practice Physical Activity Questionnaire (GPPAQ).

Methods: Total of 70 healthy women with amenorrhea in the previous one year were included in the study.

Results: In our study 66% of women were found to be osteoporotic. 70% of our patients had low vitamin D3 level. 62% of our patients were aware about osteoporosis and its implication. Amount of daily calcium intake was much below recommended. 24% of our subjects were moderately active. None were active and 50% were inactive using the GPPAQ.

Conclusion: This study has shown that a large % of our population is osteoporotic. Prevalence of various risk factors is also very high. Though how much of these factors actually influence BMD can actually be said only after completion and statically analyzing the data.

O17

Lower extremity functional scale and diabetic foot ulcers: a descriptive pilot study

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Objective: To assess the lower extremity functional status in the diabetic foot ulcer population. The purpose was to assess the ambulation status prior to offloading interventions.

Subject: 30 people with diabetic foot ulcers of Wagner Grade 2 and 3 were assessed in SJMCH OPD

Methods: The Lower Extremity Functional Scale (LEFS) was administered during the initial assessment. A descriptive analysis was conducted of the individual components of the LEFS.

Results: Lower extremity function was moderate to severely affected in areas of ambulation (walking, climbing stairs, running, taking turns) and mildly affected in areas of daily activities (bathing, squatting, household work).

Conclusion: Lower extremity function is significantly affected in people with diabetic foot ulcers. Further study is required to know the functional status post offloading.

O18

A study to compare the effectiveness between epidural methylprednisolone injection and intranasal calcitonin in reduction of back pain due to osteoporosis in postmenopausal patients

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Aims and objective: To compare the effectiveness between