

Comparison Of Lipid Profile And BMI In Physically Trained Adults And Sedentary Adults.

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Background: The incidence of diseases like angina pectoris, myocardial infarction, hypertension and cerebrovascular accidents is increasing nowadays. The high blood lipid level is found to be the main cause of atherosclerosis. Obesity is one of the major health problems in our society. BMI is a measure which takes into account a person's weight and height to gauge total body fat in adults. This study is undertaken with the aim to evaluate the effect of physical training on lipid profile and BMI. **Objectives:** 1) To compare lipid profile between physically trained adults and sedentary adults. 2) To compare BMI between physically trained adults and sedentary adults. **Material and Method:** The study was conducted on 50 male physically trained adults and 50 male sedentary adults. Following parameters were evaluated. (i) Total cholesterol in mg/ dl (ii) Triglycerides (TG) in mg/ dl (iii) High density lipoprotein cholesterol (HDL- C) in mg/ dl (iv) Low density lipoprotein cholesterol (LDL- C) in mg/ dl (v) BMI (kg/meter square). **Results:** There is statistically highly significant decrease in total cholesterol, triglycerides, LDL- C, VLDL- C and highly significant increase in HDL- C in physically trained adults as compared to sedentary adults. There is also statistically highly significant decrease in BMI in physically trained adults as compared to sedentary adults. **Conclusion:** Combination of aerobic exercise and games causes highly significant decrease in total cholesterol, TG, LDL- C, VLDL-C and increase in HDL-C. It also causes decrease in BMI. Thus combination of aerobic exercise and games is more beneficial instead of only aerobic exercise and hence should be recommended.

Investigation Of The Relationship Between Short-Term, Moderate Alcohol Consumption And Serum Liver-Derived Enzymes In Indian Men.

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Background: Increasing evidence suggests that long-term, alcohol abuse may have powerful implications for health; however, very few studies have focused on the association between short-term, moderate drinking and risk of alcoholic liver damage. **Aims and Objectives:** This study was aimed at examining the association between liver enzymes and short-term, moderate alcohol consumption. **Material and Method:** We recruited thirty, apparently healthy young (20-40 years) men with history of daily 2 to 3 units of alcohol intake for the past 1 to 3 years duration. Another thirty men, who were alcohol abstainers, served as controls. Two ml of blood was collected and Liver enzyme levels were estimated by Random Access Clinical Chemistry Analyzer ERBA-XL-300. Statistics: Data were analysed using the un-paired 't' test. **Result:** Serum AST ($P < 0.001$), ALT ($P < 0.001$) and GGT ($P < 0.001$) activities were significantly increased, whereas ALP ($P > 0.05$) activity was decreased in moderate drinkers compared to abstainers. **Conclusion:** Moderate alcohol consumption even for a short duration significantly affects liver function.

Endurance Of The Deep Neck Flexors In Physiotherapy Students Of Ahmedabad.

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Introduction: In individuals with neck pain, study has shown impaired cervical flexor muscle control and strength. Recent research on deep and superficial cervical muscle coordination has shown that in a low load craniocervical flexion (CCF) task, the deep neck flexors are specifically targeted. *Bork* showed that physiotherapy students were at risk for developing work related musculoskeletal problems. **Objective:** To compare the endurance of the deep neck flexors in physiotherapy students of Ahmedabad. **Study Design:** Comparative study. **Methodology:** Sample size: 80 (male and female), Physiotherapy students having age group 17-24 years are included in study; those having traumatic neck pain and history of surgical intervention around neck are excluded. Outcome measure: The craniocervical flexion test (CCFT) is a clinical test of the anatomical action of the deep cervical flexor muscles, the longus capitis, and colli. The features assessed are the activation and isometric endurance of the deep cervical flexors during the performance of five progressive stages of increasing craniocervical flexion range of motion. Procedure: Written consent of the student is taken. The study is approved by the Institutional ethical committee. Group 1 (n=40): Subjects with history of neck pain Group 2 (n=40): Subjects with no history of neck pain The CCFT was performed with subject in supine crook lying with neck in a neutral position using pressure biofeedback. Activation score and pressure index was measured. Performance was scored via the pressure level that the patient was able to achieve (activation score) and hold for 10 repetitions of 10-second duration. A performance index was calculated based on the number of times the patient could hold the pressure level achieved for 10 seconds. (Performance index). **Statistical Analysis:** Data analysis of 80 students is as follows: Data analysis is done by the Graph pad prism on the basis of the normality data, unpaired t test is used. Mean for the activation score in students with history of neck pain is 2.6 and in students without history of neck pain is 5.3 Mean for the pressure index in students with history of neck pain is 19.45 and without history of neck pain is 39.10 **Results:** The results are significant at $p < 0.05$.

Heart Rate Variability In Generalised Anxiety Disorder

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The study was conducted on 60 male subjects of the age group of 18-45 years. The subjects were divided into two groups of 30 each (Group I- Controls & Group II- GAD patients) to compare the heart rate variability to assess the autonomic function. Changes in heart rate variability were studied through time domain and frequency domain analysis. Heart Rate Variability (HRV) is primarily controlled by continuous interplay of sympathetic and vagal activity. Therefore HRV reflects fluctuation in sympathetic and parasympathetic impulses rather than the absolute values as the heart rate reflects. Both time and frequency domain measures are used to assess HRV. During basal HRV analysis, the low value of time domain parameters indicate decreased HRV in male GAD patients as compared to male controls. Less value of both low & high frequency variables and high LF/HF ratio in male GAD patients as compared to male controls, during basal recording is suggestive of relatively more reduction in parasympathetic tone in GAD patients. The possible causes will be discussed. The difference observed between Heart Rate Variability in time domain and frequency domain analysis were statistically significant ($p < 0.05$).

Serum Calcium Level In Pregnancy Induced Hypertension

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The Study of serum calcium level in pregnancy induced hypertension advocates the value of serum calcium as marker of pregnancy complicated by hypertension or severe preeclampsia. In this study our aim to know the correlation of change in calcium level with severity of pregnancy induced hypertension. Pregnancy induced hypertension is characterized by abnormal blood pressure, proteinuria and edema that usually develop after 20th week of pregnancy. Hypertension is the one of common complication met with in pregnancy and contributes significantly to the cause of maternal and prenatal morbidity total number of 100 patients admitted him. S. S. Medical College and associated S.G.M. Hospital, Rewa in which 50 pregnant women have normal blood pressure, 40 patients have mild preeclampsia, 10 patients have severe preeclampsia. Studied was done is twice in relation to delivery. On the basis of current information it is clear that calcium supplementation during pregnancy lower blood pressure additionally the effect on smooth muscle relaxation detected in calcium supplemented patients may affect the incidence of prematurity. Epidemiological data suggest an inverse correlation between dietary calcium intake and incidence of pregnancy induced hypertension. however high risk group such as pregnant teens, population with inadequate calcium intake and women at risk of developing pregnancy induced hypertension may benefit from consuming additional dietary calcium.

Effect Of Bhramari And Anulom-Vilom Pranayama On Cardio-Respiratory Variables In Young Healthy Individuals.

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Background: The study was carried out to evaluate the effect of Bhramari and anulom-vilom Pranayama on cardio-respiratory variables in young healthy individuals. **Methods and Results:** This study was conducted in the department of Physiology, SSMC, Rewa. The study group comprised of 55 healthy medical students, who participated after the institutional ethical clearance and written consent. They performed bhramari and anulom-vilom pranayama for 3 months for 20 min daily. Parameters were recorded before and after pranayama and analysed for statistical significance using paired 't' test and $p < 0.05$ was considered the level of significance. **Results:** The initial systolic blood pressure reduced from 122.22 ± 6.43 to 119.49 ± 5.81 (p value < 0.001). Diastolic blood pressure reduced from 71.13 ± 3.98 to 68.95 ± 3.42 (p value < 0.001). Respiratory rate, pulse rate and heart rate also reduced significantly from 15.33 ± 2.03 to 12.87 ± 1.31 (p value < 0.001); 80.04 ± 10.30 to 77.20 ± 8.78 (p value < 0.001); 80.29 ± 10.35 to 77.24 ± 8.75 (p value < 0.001) respectively. **Conclusion:** Bhramari and anulom-vilom pranayama significantly reduced pulse rate, both systolic and diastolic blood pressure, heart rate and respiratory rate. This may be due to the tendency of pranayama to balance the autonomic nervous system through enhanced activation of the parasympathetic system and thus can be practiced for mental relaxation and reduction of stress of daily life.

Study Of Correlation Of Serum Uric Acid With Intelligence Quotient And Other Parameters In Normal Healthy Adults.

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Introduction: Study of correlation of Serum Uric Acid with intelligence of a person is quiet interesting. Many workers have tried to find out whether there is any relationship between the intelligence and serum uric acid, but still the definite relationship is not established. Uric acid having similar structure to that of caffeine and Theobromine acts as a cerebral stimulant and thought to be responsible for better development of brain and more intelligence. Intelligence results from interplay between hereditary and environmental factors, some psychologists emphasize genetic factors as having major significance. Intelligence quotient (IQ) is the measurement of quality and potential of intelligence, the higher the IQ the more brilliant the child is and the more capable of higher performance. A list of prominent leaders whose names and achievements are permanently recorded in the history – Alexander the great, Kubla khan, Darwin, Harvey, Newton were victims of gout. Gout is associated with high level of uric acid. This association led to comparative study of serum uric acid with achievements and social status. **Objective:** We have tried to find out correlation of uric acid level and general intelligence. We have also taken few other parameters to find out relation with type of food - Vegetarian or non-vegetarian food, and relation in males and females. **Method:** 100 medical students in the age group of 17to 20 yrs. were selected. All the subjects were thoroughly examined with particular emphasis on dietary habits, beverages consumed, and family history of gout and hypertension. Standard I Q was determined by group IQ test prescribed by M.C Joshi. The Questionnaire comprised of 100 multiple choice questions, each question carrying 1 mark with time limit of 20 minutes. IQ was determined by Wechsler's formula and as per marks they were grouped from genius to superior, above normal, normal, feeble minded border line and mentally deficient - total 7 groups. The serum Uric Acid estimation was done by enzymatic method. **Results:** Statistical analysis was done. It was observed that in male's serum Uric acid level was more than females. No difference was found between vegetarians and not vegetarians. There was a highly significant positive correlation between serum uric acid and IQ. **Conclusion:** Higher mean serum uric acid was found in those categorized under genius and superior as compared to those who are categorized as normal and border line subjects. It has to be studied in detail to find out serum uric acid and IQ having contribution of partly common gene loci to these two traits. Whether IQ of a person could be predicted by finding out serum uric acid value needs to be decided by further study.

Correlation Of Obesity To Blood Pressure In School Going Children

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OBJECTIVE: Purpose of this study was to measure blood pressure in relation with age and body mass index (BMI) in school children of 12-16 years. **METHOD:** Study was carried out in children of 12-16 years age group in Jodhpur city. Total sample data were 1021, out of which 499 (48.8%) were boys and 522 (51.13%) were girls. Subjects were divided into four groups according to their BMI. Group 1,2,3 and 4 were with BMI (in Kg/m²) ≤ 18.5 , 18.5 to 23, 23 to 25 and ≥ 25 respectively in age of 12-16 years. Parameters taken were age, height, weight and blood pressure. **RESULT:** Blood pressure rises linearly as age and BMI increases in both boys and girls. Mean SBP/DBP in group 1,2,3 and 4 were- 112.71/75.52,119.81/81.81,124.83/88.88 respectively. In relation to age SBP/DBP in age of 12, 13,14, 15

and 16 years were -113.01/77.65, 117.44/79.70, 121.19/83.67, 122.74/84.9, 124.95/87.7 respectively. Result shows a positive correlation of blood pressure with age and obesity. **CONCLUSION:** Rise in blood pressure with age may be regarded as a physiological phenomenon but rise in blood pressure with obesity is certainly a dangerous pathological situation which may lead to Cardiovascular diseases.

Face Recognition And Habitual Sleep Duration In 1st MBBS Students

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Background: The phenomena of sleep and memory have baffled the physiologists since ages. Researchers have explored, in various ways, the effect of sleep on memory. Face recognition memory is a type of declarative memory (explicit). The current study was carried out to find the effect, if any, of habitual duration of sleep on face recognition, based on Parkin's recognition memory test (1995), among 1st M.B.B.S. students. **Material and Method:** The study was done by means of cross sectional questionnaire based interview and a face recognition test of 98 healthy volunteers studying in 1st MBBS. Mean values and standard deviations (SD) were calculated for age, sleep duration, correct and wrong responses in the test and statistical significance was tested by applying t test with a significance level of $p < 0.05$. **Conclusion:** A significant difference was seen in the number of correct responses by females and males implying that females have a better face recognition memory than males. But no significant difference was seen in the numbers of correct and wrong responses of average sleepers and the long sleepers.

Melanin Pigment: Scope Of Research

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Background: Obesity is a growing health issue among the youth affecting cardiorespiratory fitness. **Objectives:** To determine association of BMI with VO₂ max and increase in heart rate after exercise. **Material and Method:** VO₂ max was estimated in 43 young adults (21 males, 22 females), age group 18-22 years, using Sub Maximal Test: Queen's College Step Test. Stepping was done for 3 minutes at the rate of 24 cycles/min for males and 22 cycles/min for females on a test stool of 16.25 inches/ 41.3 cm. Heart rate (HR) was recorded before and after exercise. VO₂ max was calculated using McArdle equation: In males, $VO_2\max = 111.33 - (0.42 \times \text{pulse rate in beats per min})$ In females, $VO_2\max = 65.81 - (0.1847 \times \text{pulse rate in beats per min})$ Results were statistically analysed, correlation was determined by using Pearson's correlation coefficient (r). Statistical significance was calculated. Mean \pm SD of all the values were calculated. **Results:** BMI (mean = 26.055 ± 4.36) was found to be positively correlated with increase in HR after exercise (mean = 71.39 ± 20.20), ($r = 0.6274$, $p < 0.0001$) and negatively with VO₂ max (mean = 41.7 ± 9.066), ($r = -0.6382$, $p < 0.0001$). **Conclusion:** There is significant association between BMI and VO₂max and increase in heart rate after exercise.

Correlation Between Spirometric Lung Function And Glycemic Status In Diabetic Patients Of Manipur

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Objective: To measure lung volumes of diabetic patients and correlate with their glycemic status. **Method:** Cross sectional study was carried out among 39 diabetic patients in Department of Physiology, RIMS Imphal. Spirometric recordings were estimated by using Computerized Spirometer-HELIOS 701.

Blood glucose level was determined by glucose oxidase method. Data was analyzed using Student 't' test and Pearson correlation. **Result:** Mean FVC of patients was 2.18 ± 0.70 L as compared to the mean predicted value 2.67 ± 0.63 L ($p = 0.002$). Mean FEV1 was found to be 2.02 ± 0.63 L as compared to predicted value of 2.08 ± 0.53 L ($p = 0.670$) and mean FEV1/FVC was found to be 0.93 ± 0.06 compared to the predicted value of 0.77 ± 0.02 ($p < 0.05$). Functional lung impairment was observed in 43.58% of patients, which was graded according to ATS criteria based on FVC%. 30.76% of patients had mild restriction (FVC 65-80% predicted), 10.25% of patients had moderate restriction (FVC 50-65% predicted) and 2.56% of patients had severe restriction (FVC < 50% predicted). FVC was significantly and negatively correlated with FBS ($r = 0.501$, $p = 0.001$) and PPBS ($r = 0.549$, $p = 0.000$). FEV1 was also found to be significantly and negatively correlated with FBS ($r = 0.511$ and $p = 0.001$) and PPBS ($r = 0.545$, $p < 0.001$). **Conclusion:** Diabetic patients showed modest, albeit statistically significant impaired lung function in restrictive pattern.

Study Of MDA Levels And Vitamin C Levels In Patients With Diabetes And Diabetes With Hypertension

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Background: Diabetes mellitus is one of the most common systemic diseases in the world. It has been found that diabetic patients are exposed to increased oxidative stress. There is also a considerable evidence for an increased prevalence of hypertension in diabetic patients. It has been thought that patients having both diseases will have greater oxidative stress than patients having only diabetes. So in the present study, we have compared antioxidant levels (Vitamin C) and oxidative stress (Malondialdehyde-MDA level) in patients having type 2 diabetes and patients having both type 2 diabetes and hypertension. **Objectives:** To measure the serum levels of MDA and Vitamin C in type 2 diabetic patients, in type 2 diabetic patients with hypertension and to compare them with age and gender matched healthy controls. **Method:** The study was conducted in the Department of Physiology at B. J. Medical College, Pune. Subjects within the age group of 40 to 60 years were selected and divided in three groups. Group I were 30 normal healthy controls, group II were 30 patients having type II diabetes mellitus for 3 to 6 years, group III were 30 patients having type 2 diabetes mellitus along with hypertension since 3 to 6 years. All diabetic patients were having blood glucose and blood pressure within normal range. Serum levels of MDA were estimated by method described by Buege and Aust, while those of Vitamin C were estimated by method described by Ayekyaw. Serum MDA levels and Vitamin C levels of 3 groups were compared by applying ANOVA test. **Results:** We found statistically highly significant increase in serum MDA levels in patients of diabetes with hypertension (5.07 ± 0.25) as compared to patients having only diabetes (4.83 ± 0.15), which was again statistically significantly more than the controls (3.72 ± 0.34). We also found statistically highly significant decrease in serum Vitamin C levels in patients of diabetes with hypertension (0.44 ± 0.16) as compared to patients having only diabetes (0.50 ± 0.10), which was again statistically significantly lower as compared to controls (0.87 ± 0.22). **Conclusion:** Our study showed that patients having both diabetes and hypertension have an increased oxidative stress. So these patients will be more susceptible for developing stress related disorder. So, proper precautions in the form of antioxidant supplementation and meditation practices to these patients can help them to live better quality of life.

Effect Of Stress On Body Mass Index And Waist-Hip Ratio In Working Females And Housewives

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Introduction: Today, stress has become inevitable part of one's life. It can be reduced but cannot be avoided. Stress is having detrimental effects on health. Obesity has become pandemic; not only developed nations are facing this problem but underdeveloped nations are also having similar situation. In today's modern society more and more women are working and so they are performing double duty, at home as well as office. Hence, they are more vulnerable to stress and so its effects. This study is designed to study stress and its effect on body mass index (BMI) and Waist-hip ratio (WHR) in females. **Aim:** To study the effect of stress on BMI and WHR in working females and comparing it with housewives. **Material and Method:** After approval from ethical committee of B J Govt. Medical College and Sassoon general hospital, Pune, data was collected by random selection of 180 females belonging to 23-35 years age group living in Pune, Maharashtra. Subjects were well informed and written consent was obtained from them. They were interviewed in detail using a standard protocol. Stress was measured by Perceived Stress Scale (PSS) which consists of 14 questions. Each question is having 5 responses, graded from 0 to 4; total score ranges from 0 to 56. BMI was measured by Quetelet's formula (KG/m^2). WHR was calculated by measuring waist and hip circumferences with measuring tape. **Observations:** Mean, standard deviation and unpaired t-test were performed on data. PSS score was significantly higher in working females as compared to housewives ($p < 0.05$). BMI and WHR were significantly higher in working females as compared to housewives. ($p < 0.05$). **Conclusion:** Stress levels are higher in working females as compared to housewives. It may be due work pressure, appraisals, promotion, competition etc. BMI and WHR are also higher in working females as compared to housewives. It may be due to increased level of stress, diet which may have more of junk food, sedentary work having decreased physical activity etc. This study can be used to make changes in policies at workplace which can allow employees to have some appropriate activities like yoga, exercise etc. which in turn can relieve their work stress.

Study Of Serum Magnesium Level In Middle Aged Type 2 Diabetics

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Background: Type 2 diabetes mellitus (DM) is a major global health problem that affects over 200 million individuals worldwide. Diabetes has been shown to be associated with abnormalities in the metabolism of micronutrients, especially magnesium (Mg). Hypomagnesaemia is a common feature in patients with type-2 diabetes. **Objective:** The aim of the present study was to investigate serum level of magnesium in type 2 diabetic patients and non-diabetic healthy subjects. **Material and Method:** Thirty test subjects with type 2 diabetes mellitus were selected randomly from out patients department (OPD) of Civil Hospital, Ahmedabad, and thirty age and sex matched healthy individuals with normal plasma glucose & with no symptoms suggestive of DM were taken as controls. Fasting plasma glucose and serum magnesium were determined by the Glucose Oxidase-Peroxidase method and Calmagite method respectively. **Results:** Out of 30 diabetic patients 14 were males and 16 were females. Out of 30 controls 15 were males and 15 were females. The diabetic patients had mean age 51.83 ± 6.02 years (range 42 -60 years). The mean age of non-diabetic controls was 47.53 ± 4.33 years (range 41 -58 years). Serum Mg level was significantly lower in diabetic subjects (1.62 ± 0.19) compared with non-diabetics (2.23 ± 0.40). Mg levels were 1.63 ± 0.19 mg/dl in males and 1.61 ± 0.19 mg/dl in females of diabetic patients. **Conclusion:** Hypomagnesaemia is highly prevalent in diabetic patients. Our study suggests that diabetic

patients should take magnesium rich foods like whole grains, legumes, fruits and green leafy vegetables every day which will help to provide recommended intakes of magnesium and maintain normal storage levels of this mineral.

A Study Of Correlation Between Exercise, Body Mass Index And Heart Rate

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Objective: To study correlation between exercise, body mass index (BMI) and heart rate. **Material and Method:** A total of 57 individuals of age group 19 to 39 were selected for the study. Out of these 45 individuals going to gymnasium for exercise while the other 12 who were not going to gymnasium. An informed consent was taken, a questionnaire was administered to the participants and required measurements were made. **Results:** There is significant effect of exercise on BMI and weight loss. (p value is significant by paired t test for both weight and BMI before and after exercise). There is clear statistically significant reduction in BMI of females as compare to males from data. Correlation between reduction in BMI and exercise duration of 45 to 60 minutes per day is significant. There is no correlation found between exercise done for more than 60 minutes and BMI reduction. No significant correlation were found between time since how long (moths and years) and how many days a week exercise done with BMI. Statistically significant correlation is also noted between total duration of exercise (number of months) and heart rate. **Conclusion:** Exercise helps in bringing BMI towards normal as regular exercise helps to increase BMI in underweight person and to decrease BMI in overweight individuals. Up to 45 minutes to 1 hour a day exercise for longer duration is beneficial for weight and cardiovascular benefit.

The Association Of Maternal Employment Status On The Nutritional Status In Children (3-4yrs.) Using BMI As The Basic Parameter

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Background: Maternal employment status exerts strong influence over child's feeding practice. Thus it reflects child nutritional status. It is clearly proven; that maternal status plays an essential role in determining child's feeding practice which may influence child's health and development in later life. **Material and Method:** The data were derived from school children of Gauhati, age group of 3-4 yrs. Samples were selected randomly from the study group Total of 35 children were taken in the study.(15 boys and 20 girls) of 3-4 yrs. Study Samples are subdivided into two groups. Children of employed mothers and children of unemployed mothers.(house-wives).Both height in cm and weight in kg were measured. BMI was calculated by the formula (wt. in kg./ht. in m²),to evaluate the nutritional status. **Hypothesis:** The nutritional status (BMI) of children of employed mothers are better than that of the children of unemployed mothers. **Results:** The BMI of children of employed mothers are more (10.37-14.15) with the mean and SD of and, in comparison to the BMI of children of unemployed mothers (14.7-18.75) ,with mean and SD of. It was found to be statistically significant with p<0.01. **Conclusion:** Thus, it can be concluded that, there is a difference in the nutritional status between the children of

employed mothers and that of unemployed mothers. This difference can be explained on the basis of food habits, breast feeding period and onset of weaning.

A Comparative Study Of Cardiovascular Sympathetic Functions Between Obese And Non Obese Young Adults

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Background: Obesity is a disorder of energy balance affecting wide range of population belonging to diverse ethnic groups, age and socioeconomic status. Obesity in young age is related to various health problems like hypertension, diabetes mellitus, abnormal lipid profile and morbidities from coronary heart disease in adulthood. The cardiovascular disorders are related to either lower parasympathetic or altered sympathetic activities. The activity of sympathetic nervous system is a determinant of energy expenditure. Overfeeding is associated with sympathetic activation and there is evidence that adrenergic mechanism contribute to cardiovascular complications. In this study, an attempt is made to see if there is any alteration in cardiovascular sympathetic functions in obese individuals as compared to nonobese individuals. Hypothesis: Obesity is associated with increased Leptin level in circulation which may affect sympathetic system by increasing adrenergic response. **Material and Method:** This study was carried out in Gauhati Medical College during July and August 2012. Subjects: 50 young adults in the age group of 18-30 years in both the sexes. 25 of them were obese (case) and rest were nonobese (control). A detailed history of each subject was taken. Informed consent was taken prior to the tests. Exclusion criteria comprised of persons suffering from any medical ailments that can alter autonomic functions, persons on chronic medications, smokers, anxious & uncooperative persons. Body mass index was calculated by the following formula: $BMI = \text{Weight in Kilogram} / \text{height in m}^2$ (Obesity is defined as $BMI \geq 30.0 \text{ Kg/m}^2$). Following tests were done to assess sympathetic system: Blood pressure response to standing from supine position & Blood pressure response to sustained handgrip. Blood pressure was recorded with the help of mercury sphygmomanometer. The data obtained from above tests were arranged properly & statistically analyzed with the help of student t- test. **Results and Discussions:** The mean value of difference in systolic blood pressure during postural change is found 14.16 (mm Hg) in obese individuals. In nonobese individuals this value is 5.6 (mm Hg). This difference is statistically significant ($P < 0.05$). Again the mean value of difference in diastolic blood pressure in handgrip test is found 16.64 (mm Hg) in obese individuals and 20.29 (mmHg) in nonobese individuals. This difference is also statistically significant ($P < 0.05$). Both the tests show that sympathetic activities are altered in obese individuals. These alterations can lead to cardiovascular abnormalities in later life. A more elaborate study is needed to draw a comprehensive conclusion.

A Study Of Correlation Between Heart Rate, Blood Pressure And Obesity In Children

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A study of 2000 school going children was done in age group 7 years to 11 years for BMI, Blood pressure and Heart rate. Incidence of overweight was 303 (15.15 %) and 162 (8.1%) were obese. Out of 303 overweight children, 17 (5.6 %) were Hypertensive with mean Heart rate 100.54. Out of 162 obese children, 20 (12.34 %) were Hypertensive and mean Heart rate was 106.71 as compared to 97.37 in normal children. Thus in obese children there are risk of Hypertension which can lead to cardiac disease in future. If obesity is prevented in early childhood, this risk can be eliminated.

Study Of Pulmonary Functions In Air Conditioner Users And Non Users

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Air conditioner affect the human health since it has effect on environment than just lower the temperature. This study is planned to assess the effect of air conditioner (AC) on pulmonary functions in young healthy non-smoker males. The study group contain 20 subjects who were using AC in their cars for at least 1hours daily since last 6 months and 20 subjects who did not use AC as controls. The pulmonary functions were assessed using spirometer in room. The peak expiratory flow rate (PEFR) and forced expiratory flow rate between 25-75% of vital capacity (FEF25-75) were significantly reduced in subject using car AC. The lung volumes and capacities were not significantly different in two groups. In the presence of normal forced expiratory volume in a 1 second (FEV1), reduced FEF25-75% which is the flow rate over the middle half of vital capacity is an evidence of mild airflow limitation. The result is suggestive of predisposition of AC users towards the respiratory disorders in form of mild airflow restriction.

Hypertension And Lung Functions

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Background: Several studies have shown that high blood pressure affects pulmonary function tests (PFTs). Additionally, a potential effect of antihypertensive medication on PFTs is possible. In India there are very few studies on PFTs in hypertensive patients. Objectives: This study was aimed to assess PFTs in patients of controlled hypertension taking antihypertensive medications and compare them with the age and gender matched normal healthy controls. **Material and Method:** Thirty male patients having controlled hypertension since 5 years, taking antihypertensive medications (Beta blockers and Calcium channel blockers) and of the age between 40-60 years were selected for the study. For control group, normal age and gender matched healthy subjects were selected. The PFTs were recorded in both the groups using Spirometer Helios-702(RMS). Parameters recorded were- FVC, FEV₁, FEV₁/FVC%, FEF₂₅, FEF₅₀, FEF₇₅, FEF_{0.2-1.2}, FEF₂₅₋₇₅ and PEFR. The results were analyzed using Student's 't' test. **Results:** All the above mentioned parameters were significantly lesser in hypertensive patients compared to normal controls. In all the patients, FVC% predicted values were lesser than 80%. Also FEV₁/FVC% values were lesser than 70%. This implies that hypertensive patients suffer from Obstructive pathology of lungs. **Conclusion:** Since hypertensive patients are at an increased risk of developing respiratory pathology in the form of obstructive lung diseases, they should be advised different respiratory exercises, in addition to antihypertensive medication. This will definitely help them to live better quality of life.

Estimation Of Oxidative Stress In Polycystic Ovarian Disease

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Introduction: Polycystic ovary disease (PCOD) is a common but complex endocrine disorder and is a major cause of anovulation and consequent subfertility. The stressful lifestyle is leading to increased prevalence of polycystic ovarian disease in young adolescent and early reproductive population and its association with many ongoing complications. So in the present study, we have measured oxidative stress (Malondialdehyde-MDA) and antioxidant levels (Vitamin C) in females having polycystic ovarian disease which may throw some light on prognostic aspect of the disease process. Aim: To estimate the oxidative stress by measuring serum Malondialdehyde-(MDA) levels and to find out antioxidant status by measuring serum vitamin C levels in polycystic ovarian disease and to compare them with age matched healthy controls. **Material and Method:** The study was conducted in Department of Physiology, B.J Medical College, Pune after obtaining approval from ethical committee. Subjects within the age group of 20 to 30 years were selected and divided into two groups. Group I consisted of 30 diagnosed female patients of PCOD selected from Department of obstetrics and Gynaecology, Sassoon general hospital and a private hospital, Pune. Group II comprised of 30 age matched controls with normal menstrual cycles. To assess oxidative stress, serum Malondialdehyde (MDA) was estimated by Buege and Aust method while antioxidant status was assessed by estimation of serum vitamin C by Ayekyaw method. Serum MDA levels and serum vitamin C levels were compared by applying unpaired t test. **Results:** We found statistically highly significant increase in serum MDA levels in females of polycystic ovarian disease (6.96 ± 1.29) as compared to control group (3.56 ± 1.00). We also found, statistically highly significant decrease in serum vitamin C levels in PCOD patients (0.42 ± 0.22) as compared to control group (0.93 ± 0.44). **Conclusion:** Our study showed that there was an alteration in the oxidant –antioxidant profile suggestive of presence of oxidative stress in females having polycystic ovarian disease. This can lead to more serious complications like infertility, increased risk of cardiovascular disease, insulin resistance, hypertension, central obesity and dyslipidemia. Hence little changes in lifestyle, usage of different therapies of stress relaxation and supplementation with antioxidants, might improve the mental, physical and reproductive health of women.

A Questionnaire Based Study To Know Gender Differences In Multitasking In The Indian Population

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Background: The term multitasking was for decades used to describe the processing of different programs in a computer, but sometime in the late 1990's the phrase became popular way to describe humans performing more than one task. For the purpose of this study, multitasking is defined as accomplishing multiple-task goals in the same general time period either simultaneously or by engaging in frequent switches between individual tasks. Aims & Objectives: The present study was done to evaluate multitasking ability in the Indian population & to find out gender differences thereof. **Material & Method:** In this study 324 volunteer students in the age group of 18-25 yrs were recruited as subjects. All the subjects were students in professional courses from tertiary medical colleges of Mumbai. The students were given multitasking questionnaire containing 19 questions. Filled copies of questionnaire were collected & evaluated by Likert-type five- point scale. **Results:** Statistical analysis was done by chi-square test. After analysis of all the 19 questions, difference was found significant ($p < 0.05$) in both the genders. When individual question was considered significant difference ($p < 0.05$) was found in question numbers 3, 8,9,14 and difference was insignificant in remaining questions. **Conclusion:** In this questionnaire based study females were found to be better in multitasking abilities as compared to males.

Comparative Study Of Stress, Anxiety And Depression Among Medical Students Of Gauhati Medical College.

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Background: Medical Education Is Recognised As Stressful Environment which Contribute To Development Of Anxiety And Depressive Symptoms. This Might Lead To Negative Consequences In Academic And Professional Life, Physical Health And Psychological Well Being Of The Students. Factors Such As Future Orientation, Academics, Family, Job, Relationship And Social Environment Are The Main Sources Of Stress Among The Students. There Are Some Other Factors Such As Behavioural, Psychological And Psychosomatic Factors Which Can Contribute To Stress. Disturbed Relationship, Alcohol Abuse, Anger, Low Self Esteem, Low Satisfaction Are Some Important Psychological Factors. Among The Psychosomatic Factors Are Headache, Sleep Problems, Tachycardia, High Blood Pressure Are Involved. These Factors Contributes To Stress among both the Undergraduate and Postgraduate Students. This Study Reports The Level Of Stress, Anxiety And Depression Among Medical Students And Evaluation Of The Sources Of Stress Among Them. Hypothesis: The Present Study Aimed At To Determine The Prevalence Of Stress, Anxiety And Depression Among The Medical Students And Also To Determine If There Is Any Gender Variation. To Explore The Sources Of Stress Among The Medical Students. **Material and Method:** In This Cross Sectional Study, 200 Medical Students Are Randomly Selected To Participate Voluntary in a Questionnaire Based DASS-42 (Depression Anxiety Stress Scale 42). DASS 42 is used for Screening of Stress, Anxiety and Depression. **Results:** Among 200 Students Participated In the Questionnaire, 100 Students Are Males and 100 Are Females. 103(51%) Have Stress, 91(45.5%) Have Anxiety and 54 (27%) Have Depression. Students Having Stress Are 59% Females And 44% Males, Anxiety Are 52%Females And 39% Males, Similarly Depression Are 31%Females And 23% Males. Significant Difference Is Found Between the Male and Female Students of Gauhati Medical College. Analysis Is Done Using Contingency Table With Spss-17. **Discussion:** In The Present Study, The Prevalence of Psychological Stress, Anxiety and Depression Is High .Female Students Are More Prone To Develop Stress, Anxiety And Depression Compared To Male. Early Identification And Appropriate Intervention Is A Must Before It Could Lead To Psychological Morbidity.

A Comparative Study Of Effect Of Treadmill Exercise On Peak Expiratory Flow Rate

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Background: Treadmills are very popular fitness equipment among the exercise worldwide. Millions of people use treadmill to get fit and lose weight either at their own homes, gyms, clubs etc. It is a low impact indoor exercise machine that allows a person to walk, jog or run in place by providing a moving running belt. Treadmill offers the convenience of exercising any time of the day or night within the privacy of our own home. It is one of the most popular types of home exercise equipment which provide a straight forward efficient aerobic workout. Hypothesis: Treadmill exercise overload the heart and lung and cause them to work harder than rest, thereby resulting increase lung volumes and capacities. It is a one type of exercise which maintain large muscle groups act continuously and rhythmic in nature. **Material and Method:** The present study to find out the beneficial effect of treadmill exercise on peak

expiratory flow rate. A total no of 58 male college students were taken aged 17-28 yrs having no history of any clinical abnormalities. They were non athlete, non -smokers, non-alcoholic and not doing any regular exercise. Out of 58 subjects, 29 taken as study group and 29 as control group. Study group participate 12 weeks treadmill exercise in a gymnasium located in Guwahati city. They were advised to do 20-25 minutes treadmill exercise in a day after having a 5 minutes warm up exercise. This was carried out under supervision of an experienced instructor while control group had no plan of exercise during that period. PEFr was carried out before commencement of training and at the end of 12 weeks in both groups by using Wright's mini peak flow meter. The subjects were asked to seal the lips tightly with the mouthpiece of flow meter and exhale maximally keeping their nostrils closed after taking deep inspiration. Highest value of the best 3 readings has been recorded. A gap of at least 2 minutes was allowed in between two readings. Statistical analysis was conducted using an unpaired t test to compare the pre and post training values of both groups. Statics were tested at $P < 0.05$ level of significance and data were reported as Mean \pm Standard deviation. **Results:** PEFr values of study group after 12 weeks exercise found higher (380 ± 13.09) than control group (353 ± 5.51) and is significant ($t > 2.02$, hence $P < 0.05$). Whereas BMI did not significantly differ between control and study group. **Discussion:** Physical activity and low cardiorespiratory fitness are recognized as important cause of morbidity and mortality. Treadmill exercise training leads to improvement in pulmonary function and provide an important component of pulmonary rehabilitation. The health care official should better recognize treadmill as a component to conventional medical care for treatment of many lung disease like COPD, asthma etc.

A Study Of Correlation Between Body Mass Index & Cognitive Performance Of Undergraduate Medical Students

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Cognitive performance of a person is an important indicator for specific capabilities one has in a certain situation. The level of cognitive performance is an individual characteristic for human. Obesity is a major health problem and it has effects on all the systems of the body therefore this study was mainly done to find out the correlation between body mass index and cognitive performance in younger individuals of age 18 – 25 yrs. Study was conducted on 230 voluntary participants in tertiary care hospital. Prior to study informed consent was taken from the participants. All necessary pre-test instructions were given to the participants. Height & weight were measured & Body mass index (BMI) was calculated by quetlet's formula. Cognitive performance was assessed by using "Montreal Cognition Assessment Test", a 10 minutes 30 point test which is used in assessing a wide range of cognitive abilities based on 7 domains like Visuospatial / executive skills , Naming , Memory , Attention , Language , Abstraction and Orientation & scoring was done . Statistical analysis was done by using 'Spearman's correlation Test. It showed negative correlation between body mass index & cognitive performance total score ($r = -0.647$) ($p = 0.000$) which is statistically significant. Thus, this study concludes that significant correlation exist between body mass index & total cognitive performance.

Effect Of Restraint Stress On Serum Cortisol Level, Heart Rate And Blood Pressure In Female Wistar Rats.

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Background: Stress indicates the response of an organism to a stressor. Acute stress is well known to trigger several hormonal alterations as well as cardiovascular responses in animals. Sympatho-adrenal stimulation causes rise in cortisol levels, heart rate and blood pressure. An increase in glucocorticoid concentration can represent intensity of discomfort or distress experienced by the animal. This study was planned to study effect of acute stress on cardiovascular and cortisol level in female Wistar rats. **Aim:** To determine effect of restraint stress on serum cortisol level, heart rate and blood pressure in female Wistar rats. **Objectives:** To estimate serum cortisol level, heart rate and mean blood pressure in control animals. To estimate serum cortisol level, heart rate and mean arterial pressure in test animals before and after restraint stress. To compare serum cortisol levels, heart rate and mean arterial pressure in control and test animals. To compare serum cortisol levels, heart rate and mean arterial pressure in test animals before and after restraint test. **Material and Method:** In this study 12 Wistar female rats weighing 150-200 gm were randomly divided into 2 groups. Gr I- control, Gr II - restraint test. The experiment was conducted between 1p.m. to 4 p.m. The restraint animals were kept for three hours in a restraint tube. Serum cortisol levels were measured by ELISA test on alpha prime ELISA system in control animals and in test animals before and after restraint test. Heart rate and blood pressure were measured by non-invasive rat tail blood pressure cuff system in control animals and in test animals before and after restraint test. Results were compared with control and baseline readings. **Result:** Results were analyzed by students paired 't' test. Serum cortisol levels were highly significantly after restraint test ($p < 0.008$) as compared to baseline readings of same animals. A significant rise in mean arterial blood pressure ($p < 0.0008$) and heart rate ($p < 0.01$) was also observed after restraint test in test animals. **Conclusion:** A statistically significant rise in the cortisol level, heart rate and mean arterial blood pressure was observed in restraint animals. This indicates that restraining the rats produced acute stress which affected hypothalamo-pituitary-adrenal axis and cardiovascular responses.

Study The Effect Of Early Menopause On Pulse Pressure In 50-55 years Of Females

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The objective of this study was to study the association of early age at menopause with pulse pressure (PP) a marker of arterial stiffness. First group constitute 20 female (aged 50-55years) (Group 1) who attained menopause since 5 year or more and Second group constitute other 20 female (aged 50-55years) (Group 2) who attained menopause since 1 year or have not attained menopause. Both groups of female not used hormone replacement therapy and not had a hysterectomy. PP was measured by difference between systolic and diastolic blood pressure. Normal value of PP is around 40mmHg. In group 1 PP was significantly higher than group 2. This result suggests that early age at menopause may be related to greater increase in arterial stiffness as a risk factor for coronary heart disease (CHD).

Correlation Of Gravidity And Maternal Age With Neonatal TSH Level

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Background: Neonatal Hypothyroidism is a preventable cause of Mental Retardation in children. If that is related to multigravidity and maternal age we can prevent it by appropriate measures easily. So this study was planned to find out the relation of Neonatal TSH level to Maternal Gravidity and Maternal Age. **Material and Method:** We conducted a record based cross sectional survey of 70 mothers and their babies in the Sree Gokulam Medical College after getting permission from the Ethical Committee and Hospital authorities. Data were entered in EXCEL and analyzed with SPSS Version 19. Descriptive statistics was done and Carl Pearson's Correlation Coefficient was calculated. **Results:** Average maternal age in years was 24.11 ± 3.78 , 55.7% of the mothers were Primi gravida, Least was fourth and fifth gravida. Both were 2.9% each, Average neonatal TSH level was 7.57 ± 4.47 mIU/L, Correlation coefficient for maternal age and neonatal TSH was 0.77 (p value= 0.524), Correlation coefficient for Gravidity and neonatal TSH was 0.152 (p value= 0.21). **Conclusion:** In this study we could not find out significant correlation between maternal age and Neonatal TSH level as well as Gravidity and Neonatal TSH level.

Correlation Of Birth Weight And Gestational Age With Neonatal TSH Level

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Background: Neonatal Hypothyroidism is a preventable cause of Mental Retardation in children. If that is related to Birth weight and Gestational Age, we can prevent it by appropriate measures easily. So this study was planned to find out the relation of Neonatal TSH level to Birth weight and Gestational Age of the neonate. **Material and Method:** We conducted a record based cross sectional survey of 70 mothers and their babies in the Sree Gokulam Medical College after getting permission from the Ethical Committee and Hospital authorities. Data were entered in EXCEL and analyzed with SPSS Version 19. Descriptive statistics was done and Carl Pearson's Correlation Coefficient was calculated. **Results:** Average maternal age in years was 24.11 ± 3.78 , Average birth weight of babies in grams was 2902 ± 365 , Mean gestational age in weeks was 37.83 ± 1.3 , Average neonatal TSH level was 7.57 ± 4.47 mIU/L, Correlation coefficient for birth weight and neonatal TSH was 0.077 (p value= 0.956), Correlation coefficient for Gestational Age and neonatal TSH was 0.05 (p value= 0.69) **Conclusion:** In this study we could not find out significant correlation between Birth weight of the baby and Neonatal TSH level as well as Gestational age and Neonatal TSH level.

Effect Of Stress On Body Mass Index And Waist-Hip Ratio In Working Females And Housewives

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Background: Today, stress has become inevitable part of one's life. It can be reduced but cannot be avoided. Stress is having detrimental effects on health. Obesity has become pandemic; not only developed nations are facing this problem but underdeveloped nations are also having similar situation.

In today's modern society more and more women are working and so they are performing double duty, at home as well as office. Hence, they are more vulnerable to stress and so its effects. This study is designed to study stress and its effect on body mass index (BMI) and Waist –hip ratio (WHR) in females. Aim: To study the effect of stress on BMI and WHR in working females and comparing it with housewives. **Material and Method:** After approval from ethical committee of B J Govt. Medical College and Sassoon general hospital, Pune, data was collected by random selection of 180 females belonging to 23-35 years age group living in Pune, Maharashtra. Subjects were well informed and written consent was obtained from them. They were interviewed in detail using a standard protocol. Stress was measured by Perceived Stress Scale (PSS) which consists of 14 questions. Each question is having 5 responses, graded from 0 to 4; total score ranges from 0 to 56. BMI was measured by Quetelet's formula (KG/m^2). WHR was calculated by measuring waist and hip circumferences with measuring tape. **Results:** Mean, standard deviation and unpaired t-test were performed on data. PSS score was significantly higher in working females as compared to housewives ($p < 0.05$). BMI and WHR were significantly higher in working females as compared to housewives. ($p < 0.05$) **Conclusion:** Stress levels are higher in working females as compared to housewives. It may be due work pressure, appraisals, promotion, competition etc. BMI and WHR are also higher in working females as compared to housewives. It may be due to increased level of stress, diet which may have more of junk food, sedentary work having decreased physical activity etc. This study can be used to make changes in policies at workplace which can allow employees to have some appropriate activities like yoga, exercise etc. which in turn can relieve their work stress.

Study Of Physical Fitness Indicators In Judo Players – A Comparative Study.

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Background: Judo is a complex sport where different physical fitness parameters determines performance. Physical fitness is a multidimensional concept that has been defined as a set of attributes that people possess or achieve that relates to the ability to perform physical activity. Competitive judo can be described as a combative, high intensity sport in which the athlete attempts to throw the opponent onto his back or to control him during groundwork combat. Both attempts depend on specific techniques and tactical skills with the support of good physical fitness. Judo, as a sport is not well known in India. There is evident lack of data concerning physical fitness of judo players. Objectives of the present study were to assess physical fitness of judo players and to compare it with age and sex matched first year MBBS students of J N Medical College, Belgaum. **Material and Method:** This cross sectional study was conducted on 31 judo players and 31 age (18- 25 years) and sex matched, sedentary controls from first MBBS of J N Medical College, Belgaum. Besides measuring anthropometric profile, Physical fitness was assessed by cardiorespiratory endurance, muscular strength, flexibility and agility using standard protocols. Statistical analysis involved quantitative variables summarized through mean and standard deviation. Difference between mean of the two groups was tested using Students unpaired 't' test, where significance of the p value was < 0.05 . **Results and Discussion:** Mean height, Weight, BMI and Body Fat % are higher and statistically significant in control group indicating the greater amount of subcutaneous fat in them. $\text{VO}_{2\text{max}}$ was high for Judo group $63.9\text{ml}/\text{kg}/\text{min}$ than control $48.9\text{ml}/\text{kg}/\text{min}$ suggesting better aerobic capacity or ability to utilize oxygen in trained group, this is attributed to the effect of training which causes greater increase in cardiac output and increase in arteriovenous O_2 difference. Physical Fitness Index, Muscular strength, Flexibility scores and Agility scores were significantly higher in player group than controls indicating that the players are highly

flexible have got wide range of movement. To conclude, All the test results for various parameters to know the level of physical fitness here in this study when compared between judo players and the control students suggest that players are lean bodied with less fat, with high cardiorespiratory endurance, ample muscular strength, all round flexibility and agility which are all attributed to the effect of their training sessions. The present study also provides the judo player with information on where training may be directed to compensate for areas where the athlete is below average.

A Comparative Study To Evaluate Practical Skills In Physiology Among 1st Phase Medical Under Graduates At JNMC Belgaum: Traditional Practical Examinations Versus Objective Structure Practical Examinations (TPE V/S OSPE)

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Background and objectives: Clinical competence has three components viz knowledge, skill and attitudes. All the three components need to be assessed. OSPE is used as an objective tool for assessment of laboratory exercises because of its high reliability. Students have differing strength and weaknesses and each components tests different aspects of knowledge, understanding and abilities. This study was aimed to provide a more uniform and reliable tool for assessing student's practical knowledge of physiology that will be perceived as acceptable and valid both by students and faculty, to develop competency based discriminatory assessment method for physiology practical examinations and to evaluate competency of OSPE compared to TPE in assessment of practical skills. **Methodology:** This comparative study was done in the Department of Physiology, Jawaharlal Nehru Medical College, Belgaum on 200 first phase medical under graduates studying in academic year 2011-12 at Jawaharlal Nehru Medical College, Belgaum. Prior to the commencement of the study ethical clearance was obtained from Institutional Ethics Committee. Students fulfilling selection criteria were enrolled after obtaining a written informed consent. The effectiveness of OSPE in comparison with TPE was done by comparing the performance scores. Assessment, analysis of student evaluation, perception of validity and reliability of OSPE, and faculty perspectives about OSPE was done by feedback through self-administered paper based questionnaire. **Results:** Of the 200 students five and two were absent for OSPE and TPE examination respectively hence were excluded from the study. A total of 195 student underwent OSPE and 198 students underwent the TPE. The mean OSPE scores were significantly high compared to TPE (68.18 ± 13.48 vs 49.28 ± 14.89 ; $p < 0.001$). There was no difference on OSPE scores by gender. The inter-item reliability for OSPE was $\alpha = 0.67$. Further the exploratory factor analysis showed correlation between the underlying factors. Student feedback, evaluation, perception, validity and reliability of OSPE was positive. **Conclusion and interpretation:** OSPE is a reliable device with good capacity to differentiate between different category of student. It is uniform and a fair method of assessment as there is uniformity of questions and in scoring students.

Comparative Study Of Physical Fitness Among Male Young Adults

ChiragTawde, Nirmala Deshpande, Ashutosh Pradhan

Background: The physical fitness is the integral part of day-to-day life which has been given utmost importance especially in this modern civilized society with regard to cardiovascular rehabilitation. But the physical stamina to carryout any given task depends on the personal basic physical and psychological constitution. **Objective:** To find out the differential degree of physical fitness among three groups of male young adults; Athletes, Moderately active and sedentary people and to reflect the importance of training/practice in terms of physical efficiency index.(PEI) **Design/Protocol:** All the male subjects were selected from D.Y. Patil Education Academy between the age group of 19-24 years. Athletes were chosen from D.Y.Patil Sports Academy after assessing their general health status and nutritional status. They have been subjected to Harvard step test (30steps/min for 5 min.) after recording basal cardiac rate (pulse rate) and BMI. Subsequent pulse rates were recorded at the interval of 1 min. for 3 min. with restriction of food and water through the procedure. **Results:** The data were analyzed by F-Test and one way ANOVA which showed significant differences in the Physical Efficiency Index among three groups chosen expressed in percentage. Coincidentally, BMI and PEI show inverse relation. **Conclusion:** The difference can be substantiated by the enhanced parasympathetic effect. Athletes have greater degree of cardiovascular endurance followed by moderately active group and least in sedentary people. This suggests that regular training improves the physical stamina. Probably, higher BMI hinders the physical activity especially in the absence of practice.

Study Of Serum Cortisol And Prolactin Levels In Primi And Multi Gravida During First Stage Of Labor And Immediate Postpartum

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Background: There is a progressive rise in serum cortisol from the first trimester onwards along with an increase in serum prolactin level also. Birth is a stressful event and there are significant changes in the hormonal profile associated with parturition, particularly in the stress-related hormones. The amount of stress experienced by both the mother and fetus during labor and delivery varies considerably and is likely to be different in primigravida and multigravida. **Hypothesis:** Our study aims at deriving any variation in serum cortisol and serum prolactin levels during the first stage of labor and immediate post partum (2-4hrs) in primi and multigravida. **Material and method:** Maternal serum cortisol and prolactin levels were measured during labor (within 6hrs in primi and 2hrs in multi) in 27 uncomplicated pregnancies (17 primi, 10 multi). Cortisol and prolactin levels were measured using RIA and IRMA kits respectively. **Result and discussion:** Serum cortisol level in multigravida before and after delivery did not statistically vary ($p>0.05$). However serum cortisol in primigravida showed statistical variation ($p<0.05$) before and after delivery. Serum prolactin levels in multi and primi, before and after delivery also varied significantly ($p<0.05$). Furthermore, serum cortisol in multi Vs primi statistically vary significantly ($p<0.05$) but the serum prolactin levels in multi Vs primi did not show statistical variation ($p>0.05$). These changes in hormone levels during the first stage of labor and immediate post partum could be attributed to the emotional and physical stress of labor.

A Comparative Study of Auditory Reaction Time in Blind (Congenitally) and Sighted Subjects.

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Introduction: Reaction time is the time interval between the application of a stimulus and the appearance of appropriate voluntary response by a subject as rapidly as possible. It is a measure of function of sensory motor association and performance of an individual. It involves stimulus processing, decision making and response programming. Simple Auditory Reaction Time is the time interval between the onset of the single stimulus and the initiation of the response under the condition that the subject has been instructed to respond as rapidly as possible. **Objective:** To study simple auditory reaction time in congenitally blind subjects. To study of simple auditory reaction time in age sex matched sighted subjects. To compare the simple auditory reaction time between congenitally blind subjects and healthy control subjects. **Method:** Study had been done in 2 age groups: 1st group comprises of 50 congenitally blind groups & the 2nd of 50 healthy controls. It was carried out on instrument; Reaction Time Apparatus, Inco Ambala Ltd (Accuracy \pm 0.001 Sec) at Govt. Medical College & Hospital, Bhavnagar and at blind school, PNR campus, Bhavnagar with appropriate environment for participants and also blind fold applied to both blind and normal sighted participants. **Observations/Results:** In congenital blind group, mean simple auditory reaction times are slow with horn sound (210.24ms+90.81ms Vs 186.92ms+73.02ms) and bell sound (152.06ms + 56.15 Vs 149.66ms + 55.04) whereas faster simple auditory reaction time with ring sound (137.86ms + 67.55 Vs 144.56ms + 61.56) and whistle sound (151.42ms + 52.57 Vs 155.54ms + 54.41) than control grouped. Analysis of data by using graph pad & applying unpaired 't' test, the p value is not significant. This shows that there are not any difference in response between congenitally blind & healthy control group with all different kind of sound like horn, bell, ring and whistle. **Conclusion:** According to our study there is no significant different in simple auditory reaction time between congenital blind groups and normal healthy persons with different kind of sound like horn, bell, ring and whistle. To extrapolate study, large sizes of participant are required.

Role Of Hyperlipidemia On Nerve Conduction Velocity In Type 2 Diabetes Mellitus

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Aim: Diabetes mellitus comprises a group of common metabolic disorders that share the phenotype of hyperglycemia. Diabetes without proper treatment can cause many micro and macro vascular complications causing significant morbidity and mortality. Diabetic neuropathy accounts for 28% of all complications in diabetes. Risk of diabetic neuropathy increases with duration of diabetes. The pathogenesis of neuropathy in type2 diabetes mellitus is multifactorial. Dyslipidemia may contribute to development of diabetic neuropathy. Therefore, this study is aimed to correlate nerve conduction study with HbA1c and atherogenic lipid indices in type2 diabetic patients. **Material And Methods-** Group 1-30 patients with type 2 diabetes mellitus of age 30-60 with duration 5-10years. Group 2- 30 non diabetic healthy subjects of age 30-60years. Electrophysiological study of Median, Sural and Posterior tibial nerve is done. Nerve conduction velocity is compared in diabetic and non diabetic subjects. Lipid profiles are compared between group 1 and group 2. Biochemical investigations done are glycated hemoglobin , lipid indices. Statistical analysis was done by using unpaired 't' test. **Result:** The electrophysiological study revealed significant reduction in conduction velocity and amplitude, latency of nerve is significantly prolonged in diabetic patients with hyperlipidemia ($P < 0.001$) than in non diabetic subjects. Among the

lipid fractions, HDL-cholesterol is significantly reduced ($P < 0.001$) and atherogenic lipid indices are significantly higher in diabetic patients than in non diabetic subjects. **Conclusion** -Metabolic lipid disturbances in terms of atherogenicity coexist with neuropathy in type 2 diabetes mellitus.

Influence Of Stress On Obesity

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Introduction: Obesity is fast assuming epidemic proportions throughout the world in both children and adults. This study has been done to analyze the correlation between stress and obesity. Stress is one of the contributing factors for obesity, as stressful conditions often lead to irregular diet, irregular sleep, addiction and lack of exercise. **Material and Method:** A total of 174 students, age group of 17-21 years were included in the study. According to BMI, the study population was divided into 4 groups - underweight, normal, overweight & obese. Perception of stress level was measured by the Perceived Stress Scale (PSS) which is the most widely used scale. **Result:** Perceived Stress Scale score is higher in obese and overweight as compared to normal and underweight subjects **Conclusion:** Stress is one of the contributing factors for obesity. Effective counseling for management of stress helps to reduce obesity and its related complications.

A Study Of Effect Of Suryanamaskar On Hyper-Reactivity To Cold Pressor Test In Young Healthy Individuals

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Stress is a term that is commonly used today but has become increasingly difficult to define. It shares, to some extent, common meanings in both the biological and psychological sciences. Stress typically describes a negative concept that can have an impact on one's mental and physical well-being. Modern man is the victim of stress and stress related disorders which threaten to disrupt his life totally. Being holistic in its approach, yoga offers the best way out of this whirlpool of stresses. Yogic lifestyle, yogic diet, yogic attitudes and various yogic practices help man to strengthen his body and mind and develop positive health, enabling him to withstand stress by normalizing the perception of stress, optimizing the reaction to it. Yoga has been reported to be beneficial as a de-stressing technique. In the present study, 53 young healthy medical students underwent cold pressor test. 20 turned out to be hyper reactors to this test. These hyper reactors performed Suryanamaskar for 3 months. CPT was again performed at the end of this period which showed that 14 out of original 20 hyper reactors (70 %, $P < 0.001$) converted to hypo reactors. Thus, our study shows that yoga for even a minimum period of three months can be beneficial in the stress induced vascular hyper reactivity.

Objective Structured Practical Examination Vs. Traditional Clinical Examination: Faculty's Perception

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Introduction: Traditional Clinical examination(TCE) mainly focuses on the “knows” and “knows how” aspects, i.e., on the base of the ‘Miller’s pyramid of competence’ while Objective structured practical examination (OSPE) focuses on the “shows how” aspect in Millers pyramid. The current study was designed to understand the faculty’s perception of the OSPE in comparison with the TCE in Physiology and whether it would be feasible and what needs to be done to make it acceptable. **Method :-** The study was conducted in the Department of Physiology at the K.J. Somaiya Medical College , Mumbai, India after the approval from the Institutional Ethics Committee with 50 first year MBBS medical students. At the end of the 4 day TCE- OSPE session, the faculty members were interviewed regarding their experience on conducting TCE and OSPE, objectivity, reliability, validity and feasibility of both the assessment methods. **Result :** All the faculty members felt that the OSPE is a relevant, unbiased and a fair tool for the formative assessment which emphasised on the aspects of objectivity and structured checklist standardization. OSPE actually helped students understand what they really need to do in the clinical skills performance testing and what skills are important. OSPE highlighted the areas of weaknesses and fallacies during the clinical skills setting. Overall the OSPE was perceived as a relevant tool in understanding students learning and teachers teaching. Participating faculty members also felt that the successful incorporation of a new assessment tool could positively motivate other faculty members towards innovations in the field of medical education. **Conclusion:** We conclude that the objectivity, reliability and standardization of OSPE along with the comprehensive global assessment approach of the traditional clinical assessment are required for an overall judgement of the medical students.

Pulse Wave Velocity As An Indicator Of Atherosclerosis In Impaired Fasting Glucose.

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Objective:-In India, Impaired Fasting Glucose (IFG) incidence is in rise in both urban and rural population by 4% and 8% respectively. IFG is one of the physiological risk factor for endothelial dysfunction leading to atherosclerosis. Much interest has been shown over the past few decades in Pulse Wave Velocity (PWV) as a non-invasive technique for assessing atherosclerosis. In this study, we investigated the usefulness of PWV as an indicator of early stage atherosclerosis in IFG individuals. **Method:-** brachial-ankle Pulse Wave Velocity (baPWV) as an indicator of atherosclerosis in IFG was studied on 100 patients. The subjects were divided into three groups according to Fasting Blood Sugar (FBS) level: A Normal group (FBS <110 mg/dl), an IFG group (FBS- 110-125 mg/dl) and Diabetic group (FBS> or = 126 mg/dl). The physiological parameters, i.e. Systolic Blood Pressure (SBP), Diastolic Blood Pressure (DBP), baPWV and BMI were measured by Periscope. The biochemical parameters (FBS, HBA1C and Lipid Profile) were measured by Semi-Autoanalyser. The parameters were compared by using Student T- Test and Multiple Regression Analysis. Statistical analysis was done by using SPSS-16.0 software. **Result:-**The baPWV value increased with increased plasma glucose level and a significant difference was found between the baPWV values in the normal and IFG group as well as Diabetic group. The result of multiple regression analysis showed that FBS was closely related to baPWV regardless of age, SBP and BMI. **Conclusion:-**Our study showed that baPWV can be used as a non-invasive indicator to detect the development of atherosclerosis. The higher BMI and SBP seen in IFG group may be related to the development of atherosclerosis and further studies are needed to confirm it.

A Comparative Study Of Effect Of Yoga And Drugs On Pulmonary Functions And Inflammation In Bronchial Asthma.

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Objective: Bronchial asthma is one of the most common chronic diseases in the world. Pharmaceutical interventions like using inhalational bronchodilators (Short Acting β_2 Agonist-SABA) and corticosteroids(ICS) has grown like anything. These has a multisystem deleterious effect. Yogic exercise has been used to treat patient with asthma for over 50 years. The present study was an attempt to include yogic exercise into treatment modality of asthmatic patients and compare the Pulmonary Function Tests (PFTs) and inflammatory changes. **Method:** 71 patients with bronchial asthma taken and were randomized into two groups. Group A (Yoga Group) and Group B (Control Group). Group A contained 37 subjects and Group B contained 34. PFTs and Absolute Eosinophilic Count (AEC) were performed in all the subjects at baseline and after four months. PFTs were done by Spirometer and Peak Expiratory Flow Rate (PEFR) by Mini Wright's Peak Flow Meter. The parameters were compared by using Paired t-test, Student's t-test and McNemar test. Statistical analysis was done by using SPSS 16.0 software. **Result:** After four months , Group A subjects showed a statistical significant increase in percent predicted Forced Expiratory Volume in the first second (FEV1) , Forced Vital Capacity (FVC), FEV1/FVC% and PEFR as compared to Group B. AEC showed significant decrease in eosinophil count as compared to Group B which showed insignificant increase. It also showed significant decrease in use of SABA and ICS in Yogic group. **Conclusion:** The yoga breathing exercise used in addition with standard drugs significantly improves pulmonary functions and inflammation in patients with Bronchial asthma.

Effect Of Training On Anthropometry & Cardiorespiratory Endurance In Basketball Players.

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Introduction: Basketball is one of the most popular team based sports played and watched throughout the world. The swiftness of the action in basketball is one of the biggest reasons for its popularity. Basketball demands and develops a high degree of skills, muscular co-ordination, speed, great agility, team work and co-operation. Despite these complexities, it seems likely that a key area that plays an important role in basketball success is player's physical fitness. Basketball player should have good cardiorespiratory endurance to perform sustained periods of activity. Abundant work has been done in western countries in this regard but very few studies are available on Indian players. Hence, this study is undertaken to evaluate the influence of duration of training on anthropometry & cardiorespiratory endurance of basketball players of this region which could be helpful in improving their performance in the game. **Objectives:** To assess the influence of duration of regular and intense basketball training on anthropometry & cardiorespiratory endurance in basketball players. **Methodology:** The present cross sectional study was done in the department of Physiology, JNMC, Belgaum. The study consisted of 35 basketball players (male and female) aged between 16 to 26yrs, divided into two groups depending on number of years of basketball training. Basketball A group (11 players) consisted of junior players with ≤ 3 years of training and B group (24 players) consisted of the senior players with > 3 years of training. Anthropological indices like height, weight, BMI & armspan were measured as per recommended guidelines. Cardiorespiratory endurance test was done on Bicycle Ergometer (manufacturers – Anand Agencies, Pune) to calculate the most accepted criterion- VO_{2max} (maximum oxygen uptake) by using Astrand's protocol and nomogram which is the commonly used Bicycle ergometer exercise stress test to

estimate cardiovascular fitness. Statistical analysis was done by using SPSS software version 16.0. Difference between mean of the two groups was tested using Student unpaired 't' test ($p \leq 0.05$). **Results:** In the present study the mean height & armspan of group B was higher than group A but the difference was not statistically significant. The mean weight and BMI did not show any significant difference among group B and group A players. VO_{2max} was significantly higher for basketball B group when compared to basketball A group. **Conclusion:** The higher VO_{2max} in the players with longer duration of training suggests better cardiorespiratory endurance among them as compared to the group with lesser duration of training. This is attributed to the duration of training which causes greater increase in cardiac output (which is in turn due to low resting heart rate and high stroke volume) and increase in arteriovenous O_2 difference. Thus the study shows that duration of training has significant improvement in the aerobic fitness in the basketball players which could be helpful in improving the performance of the players in the game.

Cardiac Autonomic Neuropathy In Patients With Diabetes Mellitus

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Introduction: Autonomic neuropathy is a serious complication of diabetes mellitus. Cardiac autonomic neuropathy (CAN) is chronic diabetic complication with variable prevalence and clinical manifestations. Cardiovascular autonomic neuropathy leads to hampered life of patients due to dizziness because of postural hypotension, unawareness of hypoglycaemic symptoms which make him more liable to various injuries, exercise intolerance, chronic fatigue, enhanced intra operative cardiovascular liability, increased incidence of asymptomatic ischemia, myocardial infarction, and decreased likelihood of survival after myocardial infarction. **Aims & objectives:** To analyse Cardiac autonomic neuropathy in patients with DM & normal persons by using Ewing's battery of autonomic function test. **Materials & Method:** A total of 150 subjects 100 diabetic patients & 50 healthy controls were selected for the study following strict inclusion and exclusion criteria. All the subjects underwent a battery of cardiovascular reflex tests designed by Ewing which includes (1) Resting heart rate (2) Expiratory & inspiratory ratio (3) 30:15th beat ratio (4) Valsalva ratio (5) resting systolic & diastolic blood pressure (6) postural hypotension test (7) isometric hand grip test **Results:** We observed that there was significant difference was between parasympathetic and sympathetic function tests in between these patients & normal persons. Evaluation of autonomic nervous system revealed that CAN progressively increases & autonomic function tests diversify to abnormality as duration of disease increases. **Conclusion:** Evaluation of autonomic nervous system revealed that CAN is more prevalent in diabetic patients than normal persons & progressively increases with the duration of disease. Autonomic function test may be used as a simple, cheap, non-invasive, reliable, bedside, diagnostic tool for periodic assessment of autonomic nervous system in diabetics that can serve as primary prevention of diabetic autonomic neuropathy.

Job Satisfaction And Motivation Among The Medical Teachers

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Introduction: Medical College Teachers are the most important group of professionals for our nation's future. Therefore, it is astonishing to know that even today many of the medical teachers are dissatisfied with their jobs. Job satisfaction among medical teachers is good not only for themselves but society as a

whole. It increases productivity of doctor and wellbeing of any society. When teachers are satisfied with their job they can perform their responsibilities with more concentration and devotion. **Aim:** To identify the factors which impact the level of satisfaction of medical teachers At Government medical college, Bhavnagar. **Material and Method:** The data collected through personal interviews in the form of questionnaire from (having demographic & motivational factors) a random sample of medical teachers from the Government Medical Colleges Bhavnagar. Two types of statistical tools are used in the present study for analysis (1) percentage analysis (2) frequency analysis of motivating and unmotivating factors analysis. Result : In our study 80% male and 100% females were satisfied .In age group 21-30 , 80% : 31-40, 93% and >40 , 100 % were satisfied and 62% Para-clinical 90% clinical and 100% preclinical teachers were satisfied, 87% believes salary is highest motivating factors and 40% believes supervision of superior is highly unmotivating factor. **Conclusion:** Research shows that female medical teachers are more satisfied with their job than male teachers ,senior teachers were most satisfied with their job, and discipline wise preclinical people are most satisfied with their job .Most motivating factor was salary while most unmotivating factor found was supervision of superiors.

Prevalence And Associated Risk Factors Of Type 2 Diabetes Mellitus In Rural Population Of North Karnataka – A Cross-Sectional Community-Based Study

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Background: India Leads The World With Largest Number Of Diabetic Subjects Earning The Dubious Distinction Of Being Termed The “Diabetes Capital Of The World”. India Shelters The Most Number Of People With Diabetes Mellitus Worldwide. Within India, Inter-Regional Disparities In Burden Of Type 2 Diabetes Mellitus (DM) Are Expected Because Of Varying Lifestyles And Demographic Patterns. Hence, This Study Was Done To Estimate The Prevalence And To Correlate Socio-Demographic, Anthropometric And Risk Factor With Type 2 Diabetes Mellitus Amongst Adult Aged Above 30 Years In Rural Population Of North Karnataka .**Material and Method: Study Design** – A Cross Sectional Community- Based Study. **Source Of Data:** The Study Was Carried out at three Primary Health Center area (Handignur PHC, Vantamoori PHC And Kinnaye PHC Area) Associated With J. N. Medical College, Belgaum, Karnataka. Study Was Carried Out On 3000 Respondents Using Multistage, Stratified Random Sampling Technique. Data Was Collected By Personal Face- To Face Interview Followed By Blood Sugar Estimation Using A Glucometer. **Statistical Analysis:** Was Performed By Using The Statistical Package Of Social Sciences (SPSS) Version 16.0.Unpaired ‘T’ – Test Was Used And Mean \pm SD Was Calculated ($P \leq 0.005^*$).**Results:** The Overall Prevalence Of Type 2 Diabetes In Handignur PHC Area Was **13.29%**. Prevalence Of Type 2 Diabetes In Different Sub Centers Of Handignur PHC Area Was: Handignur Sub Center (**21.81%**), Agasga Sub Center (**5.6%**), Shivapur Sub Center (**0%**), And Kangrali Sub Center (**17.70%**).In Univariate Analysis Age, Occupations, Socio Economic Status, BMI, Family History Were Significant For DM. In Multivariate Analysis Age, BMI, Family History Of Diabetes And Occupation Were Significant For Type 2 DM. **Discussion And Conclusion:** The Prevalence Of Type 2 Diabetes Has Increased In Rural Population Compared To Previous Reported Studies Of Karnataka. High Prevalence Of DM Even In Rural Community Validates The Epidemic Trend Of DM. The Impact Of Socioeconomic Transition On The Occurrence Of DM Needs To Be Explored Further. The High Prevalence Of Type 2 Diabetes Mellitus In Rural Population Of Karnataka Needs Further Assessment For Diabetic Complication.

Effect Of “Om Meditation” On Cardiovascular Autonomic Functions In Healthy Young Individuals.

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Objective: This Study Was Conducted To Determine The Effect Of OM Meditation On Cardiovascular Autonomic Functions (Galvanic Skin Resistance-GSR & Heart Rate-HR) In Healthy Young Individuals. **Method:** 30 1st M.B.B.S Students (All Males) Of Adichunchanagiri Institute Of Medical Sciences, In The Age Group Between 17-19 Years Were Recruited For This Study. These Subjects (Students) Were Divided Into Study And Control Groups(15 In Each Group). The Study Group Practiced OM Meditation Under Supervision Daily For 30 Minutes Between 5-5:30pm. Out Of 30 Minutes, 20minutes Were Spent In OM Meditation And Remaining 10 Minutes Were Spent In Relaxation (5minutes Pre-Meditation And 5 Minutes Post-Meditation). The Control Group Were Also Similar In Design Except That They Spent The First 20 Minutes Sitting Relaxed With Eyes Closed (Non Targeted Thinking). Subjects Did Not Perform Any Form Of Physical Or Yogic Exercises During This Study Period. The GSR & HR Were Recorded Using Computerized-8- Channel Polyrite (RMS -Polyrite, Version 1.0) In Both The Study And Control Groups Before And After Practicing OM Meditation For Three Months. The Results Of The Recordings Were Compared Between The Groups As Well As Within The Groups For Pre And Post Meditation, To Find The Statistical Significance Of Its Association Using Student ‘T’ Test. **Results:** GSR Is Significantly Increased ($P=0.007^{**}$) In The Study Group After Practicing OM Meditation As Compared To The Control Group. Heart Rate Is Significantly Decreased ($P=< 0.001^{**}$) In The Study Group After Practicing OM Meditation As Compared To The Control Group. **Conclusion:** The Results Of This Study Showed That OM Meditation Will Bring About Decrease In Sympathetic Tone And Increase In Parasympathetic Tone As Reflected In Increase In GSR And Decrease In HR.

Effect Of “Deep Breathing” On Pulmonary Functions

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Objective: This study was conducted to determine the effect of Deep breathing (Db) on Pulmonary functions (Peak Expiratory Flow Rate-PEFR & Breath Holding Time-BHT) in healthy young individuals. **Method:** 30 1st M.B.B.S students (15 males and 15 females), of Adichunchanagiri Institute of Medical Sciences, in the age group between 17-19 years were recruited for this study. These subjects (students) practiced deep breathing under supervision daily for 10 minutes, between 4-4:30pm. During this period the subjects sat erect and concentrated on breathing. These subjects were instructed to breathe in & breathe out slowly and maximally lasting for 5 seconds each, at a rate of 6 breaths per minute. The subjects did not perform any form of physical or yogic exercises during this study period. PEFR was

recorded using the Computerized spirometer-BPL ARPEMIS version 3.1 & BHT was recorded using stop watch. These parameters were recorded in the subjects before and after practicing deep breathing for three months and the same parameters were compared to find out the statistical significance of its association using paired t test. **Results:** Both PEFr and BHT were significantly increased at ($p = 0.002^{**}$ and $p < 0.001^{**}$ respectively) after practicing deep breathing. **Conclusion:** The results of this study indicate that a simple manoeuvre of practicing deep breathing daily as indicated in the method, improves the pulmonary functions significantly even in the absence of any other form of physical exercise.

Study Of Physical Performance Capacity During Phases Of Menstruation In Young Female Athletes

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Objective: The present work was undertaken to study the Physical performance capacity during various phases of the menstrual cycle by using Harvard step test in young female athletes in the age group of 17-20 years. Comparison of changes in the physical performance capacity were recorded during follicular, luteal and menstrual phases of the menstrual cycle. **Method:** A total of 30 healthy female subjects who are athletes, Sports Women's Hostel, Chamundi Vihar Stadium, Mysore, formed the study group. Physical performance capacity was measured using Harvard step test. Physical fitness parameters to assess the Physical performance capacity like Physical Fitness Index (PFI) and VO_2 max (maximum oxygen uptake) were measured during all the three phases of menstrual cycle. **Results:** Results were analysed and statistically treated, "t" test was applied during the follicular, luteal and menstrual phases of the menstrual cycle. It was found that there was no significant changes in Physical Fitness Index (PFI), VO_2 max (maximum oxygen uptake) during all the phases of menstrual cycle. Overall there was no changes in the Physical performance capacity. **Conclusion:** The finding of present study shows that female athletes competing in strength specific sports need not adjust to menstrual cycle phase to maximize performance and they can participate in sports events during all the phases of menstrual cycle.

Assessment Of Cardiovascular Endurance In Swimmers And Non-Swimmers By Comparing Resting Blood Pressure

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Background and Objective: Swimming is often recommended by various authoritative groups as a mode of exercise for the prevention and treatment of hypertension and cardiovascular diseases. Hence the current study compares the cardiovascular functional abilities with respect to Blood pressure in young freestyle swimmers practicing regularly and non-swimmers. **Material and Method:** The present Study was carried out at tertiary health care centre of Municipal Corporation of Greater Mumbai on medical students after the informed and written consent. Ethical committee permission was taken. Sixty students of age group 18 – 25 years fulfilling the inclusion criteria were included. The study was carried out by forming 2 groups. One group was the study group, comprising of 30 students who are swimmers,

practicing for at least 3 months regularly with one session of 30-60 minutes duration per day and minimum three days in a week. The control group comprised of 30 students who are non-swimmers. Their Blood pressure was measured using sphygmomanometer. The data was recorded and analysed for the statistical significance using student 't' test and SPSS-16 software. P value less than 0.05 was considered the level of significance. **Result:** The mean resting systolic blood pressure in swimmers was significantly lower than in non-swimmers and statistically significant ($P < 0.05$). The mean resting diastolic blood pressure in swimmers was significantly lower than in non-swimmers and statistically significant. ($P < 0.05$). **Discussion and Conclusion:** Finding ways to initiate and maintain a physically active lifestyle, particularly with older adults, is a challenge to the practitioner. Swimming has been recommended as an alternative to land-based activity, particularly for older individuals, those who are obese or those who have limited mobility. Our finding may have important implications for exercise prescription in Younger and Older subjects.

Attendance And Academic Performance: A Study Among First Year MBBS Students.

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Introduction: There are growing anecdotal evidence that student attendance are declining day by day in the medical colleges. Almost all govt. or private colleges appear to be suffering. Medical council of India has made a policy where students must attend minimum 85% of total classes in practical and 75% in theory. In this context, we have tried to find out any association of student performance with their attendance as well as tried to find out reasons for nonattendance. **Objective :** (1) To find out any association of student performance with their attendance (2) To find out the reasons for nonattendance

Material and Method. Based on percentage of attendance in Physiology dept, students were divided into six groups A(35-45%) to F(85-95%). Academic performance was analyzed in terms of percentage of marks obtained in 1st term exam and final exam including both theory and practical. Association between attendance and academic performance was carried out twice. Statistical analysis was carried out by calculating mean and standard deviation and by obtaining p value with one way ANOVA test. In predesigned pretested Performa, students were asked reasons for nonattendance. **Result & Discussion:** After 1st term exam, no statistically significant difference was found in theory performance between different groups. However in practical performance statistically significant difference was found between group A and E. After final exam in theory performance, statistically significant difference was found between group C and E, while in practical performance statistically significant difference was found between group C and E as well as between group C and F. Most common reasons given by students for nonattendance in theory lectures were either boring lecture or boring topic, while in practical was having other important work. **Conclusion:** Present study suggests an association between attendance and academic performance of students in final exam. Introspection need to be done and innovative method should be used to eliminate reasons of nonattendance.

Comparative Study Of Heart Rate Variability Between Pre And Post-Menopausal Women Of Medical Profession

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Background:- Ageing is associated with a decline in short term indices of heart rate variability (HRV) however there is little evidence regarding the extent to which heart rate variability (HRV) also depends

upon simultaneous changes in the level of estrogen and body fat composition found in pre menopausal state to post menopausal state. **Aim:-** To compare HRV between pre and post menopausal women and the effect of estrogen level and body fat composition on HRV between these two groups. **Material and Method:-** The study included 30 pre menopausal women (aged 40-50 yrs.) and 30 post menopausal women (aged 45-55 yrs.) recruited from amongst medical professionals of SMS medical college Jaipur. The pre menopausal women were studied during follicular phase of menstrual cycle. Subjects were screened after measuring Height, Weight, and recording of basal blood pressure and heart rate. HRV was assessed using spectral analysis (Frequency domain & time domain) and estrogen level was estimated using CLIA (Chemiluminescentimmuno assay) method. The body fat composition in term of percent body fat, was assessed using measure of skin fold thickness at suprailiac triceps, sub scapular regions. **Result:-** It was found that post menopausal women had significant lower high frequency (HF) power (p value < 0.01) and higher low frequency (LF) power (p value < 0.05) when expressed in normalized units. The ratio of LF/HF (the index of sympatho-vagal balance) was significantly higher (P value < 0.05) among post menopausal women. Analysis after adjusting for age revealed that the difference in estrogen level contributed for the difference in relative value of HF and LF components of HRV. The difference in body fat percentage also explain the study difference in HRV between these two groups, Thus the study concludes declined estrogen level and increased body fat percentage are associated with the autonomic alterations seen among post menopausal women.

Effect Of Treadmill Exercise On Blood Parameters Of Healthy Population:

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Background: Exercise & physical activity is an important function of living system. It may affect Haematological parameters and brings alternation in the interior setting. The objectives of the present study were to examine & compare the blood parameters of the pre & post treadmill exercise. **Method:** This study was carried out at the Dept. of Physiology; Navodaya medical college; raichur. Fifty students were included in the study with age group of 17 -23 yrs. The standard test protocol was 30 mints jogging. Study was performed with voluntary participation of healthy male students of our college. Venous blood sample drawn from the group before & after exercise (30 mints jogging) on treadmill. The blood is investigated for the changes in Hb, Total WBC. This worked started after being confirmed by ethical committee of the college. **Results:** The mean age was 22.8 years. Immediately after termination of exercise the Hb & Total WBC levels were increased significantly ($p < 0.01$) when compared to Pre-exercised values. It is concluded that exercise is physiological stress to body which is healthy. It induces certain changes that enhance the ability to cope with stress. Physiological training can considerably alter related changes in blood that may relate to training-induced hormonal influences remains to be workout.

Lipid Abnormalities In Chronic Renal Failure Patients

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Background: Chronic renal failure (CRF) is a syndrome of persistent renal impairment involving loss of both glomerular and tubular function such that the kidneys' homeostatic functions are compromised.

CRF is complicated by characteristic dyslipidaemias. CRF patients on haemodialysis have abnormalities in lipid profile and have a high incidence of cardiovascular diseases. Therefore, we sought to evaluate the pattern of lipid abnormalities in CRF patients with and without haemodialysis. **Method:** This prospective observational clinical study was started after prior approval from Institutional Ethics Committee, M P Shah Medical College and Guru Gobindsingh Govt. Hospital, Jamnagar, Gujarat (India). Written informed consent was obtained from the patients before their enrolment in the study. We selected age and sex matched (Both male and female patients aged more than 18 years) 60 patients of CRF and 30 healthy controls for this study. They were divided into Group-I (healthy controls), Group-II (CRF patients who never undergone hemodialysis) and Group-III (CRF patients on hemodialysis for more than 6 months). Exclusion criteria include Body mass index (BMI) more than 24.9 kg/m², known case of acute renal failure/diabetes mellitus/hypertension/ischemic heart disease, taking drugs that affect lipids and lipoproteins level. We obtained serum samples from patients in the morning after an overnight fast and were analysed for glucose, urea, Creatinine, total cholesterol (TC), triglycerides (TGs), high density lipoprotein (HDL), low density lipoprotein (LDL), using standard colorimetric assays on fully auto analyzer at Clinical Biochemistry Laboratory. Very low density lipoprotein (VLDL) concentration was calculated by using Friedewald's Formula. Analysis was carried out in Graph Pad Prism 6 project software and Microsoft excel 2007 software. Unpaired t-test was applied to compare the differences in the mean \pm standard deviation between controls and study group. Comparison between male and female patients was carried out in all the three groups by using unpaired t-test. A *p* value <0.05 was considered statistically significant. **Results:** We examined 60 CRF patients along with 30 healthy controls [18 men and 12 women in each group, mean age 44.27]. Among the various parameters tested triglycerides and VLDL levels were significantly higher in group-II and III as compared to controls (*p*<0.05). HDL levels were significantly lower in group-II and III as compared to control (*p*<0.05). TGs and VLDL levels were significantly higher (*p* < 0.05) and HDL levels were significantly lower (*p* < 0.05) in Group-III as compared to Group-II. There was no significant change (*p*>0.05) observed in total cholesterol and LDL levels in between healthy controls and CRF patients with & without hemodialysis. There is no significant difference (*p*>0.05) observed in lipid profile between male and female patients of CRF. **Conclusions:** We concluded that CRF patients with and without hemodialysis are at greater risk of development of lipid abnormalities, characterized by hypertriglyceridemia, elevated VLDL and decreased HDL levels. Total cholesterol and LDL cholesterol levels remain normal or decreased in these patients. Both male and female patients of CRF with and without hemodialysis have dyslipidemias without any discrimination of sex and it is not attenuated by the hemodialysis process. A strict monitoring of lipid profile and lipoproteins can reduce morbidity and mortality rate of cardiovascular diseases and will also improve the quality of life of CRF patients. **Limitation:** Because of time period available, sample size was kept limited. More patients could have been enrolled for better precision.

Immediate Effect Of "Nadi-Shodhana Pranayama" On Cardiorespiratory Parameters And Mental Efficiency

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Background: In recent times, everyone is much attracted towards yoga. It is claimed that yoga practices improve general health and fitness. Yoga is the best lifestyle modification, which aims to attain the unity of mind, body and spirit through asana (exercise), pranayama (breathing), and meditation. Breath is a dynamic bridge between the body and mind. Hence, life experiences can distort breathing pattern. Pranayama is the art of prolongation and control of breath helps in bringing conscious awareness to

breathing and the reshaping of breathing habits and patterns. **Aim:** Study was designed to determine whether Nadi-shodhana pranayama practice for 20 minutes has any immediate effect on heart rate, systolic and diastolic blood pressure, peak expiratory flow and mental efficiency (simple problem solving ability). **Material & Method:** Study was carried out in Human Physiology Laboratory, Department of Physiology, S.M.S. MEDICAL COLLEGE, JAIPUR. The study was done in year 2012. Healthy student with no history of present and past illness were selected for study. All were doing MBBS. Study parameters included heart rate, systolic and diastolic blood pressure, peak expiratory flow rate, simple problem solving ability to explain the cardiopulmonary function and mental efficiency. The participants were trained to perform Nadi Shodhana Pranayama. All the parameters were assessed before and after doing 20 minutes Nadi-shodhana pranayama. **Results :** Nadi-shodhana pranayama practice for 20 minutes showed statistically significant difference ($p < 0.05$) in heart rate, systolic blood pressure (SBP), diastolic blood pressure (DBP), peak expiratory flow rate and mental efficiency. **Conclusion:** It was concluded that Nadi-shodhana pranayama practice for 20 minutes can be advocated to improve cardio-respiratory efficiency as well as mental efficiency.

Analysis On Teaching Aids – Chalk & Talk Vs PowerPoint: Medical Students' Perception

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Objective: To assess students' preference for teaching aids (Chalk & Talk and PowerPoint) **Method:** A structured questionnaire containing 2 (two) sets of 10 questions each was framed. Each set represented a specific mode of teaching. Seventy (70) 1st year Medical Students of Regional Institute of Medical Sciences, Imphal participated in the study. They were instructed to fill up the questionnaire and then rank the questions on a five-point scale, namely; Agree strongly (+2), Agree (+1), No opinion (0), Disagree (-1), Disagree strongly (-2). The results were analysed using their cumulative Weighted Score of each parameter regarding the different lecture delivery methods and significance was tested using ANOVA: Single Factor to see their preference for the different modes of teaching. **Results:** 67.95% preferred Power Point Presentation whereas 32.05% preferred Chalk & Talk Lecture. The analysis was found to be significant (p -value < 0.001). Comments of the students were also recorded. **Conclusion:** The students preferred the use of PowerPoint Presentation teaching as evidenced by their subjective assessment. However, Chalk & Talk has its own unique advantage and supplementing PowerPoint Presentation with chalkboard enhances the impact of the lecture.

To Study Prevalence Of Myopia Among First Year M.B.B.S. Students.

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Background:- Myopia is becoming the major type of refractive error in developing countries like India. Its high prevalence may pose a threat to the health and economy and thus impair the overall development. Evidence suggests that there is association of myopia with learned people. Various factors like environmental, nutritional, hereditary may increase the rate of myopia. **Objective:-** The present study was undertaken to find the prevalence of myopia in 1 year M.B.B.S. students and to know gender wise

variation. In addition their heights, weights, BMI and information of refractive errors in parents were gathered in a bid to establish their role as causative factors if any. **Material and Method:**-The present study was conducted in department of Physiology, GMC, Nagpur.200 First year MBBS students were selected. After informed consent their height, weight was recorded and BMI was calculated The refractive values were collected and detailed history of refractive errors in parents was obtained from each student. Information regarding number of years of spectacle use was also gathered. History of any ocular disease was ruled out. Statistical analysis was done using student's t test and p value was calculated. **Results:**-The prevalence of myopia was found to be higher in females (60.8%) as compared to males(45.7%). There was no significant difference in height, weight and BMI of myopic and non myopic male students whereas female myopic students were found to be taller than non myopic female students (p value <0.05).There was no significant difference in their weight and BMI. Myopia was more common in parents of myopic students as compared to their non myopic counterparts. Majority of the myopic students detected myopia in last 5yrs. **Conclusion:**-There is high prevalence of myopia among young professionals. Rigorous and long duration of studies may have an influence. Anthropometric parameters like height may influence the length of the eyeball which may be the cause of myopia. Hereditary factors may play a role for causing myopia. Detection of refractive errors at an early age may prevent further visual impairment. However all these causes should be further evaluated.

Variation Of Reaction Time In Different Phases Of Menstrual Cycle

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Objective: To evaluate the influence of menstrual cycle on auditory reaction time (ART) and visual reaction time (VRT).**Method:** The study was conducted in department of Physiology on 30 apparently healthy regularly menstruating female subjects in the age group of 18 -25 years who were selected based on predetermined inclusion – exclusion criteria. Influence of three different phases of menstrual phase cycle on ART and VRT was evaluated using a portable audiovisual reaction time apparatus. For VRT stimulus was given in the form of red, green, blue and yellow light and for ART stimulus was a moderate pitched sound. Subjects were asked to respond immediately to the stimulus by pressing the appropriate button with the index finger of dominant hand. Reaction time was read directly from the digital display. **Result:** There was a significant increase in ART and VRT during luteal phase as compared to follicular phase. **Conclusion:** Changes in ART and VRT during different phases on menstrual cycle could be as a result of fluctuating female sex hormones leads to salt and water retention.

Airway Functions During Pregnancy In Rural Population Of Gujarat: A Preliminary Study

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Pregnancy influences almost every system of the body. It is a state of respiratory adaptation as some of the parameters increases, some of the parameters decreases and some of the parameters remain unchanged. Although respiratory changes during pregnancy studied extensively but discrepancies remain till date in the data available particularly for the expiratory flow rates at different lung volumes. On the other side studies available in the rural population are scanty. This was a preliminary cross sectional study to evaluate the airway functions during pregnancy in rural population of Gujarat. 85 healthy pregnant women from low socioeconomic status were studied during different trimesters in the Department of Obstetrics and Gynaecology, Dhiraj General Hospital. Data was collected with the help of digital computerized spirometer "SpiroWin+". Statistical analysis was done by student unpaired t-test and α error was set at 5% level. All females were almost similar in age, height and socioeconomic status. The lung capacities and volume FVC and FEV₁ were unchanged in all three trimesters, when compared with nonpregnant women, however some physiological fluctuations were there but statistically insignificant. Upper airway function indicated by peak expiratory flow rates (PEFR) and peripheral airway function indicated by FEF50% and FEF25%-75% also showed insignificant changes. All these parameters of rural population were lesser than the urban population reported earlier in Gujarat. In conclusion we have found that forced expiratory spirometry remain unaltered during pregnancy. Further serial studies or studies in large number of subjects are required in rural population.

Gender Differences In Stress And Academic Performance Of Medical Students

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Objective: The current research investigates gender differences in stress level and academic performance of first year medical students. **Method:** A sample of 96 first year medical students (48 males and 48 females) was drawn from the S S Institute of Medical Sciences (SSIMS). Purposive sampling technique was used. Their mood parameters were assessed, using Depression Anxiety Stress Scale (DASS) scoring. The academic performance was assessed based on their final examination marks. **Result:** Student unpaired T test is used for statistical analysis. The study is in progress. **Conclusion:** Examination act as stressors, the implication of this study is for helping professionals and academia in addressing the test anxiety of the students in higher education so that timely and effective relaxation program, counselling and therapeutic interventions can be inculcated so that the students can cope up better with the stress.

Mood Swings During Different Phases Of Menstrual Cycle

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Introduction – Menstruation is a normal physiological cycle and common to all females in the reproductive age groups. Every females experience mood swings to some degree during their lifetime specially during their menstrual cycle. For majority of females, these symptoms are tolerable; however group of females, these symptoms can be disabling and cause emotional distress or impairment in work, relationships and activities. **Objective** – To study the types and frequency of symptoms during luteal , Menstrual and follicular phases of menstrual cycle. To study the effect of these problems on their daily routine.**Material and Methods** – Data was collected by pretested predesigned validated questionnaire: Premenstrual symptoms screening tool (PSST) in Menstrual, Follicular and Luteal phase of menstrual cycle after taking informed consent from girls. A total of 230 girls with age of 18-25 years participated in the study. **Observations / Results** – The mean age of female was 19.3 years, their mean cycle duration was 4.9 days and the cycle length was 29.3 days. In menstrual phase, the most commonly reported symptoms was Fatigue/ lack of energy (57.4%), followed by Physical symptoms (51.7%) and decrease interest in work (50.9%). The effects of these problems on daily routine life was decrease work efficiency/ productivity (38.3%), followed by decrease home responsibilities (30.4%). In Luteal Phase, the most commonly reported symptoms was depressed mood (41.3%), followed by Anger/irritability (34.3%) and Anger/tension (30.9%). The effect of these problems on daily routine life was decrease work efficiency/ productivity (29.1%), followed by social life activities (24.8%) during luteal phase. In follicular phase, there were no any symptoms reported. **Conclusion** – Mood swings during menstrual cycle is common problems in young girls which adversely affects their educational performance and emotional well-being. Strategies should be adopted for identifying the premenstrual problems, their severity and develop awareness and healthy attitude towards menstruation. Screening and counselling of girls for menstruation related problems and relevant information on possible treatment options should be provided to the girls.

Effect Of Sprint Training On Pulmonary Function Tests In Basketball Players: Randomized Controlled Trial

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Nearly all athletes require a basic level of cardiovascular endurance, if for no other reason than recovery between intense bouts of work. Traditionally, coaches have opted for long, slow, distance training at 70-80% maximum heart rate. The problem with this approach is that it is not specific to many sports such as the multi-sprint games and can actually be detrimental to strength and power performance. The present study was carried out to compare the effects of 4 weeks of Sprint Training on Pulmonary Function Tests in basketball players. The present study is an Interventional Randomized Controlled Trial. Twenty basketball players aged 15 to 25 years were enrolled for the study. Informed consent was taken from all the participants. They were randomly distributed into 2 groups. Group- 1: Controls: Players undergoing regular training. Group-2: Players undergoing Sprint Training along with regular training. They underwent sprint training for 10 minutes a day, 5 days a week. Pulmonary Function Tests parameters of Forced Vital Capacity, Maximum Voluntary Ventilation, Forced Expiratory Volume at the end of one second were measured by USA Medgraphics Body Plethysmograph Elite DX Series Model, before starting the training and after 4 weeks of training. Sprint Interval training led to better improvement in Pulmonary Function Tests as compared to regular training group. Hence, Sprint Interval training can be suggested as a method to improve pulmonary function in basketball players and improve their performance.

Numerical Alterations Of Different White Blood Cells In Chronic Tobacco Smokers .

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Background: In India smoking is a common habit in both rural and urban areas . According to national sample survey 35% of men and 12% of women in India use tobacco in some form or other and it causes various effects on body including blood . Evidence is that accumulating haemostatic factors have a pathogenic role in ischemic heart diseases and stroke ,smoking habit is known to affect several haemostatic heart diseases.In this study 100 healthy male subjects, 50 chronic smokers and 50 non smokers were assessed for differential white blood cell count .there was decreased neutrophil and basophil count while lymphocyte count was significantly increased to about 30% in smokers from about 24% in non smokers ,while there was no significant changes in other white blood cells. **Objectives-** 1)To study the effect of tobacco smoking on different white blood cell count. 2)To establish a correlation between chronic tobacco smoking and its effects on parameters which were studied.3)To create awareness in tobacco smokers about the effect of tobacco on their health.

Effect Of Medium Of Education On Professional Performance: An Observational Study

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Objectives- To study the effect of medium of education on professional performance.**Design-** Multicentric Retrospective observational study**Settings/Location-** Study was carried out in Government Medical College, Aurangabad**Subjects-** 271 students passed MBBS or BDS in Feb 2012 to July 2012 from government institutions in Marathwada region i.e. Govt. Medical College Aurangabad, Govt. Dental College Aurangabad, SRTR Medical College Ambajogai, Govt. Medical College Latur, SGGs Medical College, Nanded.**Interventions-** Permission of the Dean of all the institutions was taken. The Medium of education of them was recorded from the students and crosschecked by academic section from their 10th mark memo. The marks of final year MBBS or BDS were also recorded from the students and crosschecked by academic section of all the colleges. The data was analyzed by correlation test and student's t test using Graphpad Prism software.**Results-** There was no statistical difference between professional performance in English & Marathi language ($p= 0.0835$) & Pearson's correlation coefficient of 0.108. Also there was no difference between English vs Hindi ($p= 0.496$) and English vs Urdu languages ($p=0.066$). **Conclusion-** Our study shows that medium of education doesn't have any significant effect on professional performance.

A comparative study of Audio-Visual reaction time in Anemic and Non-anemic adolescent girls.

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Introduction Anemia is a major public health problem. Anemia is a common and severe problem in many developing countries including India. Anemia affects mainly the women in reproductive age group and adolescent girls. Adolescent girls are at greater risk of developing anemia because of their poor dietary intake compared to greater physiological requirements. Decreased hemoglobin level may lead to

decreased attentiveness and low neuronal metabolic activity. **Objective** The present study was planned to investigate the effects of hemoglobin level on auditory and visual reaction time, in anemic adolescent girls and compare it with non-anemic adolescent girls of same age group. **Material and Methods** The present study was conducted in department of Physiology, GMC, Nagpur. Adolescent girls between 17-19 years were selected for the study. After informed consent age, height and weight were recorded. BMI were calculated. Hemoglobin was done with Sahali's method using standard procedure protocol. On the basis of hemoglobin levels they were categorized into two groups. Group I (n=30) having Hemoglobin ≥ 12 gm / dl And Group II (n=30) having Hemoglobin < 12 gm/ dl. Auditory and Visual reaction time were measured using "Response Analyser" reaction time apparatus, after enough exposure of the subjects to the machine. **Statistical analysis** Student's t test was applied for the statistical analysis. Correlation between the hematological parameters and reaction time was done using Pearson's correlation. **Results** The difference in auditory and visual reaction time between two groups was found to be significant ($p < 0.05$) **Interpretation**:-Both Auditory and Visual reaction time were found to be delayed in group II having Hemoglobin < 12 gm/dl as compared to control group I with Hemoglobin ≥ 12 gm/dl. **Conclusion** Decreased neuronal metabolic activity might be responsible for prolongation in Auditory and Visual reaction time. Specific cognitive process such as information and mental processing may affect response time. Sensorimotor performance is affected in anemic individuals.

A Prospective, Randomized Parallel Control Study To Evaluate The Nerve Conduction Velocity In Patients With Essential Hypertension.

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Background –Hypertension has been identified as a risk factor associated with neuropathy and micro vascular diseases. Data on nerve conduction velocity in patients with essential hypertension is inconsistent. Some studies have observed a reduction in the nerve conduction velocity in essential hypertension but subsequent studies failed to demonstrate such difference. **Aim Of The Study**- The aim of the study was to evaluate the motor and sensory conduction velocity of median nerve in patients with essential hypertension. **Method**- The study was carried out in the Department of Medicine, Government Medical College Aurangabad. n =30 patients of essential hypertension between the ages of 40-60 years of either sex along with 30 age and sex matched normotensives as controls were enrolled for the study. Patients with diabetes, renal insufficiency, alcoholism, vascular diseases, or other conditions known to cause peripheral neuropathy were excluded from the study. The motor and the sensory conduction velocity of median nerve was studied using standard techniques. **Statistical Analysis** -Students't' test was used for the intergroup comparison. **Results**- The sensory nerve conduction velocity (m/s) in normotensives group was 60 ± 2.82 and hypertensive group was 60.32 ± 2.78 . The motor nerve conduction velocity in normotensives was 58.60 ± 4.10 and in hypertensive group was 57.75 ± 4.30 . When compared, these findings motor and sensory nerve conduction velocity in normotensives and hypertensive were not statistically significant ($p > 0.05$). **Conclusion**- Extensive studies will be required considering all grades of hypertension for confirmative analysis.

Study Of Impedance Cardiography (ICG) In Hypertensive Patients

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Introduction: Impedance Cardiography (ICG) is latest noninvasive technique to measure blood flow in major vessels of heart. In this technique, electrical impedance (Z) of any vessel is measured by passing constant current (4 mA) by 2 outer surface electrodes and resistance offered by blood flow is sensed by another 2 inner voltage sensing surface electrodes. As only heart rate & blood pressure is not sufficient to access a person's hemodynamic status, CO & other hemodynamic parameters measured by this simple technique will help further to access heart's functional status. Hypertension is one of the major burden in the society. So if ICG is found to be useful in prognosis & treatment of HT, then we can reduce morbidity & mortality associated with HT. **Objective:** To measure cardiac parameters noninvasively in healthy controls & hypertensive using ICG & observe the effect of HT on different hemodynamic parameters. **Method:** Study had been done in 2 age groups: 1st group comprises of 40 healthy controls & the 2nd of 80 hypertensive patients taking antihypertensive drugs for more than 6 months. It was carried out on Nivomon Series computerized software at Govt. Medical College & Hospital, Bhavnagar. **Observations/Results:** Hemodynamic Parameters measured were SV, SI, CO, CI, SVR & SVRI. Systolic BP was higher in HT group despite taking anti HT drugs. SVR, SVRI were higher & CO, CI were lower in HT group as compared to controls. Also weak positive correlation was found between BSA & CO, weak negative for BSA & SVR in patients. **Conclusion:** High BP was mainly due to higher SVR; and CO was low secondary to higher SVR in hypertensive. All parameters were measured effectively & with ease. Thus ICG will have diagnostic, prognostic value in hypertensive subjects and therapeutic decision making on basis of hemodynamic parameters.

Comparative Evaluation And Correlation Of Different Anthropometric Indices (Body Mass Index ,Waist Circumference , Waist- Hip- Ratio , Waist- Stature- Ratio) With Blood Pressure In Adult Population (18 Year & Above)

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Obesity has been defined by certain anthropometric indices, such as body mass index (BMI), waist circumference (WC), waist-to-hip ratio (WHR), and waist-to-stature ratio (WSR) ect. Among these, BMI is the most widely used indicator recommended by WHO, but it does not measure body fat distribution and in particular, abdominal fat mass. Hence anthropometric indices that measure abdominal fat such as WC, WSR and WHR are increasingly used in research, But best index of obesity that is predictive for cardiovascular disease risk and hypertension is still a controversial subject because the predictive power of anthropometric indices is population dependent and varies from race to race; Hence present study was carried out to assess correlation of the four mentioned anthropometric indicators with Blood pressure and to find out the best parameter as a predictor of Hypertension. It was a cross sectional study carried out in 600 subjects (335 male and 265 female) aged 18 yrs and above. Subject were selected from Pandri , Raipur . Anthropometric measurements -weight ,height ,waist circumference and hip circumference has been taken as per recommendation of **“WHO STEPS for surveillance (2008) protocol** and measurements obtained were used to determine values of BMI ,WHR ,WSR and WC. BP Measurement and classification of subjects as hypertensive or normotensive has been done as per recommendation of **JOINT NATIONAL COMMITTEE report**..Statistical methods like mean, standard deviation, Students T test and Pearson Correlation analysis were used for final analysis of results. Mean values of all the four anthropometric indicators were significantly higher (p <0.01%) in Hypertensive than in normotensive population in both gender. Prevalence of Hypertension was more in obese category than non obese category for all four anthropometric indicator of obesity. Percentage of

hypertensive detected by WSR was highest (71.63%) followed by WC (69.54%), BMI (68.4%), WHR (60%) in that order.

A positive correlation was found between all the four anthropometric indicators with SBP and DBP. WSR had the highest correlation coefficient ($p < 0.01$) for both SBP as well as DBP followed by WC > BMI > WHR in that order. The majority of our examinees were found to be normal weight by BMI definition but the relative risks of Hypertension were significantly higher among these normal-weight examinees with $WSR \geq 0.5$. This observation confirms that not just the amount of fat, but also type of fat distribution, results in increased health risks in both men and women. Thus, WSR may also be applied effectively to normal weight people facing higher risks of Hypertension, enabling early preventive health education.

Effects Of Short-Term Moderate Alcohol Intake On Serum Lipid Profile In Indian Men: A Cross Sectional Study

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Background: It is well known that, long-term alcohol abuse has no favorable effects on lipid profile, but whether short-term, daily, moderate alcohol intake alters lipid profile or not has not been established. This objective is taken and considered as the basis for the present study. **Aim and Objectives:** In the present study, we examined lipid profile in a group of short-term alcoholics and age matched controls. **Method:** We recruited thirty young (20-40 years) men with history of daily 2 to 3 units of alcohol intake for the past 1 to 3 years duration. They were non-smokers and non-obese. They were not having any nutritional deficiency or any pre-existing cardiopulmonary or hepatobiliary disorders. Another thirty age matched men, who were alcohol abstainers, served as controls. Two ml of blood was collected after 12 hours of fasting. Serum lipid profile was estimated by Random Access Clinical Chemistry Analyzer ERBA-XL-300. **Stastics:** Data were presented as means \pm SD, and analysed using the one tailed unpaired (equal variance) 't' test. The level of significance was taken at P values < 0.05 . **Results:** Lipid profile parameters like TOTAL CHOLESTEROL, HDL-C, VLDL-C & TRIGLYCERIDES were significantly higher; and LDL-C level was significantly lower in the moderate alcohol drinkers as compared to controls. **Conclusion:** this study concludes that, moderate alcohol intake for even 1 to 3 years duration, significantly affect lipid profile in alcoholics.

Prevalence Of Overweight And Hypertension Amongst Teenage Girls In An Emerging Metropolitan City Of Central Rajasthan.

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Background: The problem of overweight, obesity and hypertension is not only limited to adults but also extended to children and adolescents. The increasing prevalence of obesity and hypertension in girls reaching reproductive capacity is particularly disturbing, because untreated obesity contributes to its perpetuation in their offsprings through maternal fetal transmission. **Study objectives:** 1. To find out prevalence of overweight, pre hypertension and hypertension among teenage girls of Jaipur city. 2. To

compare these observations in affluent and non-affluent category girls Design: School based , cross-sectional , observational study.Setting : Government and public schools of Jaipur citySample : 500 teenage girl students of age 13- 17 yearsMethods : :- For the study purpose , government and public schools were selected randomly from the schools of Jaipur city. From each selected school every teenage girl of 13-17 years of age group was interrogated and examined , till the sample size is achieved. (250 girls from each school).These teenage girl students were divided in to two categories. The category A: included teenage girls studying in private school & belonged to affluent class and Category B: included teenage girls from government school & belonged to non affluent class .Two anthropometric parameters, height and weight were recorded to calculate BMI and blood pressure of each study unit (girl) was recorded.. The collected data were analyzed by using SPSS version 11.5 and chi square test **Results** :-Prevalence of overweight among category A girls was 16.8% and in category B 4.8% girls were found overweight and (p value 0.0001). 5.2% girls were pre hypertensive and 3.6% were hypertensive in category A while 5.6% were pre hypertensive and 2.0% were hypertensive in category B (p value- 0.416 & 1.00 for hypertension & pre hypertension respectively) **conclusion:** The prevalence of overweight , and hypertension was higher among affluent class teenage girls. The prevalence of pre hypertension was comparable between two categories. The underlying factors for pre hypertension were different in these two categories.

Bisphenol A: A Toxic Chemical Released From Plastic Produces Cardio-Respiratory, Renal And Hepatic Changes In Rats.

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BisphenolA (BPA), an endocrine disruptor, is used in the manufacturing of plastics. BPA has been reported to produce a number of reproductive defects and has been closely associated with heart disease, diabetes and high level of liver enzymes. Our daily exposure to BPA is increasing with enormous use of plastics. However, there are no direct evidences showing the toxic effects of plastics on our body. Therefore, the present study was undertaken to see the toxic effects of chronic exposure to BPA ingestion on the cardio-respiratory parameters and also to see the histological changes at tissue level in kidneys, heart, lungs and liver in adult albino female rats of Charles Foster strain. The study was divided in 2 groups (n=6; each group). The ECG and respiratory excursions of the rats were recorded in each group at the beginning of the study. In group I (control group), the rats were allowed to drink tap water for 30 days. Rats of group II were given BPA (2 µg/kg body weight/day) orally. After 30 days, the ECG, blood pressure and respiratory excursions of these rats were recorded and the kidneys, heart, lungs and liver were studied for the histological changes. The heart rate decreased significantly in BPA treated group. The histological study of kidneys showed a significant decrease in the number and size of glomeruli along with hyaline deposits and lymphocytic infiltration in BPA treated group. In case of heart, there was disintegration of fibres with loss of intercalated junctions, hyaline deposits and lymphocytic infiltration. The morphological changes in lungs included hyaline deposits, lymphocytic infiltration and consolidation of the lung parenchyma. There was loss of the laminar pattern in liver accompanied by dilatation of central vein. Hence the present study demonstrates the direct toxic effects of chronic exposure to BPA on various organs.

A Compative Study Of PEFr Values & FEV_{1%} Among Carpenters Working In

Small Scale Furniture Industries In Nearby Guwahati City In Relation To Exposure To Wood Dust

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Background: Wood is one of the worldwide most important renewable resources and extends over approximately one third of the earth's total landmark. In the plant kingdom, trees belong to the division of spermatophytes and are subdivided into gymnosperms and angiosperms, both types of wood generates wood dust. Industries in which large amount of wood dust is produced include sawmills, furniture industries, cabinet making and carpentry. Wood dust is a light brown or tan fibrous powder like substances generated when timber is processed, chipped, sawed, turned, drilled or polished. It is a complex mixture of cellulose fibres, resins and contaminants such as fungal spores and other microbials, wood preservatives, coatings, sealants and glues (eg formaldehyde). Exposure to wood dust has long been associated with a variety of adverse health effect including dry cough, bronchitis, chest pain, occupational asthma, nasal sinus carcinoma, rhinitis etc. Hypothesis: Long term exposure to wood dust effects the lung volumes and flow rate thereby causing increase prevalence of respiratory symptoms and significant degree of small airway obstruction (due to release of histamine). **Material and Method:** The present study to investigate the effect of wood dust on PEFr and FEV1% in carpenters working in different furniture industries without taking any self protective measures and to compare the results with those having no exposure to wood dust. A total of 58 non smoker male subjects were taken and they belong to age group of 30--50yrs. Study group consists of 29 carpenters having experience of working more than 5yrs and control group contains 29 shopkeepers having no history of exposure to wood dust. Persons having history of allergy, chronic respiratory or other illness or taking any medication were excluded from the study. Pulmonary function test was carried out by using digital spirometer (medspiror). The subjects were instructed to take maximum inspiration and blow into the mouthpiece as rapidly, forcefully and completely as possible keeping nostrils closed. The subjects were asked to do three attempts keeping 2 minutes apart. Highest value of the best three readings has been taken. Statistical analysis was conducted using unpaired t test keeping at $P < 0.05$ as level of significance and data were reported as Mean \pm Standard deviation. **Result:** The mean PEFr value and FEV1% were found significantly lower in study group ($t > 2.02$, hence $P < 0.05$). However BMI did not significantly differ between the study and control group. **Discussion:** Chronic exposure to wood dust at least more than 5 yrs may appear to be at risk of developing respiratory symptoms. Therefore it is advisable to take appropriate measures be adopted to educating the workers regarding the risk of wood dust exposure and the importance of preventive measures.

Correlation Of Triglycerides And LDL Levels With Conduction Velocity Of Median Nerves In Diabetic Subjects.

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Background: Diabetes mellitus is a metabolic disease which is associated with metabolic derangements of carbohydrates and lipids mainly. **Aim:** This study was planned to study the correlation of lipid abnormalities (triglycerides and LDL) with nerve conduction velocity of median nerves. **Material and Method:** The present study was carried out in Dr DY Patil medical college, Pimpri, Pune, on 40 male diabetic patients attending diabetic clinic. Their motor nerve conduction study of median nerves was compared with 40 healthy male volunteers of same age group. **Results:** The result shows decreased conduction velocities of median nerves of diabetic patients as compared to controls. In diabetic patients, Pearson's correlation coefficient showed negative correlation of conduction velocity with the levels of triglycerides and LDL. **Conclusion:** Derangement of lipid metabolism in diabetes could be one of the causative factors of diabetic peripheral neuropathy.

Comparison Of Postpartum Stress Following Uneventful Vaginal Delivery And Elective C-Section

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Introduction: Depression that occurs during pregnancy or after delivery is called perinatal depression. But researchers believe that depression is one of the most common complications during and after pregnancy. Different risk factors contribute to the development of post-partum stress including history of psychological problems, trait anxiety, obstetric procedures, sense of control, and social support. Studies has shown that emergency-section and complicated vaginal delivery have more incidence of post partum stress than uneventful vaginal delivery and elective c-section. **Aim & objectives:** The aim of the study is to compare the incidence and severity of postpartum stress following uneventful vaginal delivery(group 1) and elective c-section.(group 2)**Material and Method:** We selected 20 prime females each who had uneventful vaginal delivery and elective C- section in last 5 days. Edinburg postpartum depression score was calculated by asking them to fill a EPDS questionnaire. **Result:** we found that 15 female in group 1 and 11 female in group 2 were having postpartum depression symptoms. The EPDS was more in group 1(avg 14.35, S.D.4.5) than in group 2(avg 10.9, S.D.4,2). The difference was found to be statistically significant using unpaired t test (p value = 0.016).**Conclusion:**During pregnancy , the amount of two female hormones, estrogen and progesterone, in a woman's body increases greatly. In the first 24 hours after childbirth, the amount of these hormones rapidly drops back down to their normal non-pregnant levels. Researchers think the fast change in hormone levels may lead to depression. The increase in these hormones are even more during labor pains, which may be the cause of increase incidence and severity of postpartum stress in subjects with vaginal delivery than Elective C-section.

Comparison Of Brain Activity In Premenopausal And Postmenopausal Women.

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Objective:To study and compare the brain activity, specifically functional cerebral asymmetries in fine motor co-ordination, as reflected by manual asymmetries in premenopausal and postmenopausal women. **Method:**30 premenopausal and 30 postmenopausal women who had attained menopause

since one year were studied .All were right handed Manual asymmetries were measured with a finger tapping method consisting of two different conditions.-1. Simple (repetitive) finger tapping as rapidly as possible.2.Sequential finger tapping using four fingers in the given complex sequence.**Results:** Postmenopausal women showed reduced manual asymmetries in simple finger tapping. But, in the more demanding sequential condition, they showed enhanced manual asymmetries in favour of the dominant hand. In contrast, premenopausal women showed reduced manual asymmetries in sequential finger tapping, but an enhanced asymmetrical tapping performance in simple finger tapping. **Conclusion:** In postmenopausal women, there is an insufficient recruitment of critical motor brain areas (especially when the non-dominant hand is used), probably due to age-related changes in corticocortical connectivity between motor areas.

Are Indian Adolescent Girl Students More Conscious About Their Body Image Than Their Colleague Boys?

Shah Hasmukh D, ShaikhWasim A, Singh S K

Background: Body weight plays a main role for the Indian adolescent college students for their physical look. Body mass index reflects health status of individual. Body mass index is associated with self esteem of students. **Methodology:** A cross section study was conducted on 96 students of 17-19 years of age group. Nutritional status of participants was assessed by Omron HBF-362 body fat analyzer. The bodyweight, body mass index, resting metabolism, metabolic age, body fat percentage and visceral fat were assessed by this instrument. Dietary questionnaire was taken from the students.**Results:** Body mass index ($P < 0.01$), resting metabolism ($P < 0.0001$) and visceral fat ($P < 0.0001$) of Indian adolescent girls were found to be significantly lower than their colleague boys. Girls are not satisfied with their body image and Indian adolescent girls are skipping their meal rather than doing physical exercise. **Conclusion:** We may conclude that nutritional status and awareness about nutrition play a main role for individual's body image.

Blood picture in petrol pump workers

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Background In India, 2-5% benzene is blended with petrol as an antiknock agent. As petrol evaporates during refilling, Atmosphere of petrol pump contains (1-25ppm) more benzene than other place. Absorption of benzene occurs through inhalation, ingestion and directly through skin .With this, petrol pump workers are exposed to more pollutants emitted from the automobiles at their work place.It is generally known that, hematopoietic tissues are sensitive targets of benzene toxicity, because chronic low level exposure correlates with the development of variety of blood disorders in humans, which range from, reduction in concentration of peripheral blood cells to aplastic anemia, pancytopenia, acute myelogenousleukemia and its variants, and lymphomas. It can also cause increase in blood counts, chromosomal aberrations in lymphocytes and bone marrow cells indicating it to be genotoxic. Considering all the previous studies which have varied results in hematological parameters, we took up the study on Petrol pump workers with following objective.

Objectives of study To analyse complete blood count and to check peripheral smear for any morphological changes in cells. **Material and Method**Study group consisted of 40 petrol pump workers in and around Kalasipalya, which is a busy market area in Bangalore. They were further divided into four

groups according to their work experience which shows duration of exposure. They were also classified as smokers and non smokers. Written informed consent was taken, thorough general physical examination done. Subjects with complaints of infection and on any medications were excluded. 3ml intravenous blood drawn in a EDTA coated tube and was analyzed by Beckman Coulter automated counter and peripheral smear was stained with Lishman stain and observed at pathology lab of Victoria hospital. **Results and Conclusion** Reports obtained showed 55% subjects were normal, 32.5% with eosinophilia, 5% with lymphocytic predominance, 2.5% with anaemia, 5% with neutrophilia. Statistical analysis showed significant p value (<0.05) for lymphocyte count with duration of exposure. Rest all counts did not show any significant change in duration of exposure or in relation to smoking. No morphological changes were noticed. The results obtained from present study indicated there is some amount of toxic effect of benzene and air pollutants on petrol pump workers. Improved detection and prevention technologies are needed to check the early changes and to improve the health conditions of the workers.

Comparative Study Of The Effect Of Dynamic (Isotonic) And Static (Isometric) Exercise On Blood Pressure & Heart Rate Of Young Healthy Adult Males.

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Background: Exercise can be broadly categorized into Dynamic (Isotonic) and Static (Isometric), each of these categories depends on either aerobic and anaerobic metabolism. Dynamic exercise involves repetitions of low-resistance motion and performance of external work; frequent performances increase endurance. Examples include walking, running, cycling, swimming, aerobic dancing. Static exercise involves sustained contraction of skeletal muscles against fixed resistance, without external work, without movement of joints or axial skeleton and regular performance of which does not increase endurance. Examples: Hand grip, leg extension, weight lifting. **Hypothesis:** The aim of the study is to see the effects of Dynamic (Isotonic) and Static (Isometric) exercise on Blood pressure and Heart rate in young healthy adult males. **Materials & Method:** The study is carried out on 50 healthy young male adults of mean age 19 yrs (17-21 yrs), height 5.5 ft (5-6 ft.), weight 65 kg (50-80 kg.), BMI-22 kg/m² (16-28 kg/m²). All the subjects were examined clinically and proper history was taken and those free from any diseases were chosen as healthy subjects. Heart rate was calculated from pulse rate & BP was measured using sphygmomanometer. The heart rates and blood pressure were determined in supine position at rest which served as control and then immediately after dynamic (Isotonic) exercise using treadmill and also after static (Isometric) exercise using hand grip dynamometer. **Results:** The results were analysed for statistical significance using paired T-test. There was a rise in heart rate but the rise was significant in dynamic (Isotonic) as compared to static (Isometric) exercise. Systolic blood pressure showed a rise in both Dynamic (Isotonic) and static (Isometric) exercise, the rise being significant in Dynamic (isotonic) exercise. Diastolic blood pressure falls during Dynamic (Isotonic) exercise but in static (isometric) exercise Diastolic blood pressure rises. **Conclusion:** The various effects of Dynamic (Isotonic) and Static (Isometric) exercise on blood pressure and heart rate have been explained on basis of increased Autonomic sympathetic activity and increased catecholamine production.

Study Of Stress, Self-Esteem And Depression In Medical Students And Effect Of Music On Perceived Stress

Vrushali S. Baste* , Jayashree V. Gadkari**

Stress amongst college students has been a topic of interest for many years. College is a transitional period when young people undergo new experiences, meet new people, face challenges and get opportunities that may add stress in their life. When stress is excessive or perceived negatively, it can affect both health and academic performance. This study was done to assess the stress, gender differences in stress, self esteem and effect of music on stress relaxation in undergraduate medical students. 90 Undergraduate medical students in Seth GSMC and KEM hospital were selected randomly and written informed consent was taken. Participants were given a written questionnaire about the personal information, address and medium of school education. Factors which induce stress were classified as physical, social, academic and emotional. Factors which induce stress and the ways used by students to cope up stress were found by questionnaire. Rosenberg Self-esteem scale (Rosenberg, 1965) and 'Quick Inventory of Depressive Symptomatology' self-rated 16 (QIDS-SR-16) were scored. Subjects were asked to rate their baseline perceived stress and effect of music on stress was found. Results were analysed statistically. 45.6% students had no stress, 45.6% students had mild stress, 7.7% students had moderate stress and 1.1% students had severe stress. There was no statistically significant gender difference in stress. Hostel stay and medium of education in school also did not have a statistically significant difference in stress amongst students. 14.4% students had low self-esteem and 85.6% students had high self-esteem. QIDS-SR 16 score showed that 50 % students had depression. There was a significant negative correlation by the Pearson's correlation coefficient test between Rosenberg Self-esteem score and QIDS SR-16. Effect of music on perceived stress was statistically significant. Mean perceived stress decreased by 62.5% after listening to music. Medical students are exposed to many stressors. Academic factors are major 56.73% cause for stress followed by physical, social and emotional factors. Medical curriculum is associated with increased stress in students which is process oriented. This study suggests that there is a need to sensitise students about adverse effects of stress and intervention programs like counselling and stress relaxation programs to be provided to excessively stressed students to decrease depression. Music can effectively reduce stress, enhance sense of comfort and relaxation, elevate mood and improve performance.

Prevalence Of Asthenopia And Musculoskeletal Disorders In Computer Workers: A Pilot Study

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Background: The number of computer users is rising exponentially in India. This tremendous use of computers not only cause adverse effect on visual health, but also produces musculoskeletal discomfort, hence to find the magnitude of asthenopia and computer related musculoskeletal work disorders present study has undertaken. **Aim:** To study the prevalence of Asthenopia and musculoskeletal disorders and its association with eye related symptoms, Demographic parameters and various work place factors. **Results and Conclusion:** Up till, now the data of 65 subjects working on computers in age group of 16-50 yrs revealed that three asthenopic symptoms viz. Itching in eyes, Painful and sensitive eye and Redness in eyes and three CWD (cumulative work disorders) symptoms, Pain in back, Pain in neck and Pain in lower leg joints were predominantly present. Painful sensitive ($p=0.0075$) and itching of eye ($p=0.03971$) were found associated with work place factors while pain in neck found to be associated with age of subject ($p=0.05647$) and eye distance ($p=0.01949$) from computer. Asthenopic symptoms were not associated with Age, usage of computers in hours, number of breaks or type of refractive error. Also, CWD was not associated with usage of computers and level of computer screen. Statistical analysis were carried out by using chi sq. test and *R-programming language*. Thus in

conclusion asthenopicsymptoms and CWD more or less related with work place factors and not with the age or work place habits.

Correlation Between Subjective Sleep Quality And Cognitive Performance In Older Adults

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Background: The aetiology of cognitive impairment remains unclear, though this debilitating condition has been estimated to affect over 3.7 million people in india and the number is expected to double by 2030. Thus it has become essential to identify factors related to cognitive decline and impairment in older adults so that preventive measures can be formulated. Past studies have documented that there is deterioration of sleep quality with aging process but studies on correlation of sleep disturbances and cognitive performance have been inconclusive. **Objective :** This cross-sectional population-based study attempts to determine if poor sleep quality is related to decrease in cognitive performance in older adults. **Material And Method :** 40 people from guwahati city, aged 55 to 70 years, who were not known to be suffering from dementia and psychiatric disorders were selected for the study . All the subjects completed questionnaires which included items on demographics, personal history, physical activity, medical and drug history and underwent a brief clinical examination. Subjective evaluation of sleep quality was done by the pittsburgh sleep quality index(pqsi) which has scores ranging from 0 to 20 with higher scores indicating poorer sleep quality .those scoring >5 were defined as poor sleepers and ≤5 as good sleepers. The cognitive performance of the subjects was assessed by the mini-mental state examination(mmse) which has scores ranging from 0 to 30 with higher scores indicating better cognition. **Results:** It was seen that poor sleepers had significantly lesser mmse scores($p=.001$) compared to good sleepers. Also there was a significant negative correlation($r= -.591, p<.0005$) between pqsi and mmse scores i.e. higher pqsi scores were related to lower mmse scores. **Conclusion:** Thus this study shows that poor subjective sleep quality is associated with decreased cognitive performance in older adults. So complaints of disturbed sleep in the elderly should not be neglected and appropriate measures should be taken to amend any sleep disturbances.

The Association Of Maternal Employment Status On the Nutritional Status In Children (3-4yrs.) Using BMI As The Basic Parameter.

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Background: Maternal employment status exerts strong influence over child's feeding practice. Thus it reflects child nutritional status. It is clearly proven ,that maternal status plays an essential role in determining child's feeding practice which may influence child's health and development in later life. **Material and Method:** The data were derived from school children of Gauhati. age group of 3-4 yrs. Samples were selected randomly from the study group Total of 35 children were taken in the study.(15 boys and 20 girls).of 3-4 yrs. study Samples are subdivided into two groups. Children of employed mothers and children of unemployed mothers. (house-wives).Both height in cm and weight in kg.weremeasured.BMI was calculated by the formula($\frac{wt.inkg}{ht.in m^2}$),to evaluate the nutritional

status. **Hypothesis:** The nutritional status (BMI) of children of employed mothers are better than that of the children of unemployed mothers. **Results:** The BMI of children of employed mothers are more (10.37-14.15) with the mean and SD of and in comparison to the BMI of children of unemployed mothers (14.7-18.75), with mean and SD of It was found to be statistically significant with $p < 0.01$. **Conclusion:** Thus, it can be concluded that there is a difference in the nutritional status between the children of employed mothers and that of unemployed mothers. This difference can be explained on the basis of food habits, breast feeding period and onset of weaning.

Effect Of Sprint Training On Audiovisual Reaction Time In Basketball Players: Randomized Controlled Trial

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Reaction is purposeful voluntary response to different stimuli as visual or auditory stimuli. As reaction time gives the information how fast a person gives a response to sensory stimuli, it is a good indicator of performance in reactive sports like basketball. It has been suggested that reaction time could be used as an index of expertise for sport-specific decision-making in basketball players. The present study was carried out to compare the effects of 4 weeks of Sprint Training on Audiovisual reaction time in basketball players. The present study is an Interventional Randomized Controlled Trial. Twenty basketball players aged 15 to 25 years were enrolled for the study. Informed consent was taken from all the participants. They were randomly distributed into 2 groups. Group- 1: Controls: Players undergoing regular training. Group-2: Players undergoing Sprint Training along with regular training. They underwent sprint training for 10 minutes a day, 5 days a week. Audiovisual reaction time was measured by Medicaid RTM -604, before starting the training and after 6 weeks of training. Sprint Interval training led to better improvement in audiovisual reaction time as compared to regular training group. Hence, Sprint Interval training can be suggested as a method to improve audiovisual reaction time in basketball players and improve their performance.

Effect Of Sprint Training On Audiovisual Reaction Time In Gymnasts: Randomized Controlled Trial

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Reaction time is the interval between the onset of a signal (stimulus) and the initiation of a movement response. Reaction time is affected by factors such as age, gender, number of simultaneous stimuli, nutrition, physical activity, training and physical fitness and fatigue. Reaction time is a decisive factor affecting success in sporting competitions. The present study was carried out to compare the effects of 6 weeks of Sprint Training on Audiovisual reaction time in gymnasts. The present study is an Interventional Randomized Controlled Trial. Twenty gymnasts aged 15 to 25 years were enrolled for the study. Informed consent was taken from all the participants. They were randomly distributed into 2 groups. Group- 1: Controls: Players undergoing regular training. Group-2: Players undergoing Sprint Training along with regular training. They underwent sprint training for 10 minutes a day, 5 days a week. Audiovisual reaction time was measured by Medicaid RTM -604, before starting the training and after 6 weeks of training. Sprint Interval training led to better improvement in audiovisual reaction time as

compared to regular training group. Hence, Sprint Interval training can be suggested as a method to improve audiovisual reaction time in gymnasts and improve their performance.

Effect Of Sprint Training On Pulmonary Function Tests In Gymnasts: Randomized Controlled Trial

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Within aesthetic sports such as figure skating and rhythmic gymnastics, physical fitness has been shown to have positive benefits on performance outcomes. For sports such as gymnasts, interval training may be appropriate because it can increase aerobic power and improve cardio respiratory endurance without the associated detrimental effects on anaerobic power. The present study was carried out to compare the effects of 6 weeks of Sprint Training on Pulmonary Function Tests and competitive performance assessment in gymnasts. The present study is an Interventional Randomized Controlled Trial. Twenty gymnasts aged 15 to 25 years were enrolled for the study. Informed consent was taken from all the participants. They were randomly distributed into 2 groups. Group- 1: Controls: Players undergoing regular training. Group-2: Players undergoing Sprint Training along with regular training. They underwent sprint training for 10 minutes a day, 5 days a week. Pulmonary Function Tests parameters of Forced Vital Capacity, Maximum Voluntary Ventilation, Forced Expiratory Volume at the end of one second were measured by USA Medgraphics Body Plethysmograph Elite DX Series Model, before starting the training and after 6 weeks of training. Their competitive performance assessment was also done before and after the intervention. Sprint Interval training led to better improvement in Pulmonary Function Tests and competitive performance as compared to regular training group. Hence, Sprint Interval training can be suggested as a method to improve pulmonary function in gymnasts and improve their competitive performance.

Relationship Between Neurocognitive Functions Of Sleep Deprived Versus Non-Sleep Deprived Adolescents Of Nagpur

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The aim of this study is to determine the effect of one night's sleep deprivation on Neurocognitive performance of subjects in the morning of following day. **Study Design:** Sleep deprivation can have an enormous impact on your health and happiness. Apparently, it can also affect your ability to make split-second decisions. Study will be carried out at Government medical college, Nagpur. Subjects will be selected from 18-22 years age group. Estimated sample size will be 60. Subjects are grouped into two categories (1) Adequate sleep duration at night [more than 7 hours, ASDN](2) Inadequate sleep duration at night[less than 7 hours, IASDN]. **sResults:** The performance showed in reaction time differed significantly from baseline. Results support the hypothesis that sleep serves a function of cognitive restitution, particularly in the maintenance of attentional mechanisms in the light of above considerations. **Conclusions:** It is concluded that short term sleep deprivation is adversely affects cognitive functions like reaction time in young adolescents.

Comparison Of Autonomic Functions Between Premenstrual And Postmenstrual Phases In Young Females.

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Objective: The aim of study is to compare autonomic functions between premenstrual and postmenstrual phases in young females. **Method:** The study has carried out on 50 normal healthy females students 17 to 25 years of age. Their detailed menstrual history has been noted and premenstrual and postmenstrual phase calculated. Premenstrual phase has taken as 1 to 7 days prior to the expected date of next menstruation and postmenstrual phase as 5th to 10th day of menstruation. The study was conducted in the department of physiology. Autonomic parameters pulse rate, systolic and diastolic blood pressure, auditory and visual reaction time were measured in pre and post menstrual phases. Data was analysed by using paired t-test. **Results:** There was significant increase ($p < 0.05$) in pulse rate, blood pressure, auditory reaction time (ART), and visual reaction time (VRT) during premenstrual period as compared to postmenstrual period. **Conclusion:** This significant increase in autonomic parameters may be due to fluid and salt retention due to exaggerated response to hormonal changes during premenstrual phase.

Pulmonary Function Tests In Yoga.

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Objective: In recent times, medical fraternity is much attracted towards yoga . In India yoga is practised over thousands of years. Now-a days many people are interested in physical fitness. It is claimed that yoga practice improve general health and physical fitness. It increases respiratory capacity of an individual. Yoga is also valuable in the treatment of respiratory diseases like COPD, asthma etc. In view of this, the study is designed to compare the effects of yoga on respiratory parameters in yogic and nonyogic healthy adult males and popularize yoga. **Method:** The study was conducted on fifty healthy adult males between 25-50 years age who were divided into two groups-a yoga (n=25)group and a control (n=25) group. The yoga group was trained in yoga for 6 months. The yoga schedule consisted of prayers, asanas, pranayama and meditation. The control group was not involved in any type of physical exercise. Pulmonary function Tests were measured with computerized MEDSPIROR in yogic and control group in seating comfortable position. **Results:** There was statistically significant increase in the values of pulmonary function tests in yoga group as compared to control group by applying Unpaired " t" test. **Conclusion:** Regular yoga practice improves the respiratory efficiency of an individual. Yoga has therapeutic, preventive and protective effects on many respiratory diseases by improving lung functions and bronchial response. From above study we conclude that yoga can be advocated to improve respiratory efficiency in healthy individuals and in respiratory patients also.

Inflammatory Markers In A Student Population

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Recent evidence indicates that obesity may be an inflammatory condition. Inflammatory cytokines secreted by adipose tissue may lead to the type 2 diabetes and cardiovascular disease. Several studies in adults have observed a significant positive association between CRP and Type 2 diabetes. This study measured the levels of inflammatory markers in young individuals aged between 18-24 years. Anthropometry, Pulse, Blood Pressure, Total & Differential count, Lipid Profile, Fasting & P.P.BSL, CRP &

Autonomic Functions were evaluated in 60 obese & non-obese students from the D.Y.Patil Medical College,Pune.Waist-Hip Ratio(0.82 vs 0.90),Pulse(72.1 vs 76.9 beats/min) & Total Cholesterol (119.4 vs 154.2 mg/dl) were significantly higher in the obese group. Autonomic functions as measured by Valsalva Ratio (1.44 vs 1.37),Deep Breath Difference (33.5 vs 29.6) were higher in the non-obese group but Systolic Pressure was lower (123.6 vs 128.5 mm Hg).However the inflammatory markers as measured by CRP (negative),TLC (7206.7 vs 7656) & DLC showed no difference in either group. The present study has thus shown that the obese group does show early signs of atherogenesis and autonomic imbalance, inflammation does not seem to play a role in this group in the present set up. Follow up studies involving a larger sample size would be helpful in delineating the role of inflammatory markers, if any.

Differential Modulation Of Sympathetic And Parasympathetic Influences During Different Yoga Asanas: Understanding The ‘Process’

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Yoga has attracted much attention in recent times driven by interest in health benefits associated with practice of Yoga. While ‘Outcome Research’ has shown clinical benefit in various lifestyle disorders, the ‘process research’ has not kept pace and there is dearth of information on underlying physiological mechanisms and whether there is any specificity to changes associated with different yoga processes. Present study, under the ongoing Indo-German Collaborative Research on Neuroscience of Yoga, is a pilot investigation related to ANS modulation during different yoga asanas (postures). Experienced yoga practitioners performed seven different yoga asanas per protocol in 5-minute blocks. Multiparametric recording (ECG, Respiration: bilateral nasal breathing, Core Body Temperature, Pulse & SPO₂) was made with VitalLog and analysed with ChronoLogic software. Significant increments and decrements in heart rate variability (LF/HF ratio) from baseline were observed during performance of different asanas. Results demonstrate that different yoga asanas cause differential modulation of sympathetic and parasympathetic components.

Association of Obesity Assessed Differently in Either Gender with Blood Pressure in Gujarati Indian Schoolchildren

Vivek Verma, S.K.Singh

Background: As per the available literature, the body fat has a definite association with blood pressure in children and adolescents. The body fat level has different criteria in either genders to label it as low, normal, high normal and high. The idea was to test the association of body fat with blood pressure using separate criteria of fatness for either gender in Gujarati Indian schoolchildren. **Method:** 733 Gujarati Indian schoolchildren of 10-18 years were enrolled in this cross-sectional study. The body fat and the blood pressure of these subjects was measured with recording their age, sex, height and weight. The body fat was categorized as low, normal, high normal and high according to Lohman (1986) and Nagamine (1972) criteria. One way ANOVA for comparing blood pressure of individuals with low, normal and high body fat was used for the statistical analysis. **Results And Conclusion:** The systolic blood

pressure and pulse pressure were significantly higher in boys with high normal and high body fat percentage in comparison to the blood pressure values of boys with low body fat. The Girls did not have any significant rise in blood pressure with high normal and high body fat percentage.

Correlation Of Duration Of Disease With Pulmonary Function Tests In Patients With Type 2 Diabetes

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Introduction: Diabetes Mellitus (DM) is a metabolic disorder precipitating micro vascular, macro vascular complications and peripheral vascular diseases. DM affects almost all the organ systems in the body producing biochemical, morphological and functional abnormalities mainly of collagen and elastin. The alterations in these scleroproteins in turn affect the mechanical behaviour of the lungs manifesting in altered lung volumes measured by pulmonary function test. **Aims & Objectives:** The purpose of this study was to evaluate pulmonary functions in patients with type 2 diabetes mellitus (T2DM) and to determine their correlations with duration of diabetes. **Materials & Method:** The study was carried out on two group- 30 diabetic and 30 control group in the pulmonary function laboratory, Department of physiology, Govt. Medical College, Bhavnagar. **Results:** Even though Type2 diabetic patients did not have any respiratory symptoms they did have underlying subclinical altered patterns of lung functions. **Conclusion:** Spirometry remains a cost effective, a simple non-invasive diagnostic tool and its judicious use can give warning signal for patients to prevent respiratory complications.

A Comparative Study Of Two Relaxation Techniques In Medical Students

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Introduction: In the present lifestyle, stress and anxiety have become part of everyone's day to day life. Stress experiences often lead to various chronic health conditions like hypertension, coronary heart diseases and psychiatric disorders. Students are more prone to anxiety and often display characteristic symptoms of anxiety. Studies have been done in past to achieve relaxation using various techniques. In this study we have studied immediate effects of two relaxation techniques (progressive muscle relaxation & relaxation music) on state anxiety and sustained attention in medical students. **Aims & Objectives:** To compare effects of two relaxation techniques on state anxiety and sustained attention. **Materials & Method:** 50 healthy medical students from govt medical college, surat were taken for the study and divided into two groups: first 25 practiced 20 minutes progressive muscle relaxation while the second group of 25 practiced 20 minutes relaxation music. State anxiety was assessed using the state trait anxiety inventory and sustained attention was assessed using six letter cancellation and digit letter substitution tests. All tests were done immediately before and after practice. **Results:** A significant reduction in state anxiety score ($p < 0.001$) was observed for both the groups. For the sustained attention tests, there were significant increase ($p < 0.001$) in scores by both group. Intergroup comparison suggests significant ($p < 0.001, p < 0.05$) effectiveness of progressive muscle relaxation as compared to relaxation music. **Conclusion:** We can conclude that both relaxation technique are equally efficient in reducing

anxiety and increasing attention, with progressive muscle relaxation more effective than relaxation music.

A Comparative Study Of Pulmonary Function Test Amongst School Children Of Industrial & Non Industrial Areas Of Raipur (C.G.)

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Introduction- Pulmonary function testing is an important tool in the diagnosis, assessment and management of respiratory diseases. Being an industrial hub Raipur (Siltara&Urla), exposure to high level of air pollution in ambient air has lead to lung function impairment in susceptible group (children). **Aims And Objectives** - To study & compare the PFT in school children of Industrial area and non Industrial area & assess the future risk & degree of lung function impairment amongst school children of industrial area. **Material and Method-** The study was conducted in a school of industrial area (Birgaon, urla) & non industrial area (Mana Camp) from Apr. to Aug. 2012 in Raipur (C.G.). Children included were healthy 200 cases & 200 controls between 11-18 yrs. Exclusion criteria include children having previous h/o PTB and RTI 4 weeks prior to spirometry. Computerised Spirometric evaluation done through HELIOS 501 after measurement of Height, Weight, BMI& Waist circumference. **Results-** On Comparison of Cases with Controls, Spirometric parameter FVC, FVC in relation with Age, FEV1, FEV1/FVC & Lung Age were found to be highly significant ($p < 0.0001$). PEFR, FEF25%- 75%, FEF25% & FEF50% were Not significant ($p > 0.05$). **Conclusion-** There were significant deficit in spirometric parameters in industrial area children. FVC, FEV1, FEV1/FVC & Lung Age having higher sensitivity (main indicators to be affected under influence of air pollution).

Attitudes About Health Related Issues Among Undergraduate Students of Health Professional Courses

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Introduction: Medical council of India in its vision 2015 document planned to implicate new teaching guidelines for undergraduate medical students. In foundation course expert committee has proposed subjects like yoga, naturopathy, sports, computer, English & basic knowledge of Anatomy, Physiology& Biochemistry. As the medical students are future doctors, people expect basic knowledge of healthy lifestyle from them. Keeping in mind this we tried to evaluate knowledge & attitude regarding some health related issues among undergraduate medical students & compared that with Nursing & DMLT students. **Aims & Objectives:** 1) To access the knowledge & attitude regarding health related issues in undergraduate health professionals. 2) To compare knowledge regarding health related issues in MBBS, NURSING & DMLT students. **Materials & Method:** Predesigned, Pretested, Validated questionnaire comprises questions regarding family health care education of total 30 questions (like breast feeding, TB, contraception..) was distributed amongst 1st year MBBS, NURSING & DMLT students, studying at Govt. medical college, Bhavnagar, after taking consent from students for participating in the study (n=220). **Results:** All medical, nursing, DMLT students have true knowledge regarding exclusive breast feeding. In question regarding reuse of condom we found less awareness among female compare to male in all the groups. They are not aware that health care provider can help couple deciding contraception (10.14%). Half of female students doesn't know about symptoms of Tuberculosis.

Conclusion: Looking at the result of present study, it is advisable that foundation course should also include the subject of healthy life education in first MBBS, Nursing and DMLT.

QT Dispersion & Left Ventricular Hypertrophy In Essential Hypertensive Patients

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Introduction –QT interval measured on the surface electrocardiogram (ECG) reflects the time for repolarization of myocardium .Prolongation of rate corrected QT interval (QTc) is strongly associated with sudden cardiac death. Ventricular wall thickness & inhomogeneity in ventricular repolarization process has been speculated. Left Ventricular Hypertrophy (LVH) in hypertensive brings usually a complicated course of disease. QT dispersion (QTd) is a simple, noninvasive& useful electrophysiological parameter to study outcome of the disease in hypertensive patients with or without left ventricular hypertrophy. **Aim-** To evaluate QT dispersion in hypertensive patients with or without left ventricular hypertrophy LVH & to compare with normal age & sex matched control group. **Methods**—30 male hypertensive subjects (38 to 60 years) were evaluated for 12 lead ECG & compared with those of healthy age & sex matched controls (Group I).All hypertensive subjects were categorized into Group IIA (hypertension without LVH)& Group IIB (hypertension with LVH). All subjects were analyzed for QT interval, Corrected QT interval (QTc) & QT dispersion (QTd).QTd was obtained by the difference between shortest & longest QT interval.LVH was diagnosed by 2D echo as left ventricular mass index > 134g/m² was considered. **Results-** QTd was significantly increased in hypertensive groups compared to control group. Mean QTd was significantly higher in patients with LVH than non LVH group. Group I - 31.9+ 9.7 ms (p<0.005), Group II - 52.1+15.1 ms (p<0.001), Group IIA- 49.2 + 9.5 ms (p< 0.005) , Group IIB – 64.0+23.7 ms (p<0.005). **Interpretation-** This finding suggest that in hypertensive patients electrical changes in left ventricular myocardium lead to structural & morphological abnormalities which are responsible for increase in ventricular muscle mass. Increased ventricular thickness prolongs repolarization phase which is responsible for generation of various ventricular tachyarrhythmia. The changes in QT dispersion are dynamic & it may serve as a non-invasive marker of susceptibility to malignant ventricular arrhythmias. **Conclusion-** Authors recommend to look after LVH presence in hypertensive as it carries much more complicated course of disease. Measurement of QTd adds further stratificational information in these patients.

Prevalence Of Helicobacter Pylori Infection In Peptic Ulcer Disease Patient In Manipur – A Preliminary Study.

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Objective: Helicobacter Pylori, a gram negative micro-aerophilic bacterium has been strongly linked aetiologically to peptic ulcer disease. The aim of the study was to assess the prevalence of H. pylori infection in Peptic Ulcer Disease(PUD) patients attending Regional Institute of Medical Sciences, Medicine out patientdepartment.**Material And Methods :** 1 ml of fresh venous blood was collected in a syringe. The H. pylori antibody test for qualitative detection of Isotope (IgG) antibodies specific to H. pylori was done and results analysed. **Results:** From 40 PUD cases analysed The mean age was found to be 32.275± 6.67 years. The male female ratio was 1.5:1. Out of the 40 cases screened 8 cases were found to be having H. pylori positive. **Conclusion:** A high prevalence of H. pylori infection was found in

PUD patients. However as the study is still progressing therefore the exact prevalence is still not known. H. pylori antibody test is a easy, rapid, cost-effective and well suited for screening purpose.

Body Mass Index And Waist Hip Ratio In Vegetarian And Non Vegetarian Healthy Young Adults – A Pilot Study

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Introduction: The prevalence of obesity has been found to be increasing in India. Obesity is associated with chronic diseases like coronary heart disease and diabetes mellitus. Several studies regarding diet and obesity suggest strong relationship with vegetarians exhibiting less central deposition of fat. Non vegetarians have increased mortality from ischemic heart diseases. **Aim:** The study was aimed to assess the effects of vegetarian and non vegetarian diet on body mass index and waist hip ratio of young healthy adults of male and female of same age group. **Material and Method:** 31 healthy young vegetarians and 31 non vegetarians were selected as the study groups and answered a food questionnaire. They were given a comprehensive health questionnaire and scheduled for measurement of anthropometric studies. Height was measured by using stadiometer and weight was measured by using balance beam scale. Waist circumference and hip circumference were measured in centimeters using a non stretchable tape. Body mass index and waist hip ratio were calculated. **Results:** The data's were analyzed with Students t test. The p value of body mass index was 0.0236 and statistically significant. The p value of waist hip ratio was 0.001 and statistically more significant. While comparing with vegetarians, the non vegetarians had increased waist circumference and weight. This indicates the relationship between non vegetarian diet and obesity. **Conclusion:** The pilot study signifies the high prevalence of obesity/overweight amongst subjects those who consume non vegetarian diets.

Assessment Of Psychological State Among First Year Students Of A Medical College At Rajasthan

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Objective: To determine the prevalence of anxiety among first year medical students at MG Medical College, Jaipur. **Method:** A cross-sectional study was carried out at MG Medical College, Jaipur on 150 medical students who had spent more than 6 months in college and had no self reported physical illness. Demographic variables of the students included age, gender, weight, height and BMI. Prevalence of anxiety was assessed using a structured validated questionnaire, The Hamilton Anxiety Scale (HAM-A) with a cut-off score for various levels of anxiety. They were subjected to the questionnaire both prior to and during the examination and data analysis was done using SPSS v.17. **Results:** Mean age of the study participants was 19.76 years with 1.3 SD. HAM-A before exams accounted at 46.7% for the students who did not complain of anxious moods. 37.3%, 14%, 2%, 0% complained of mild, moderate, severe and very severe symptoms of anxiety respectively. During the period of examination a decline in the distribution of subjects from the symptom being not present to being very severe for all the 14 items of the scale was observed. On application of 't' test none of the parameters of the anxiety scale showed any statistical association. Mild anxiety was accounted maximally among both boys and girls, before (Boys: 57.33%, Girls: 38.66%) and during exams (Boys: 56.66%, Girls: 39.33%). There was no significant association between the prevalence of anxiety and examination period. **Conclusion:** It was seen that

medical students do not constitute a vulnerable group for the prevalence of psychiatric morbidity in the form of anxiety.

Prevalence Of Anemia In Pregnant Women At Coimbatore District-Tamilnadu

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Background: Anaemia is the most common indirect cause of morbidity & mortality in pregnant women and it is one of the India's major Public health problems, despite the fact that this problem is largely preventable and easily treatable. **AIM & OBJECTIVE:** To observe the Prevalence of Anaemia in pregnant women at Coimbatore District and to correlate the anaemia with its various determining factors. **MATERIALS:** 280 pregnant women of age between 18-36yrs. They were randomly selected from outpatient department of obstetrics at Coimbatore Medical College Hospital. Pregnant women with other associated complications were excluded. **Methodology:** Study was conducted by History taking, Clinical examination and Haemoglobin estimation which were done by Sahli's method. Peripheral smear slide preparation was done to observe the Pattern of Anaemia. **Results:** Statistical analysis was done by Percentages and Chi-square test. With this study, a high prevalence (80%) of anaemia was observed. Among them 20% belonged to mild degree, 62% belonged to moderate degree, 18% belonged to severe degree of anaemia. According to pattern of anaemia, 76% were Microcytic Hypochromic, 20% were Dimorphic, and 4% were Normocytic Normochromic anaemia. Severity of anaemia was more in the age group of 22-25 yrs, those who were educated up to Primary level and parity of two or more and women with more than two abortions, were not having any statistical significance. However, anaemia prevalence was significantly higher in those with less than 2yrs of spacing, with less than two months of IFA tablets consumption and those in 3rd trimester. **Conclusion:** By this study, it was concluded that, high prevalence of Anaemia and Microcytic Hypochromic pattern of Anaemia is more common. It needs mandatory regular supply of Iron and Folic acid tablets. This should be given to pregnant women from 4th month of gestation to 6 months of post partum period.

Gender Differences In Cardiovascular Response To Isometric And Isotonic Exercises In Normotensive Individuals

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Background: In recent years physical exercise has gained prime importance in public life for its enormous health benefits. Exercise is a form of stress leading to circulatory and respiratory adjustments in the body. These adjustments depend upon the specific types of exercises, isometric or isotonic. During an acute bout of exercise, cardiac output increases in direct proportion to the increase in oxygen uptake. The changes in cardiac output and pulse rate during exercise may differ between men and women. **Aim & objective:** The aim of the study was to analyze the difference in the cardiovascular response to isometric & isotonic exercises between healthy young males and females. **Materials & Method:** Study Group: The study was conducted on young volunteers of 50 males and 50 females of first year MBBS students. The baseline cardiovascular parameters like Pulse Rate (PR), Systolic Blood Pressure (SBP), and Diastolic Blood Pressure (DBP) were measured before the exercise. **Methodology:** Isometric exercise was performed with 3 types of upper extremity exercises which include Handgrip

Dynamometer until voluntary exhaustion, two repetitions of pushing against the wall firmly with outstretched arms, hands clasped together, brought close to the chest. All these done for 3 min and Isotonic exercise was done in Computerized Bicycle Ergometer for 3min. Blood pressure & Pulse rate were recorded immediately after exercise. **Results:** The results were statistically analyzed by Student t test. There was no significant difference in the baseline cardio vascular parameters between males & females. In case of isometric exercise, the post exercise SBP shows significant raise ($p < 0.0001$) in males than in female participants whereas DBP & PR didn't show significant differences between them. In case of isotonic exercise SBP, PR raised significantly ($P < 0.0001$) whereas DBP decreased. This difference was more pronounced in males, as compared to females. This was due to the sympathetic activation during the exercise and the males have better pressor response than the females. **Conclusion:** In both isometric & isotonic exercises males attained a higher systolic blood pressure than females. Diastolic blood pressure was increased in isometric and decreased in response to isotonic exercise. This was more pronounced in males than females. From this study it was found that males were typically stressing their cardiovascular system more than females in isometric exercise.

A Comparative Study To Analyse The Pr, Qt, R-R Interval, Between Males And Females In Baseline Ecg In Healthy Young Adults

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Background: Gender difference has some impact on Baseline ECG in healthy young adults. While recording baseline ECG as a routine health check up, it should be kept in mind that prolonged PR interval in males and short R-R interval in females could be possible. So the study was undertaken to observe the gender differences in PR interval, R-R interval and QT interval in normal young adults. Aim and objective: To observe the differences in PR interval, QT interval, R-R interval in baseline ECG among males and females in healthy young individuals. **Materials:** A total of 100 healthy students (50 males and 50 females) in the age group of 18-25 years were included in the study. They were screened by history to exclude cardiovascular and other abnormalities. **Methodology:** Lead II ECG was taken using standardized ECG machine. Then PR interval, QT interval, R-R interval were measured using standard guidelines and calculated on five consecutive beats and average was taken which reveal individual values. QTc interval was obtained by using Bazett's formula. **Results:** The results were statistically analyzed by using unpaired 't' test. The mean PR interval value for males was (0.18) higher than that of females (0.14). The difference was statistically significant. ($P < 0.0001$). Mean QTc interval for males was (0.39) and for females was (0.38), the difference is not statistically significant. ($P = 0.6621$). Mean R-R interval for males was (0.89) and for females was (0.54), the difference was statistically significant. ($P < 0.0001$). **Discussion:** Differences in Atrioventricular nodal anatomy, autonomic tone and ventricular muscle mass were the explainable reasons for gender variation in PR interval. High sympathetic tone and basal metabolism were reasons for short R-R interval in females. **Conclusion:** It was observed that gender differences have some impact on PR interval and R-R interval (Heart Rate) not on QT interval. PR interval and R-R interval both are more prolonged in males when compared to females.

Comparative Study On Placement Of Inverting Electrode To Produce Reliable Vestibular Evoked Myogenic Potential

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Background: Vestibular evoked myogenic potential is an otolith mediated short latency evoked potential recorded from tonically contracted sternocleidomastoid muscle in response to intense auditory click delivered via headphones. The VEMP arises from modulation of background EMG activity and differs from neural potentials in that it requires tonic contraction of the muscle. Emergence of VEMPs has created new opportunities to gain insight into the functional status of saccule and inferior vestibular nerve. VEMPs are a relatively innocuous technique for assessing otolith function. **Aim:** To compare the latencies and amplitude of VEMP response obtained from four different inverting (References) electrode placements. **Material and Method:** 22 healthy subjects of age groups between 17 and 26 years without previous history of otological and neurological diseases were involved in the study. Auditory click stimulus with an intensity of 100dB aHL, 500Hz presented to both ears via headphone at a stimulation rate of 5/sec and averaged for 200 presentations. The inverting electrodes were placed over bony prominence in four different locations like sternum, wrist, mastoid and forehead and the vestibular evoked myogenic potential response in waveforms p13, n23 latency and amplitude were recorded from tonically contracted sternocleidomastoid muscle by stimulation of both ears simultaneously (binaural) and unilaterally (monaural). The averaged waveforms of VEMP was analyzed and data were evaluated using SPSS-15. **Results:** One way ANOVA showed statistically significant difference between P13 latency across different inverting electrode locations ($p < 0.05$). No significant difference between N23 latencies. One way ANOVA showed significant difference in P13-N23 amplitude between inverting electrode locations ($p < 0.05$). The inter-amplitude difference ratio was significantly high for sternum inverting electrode compared to other sites. **Discussion:** The sternum inverting electrode resulted in a higher amplitude response for both ipsilateral and contralateral recordings. This suggests that placement of inverting electrode influence VEMP response and sternum as inverting electrode can be used to produce robust and reliable VEMP response.

A Study On Effect Of Aerobic Exercises On Blood Cholesterol And Body Mass Index

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Background – Aerobic training can be considered any physical activity that elevates our heart rate to its target heart rate and maintain that level for a minimum of 20 consecutive minutes. Some examples of aerobic exercise are briskly walking, jogging, running, cycling, exercising on a treadmill etc. Aerobic activities are performed for a longer period of time and at a moderate level of intensity. Studies are being carried on to establish the beneficial role of aerobic exercises on reduction of blood cholesterol and BMI which are the major risk factors for heart diseases. **Objectives** – This study intends to see 1) Effect of aerobic exercise on total blood cholesterol. 2) Effect of aerobic exercise on Body Mass Index. **Material and Method** – The study was carried on 20 male subjects in age group of 40 – 50 years. Their BMI and fasting total blood cholesterol were measured. The subjects are non smoker, non alcoholic, do not suffer from diseases like diabetes, hypertension, heart disease and are not on any medication that can affect total cholesterol level. They were allowed to exercise on the treadmill 4 days per week for 20 minutes for 12 weeks. All the subjects were allowed to take same standard diet. Their total cholesterol and BMI were again measured after completion of the exercise schedule. **Results** – At the end of the exercise schedule the cholesterol level came down from 219.9mg/dl to 190.7mg/dl ($p < 0.05$) which is a significant reduction. The BMI came down from 27.7kg per sq metres to 26.87kg per sq metres ($p < 0.05$)

which is also a significant reduction .**Conclusion** – This study shows that aerobic exercise can reduce total cholesterol and BMI. By reducing total cholesterol and BMI aerobic exercises if practiced regularly can improve cardiovascular health and prevent heart disease .

Effect Of Pranayama And Meditation In Reducing Stress

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Background: Growing Technology.....Novel Inventions.....Mechanical Life..... Increasing Stress
How to fight out the stress which has become inevitable in our day to day life and how to increase the quality of life? Pranayama and Meditation gives the answer since years together. Still the essence of that doesn't reach many, pushed me to do the study and wants many to taste it's honey. This is a progressive cohort study done in healthy volunteers from final year MBBS. **Aim:** To assess the effects of Pranayama and Meditation in reducing the level of stress in final MBBS students. **Materials & Method:** 50 healthy volunteers from final year MBBS in whom medical and psychiatric disorders being excluded, were chosen for the study. DAS SCALE (DEPRESSION, ANXIETY, STRESS SCALE) stress questionnaire was given and scoring done to assess their stress level. Galvanic skin response (GSR) was recorded by using polygraph in sitting posture with eyes closed, every 5 minutes for 20 minutes. Along with GSR, HR & BP were recorded using BP one fully automatic BP monitor and RR counted. Suspension of respiration was recorded using stethograph. Students were taught how to do Pranayama and Meditation and were asked to practice the same for 45 days, 20 minutes in morning & evening. At the end of 45 days the same parameters – stress questionnaire, GSR, HR, BP, RR & respiratory suspension time were recorded and compared with the previous results. **Results & conclusion:** The results were analysed using paired 't' test. There was significant increase in the galvanic skin response, reduced stress level revealed by DAS scale and increased respiratory suspension time, which shows Pranayama and Meditation has role in reducing the level of stress.

Effect Of Sprint Interval Training On Nerve Conduction Velocity In Prediabetes: A Randomized Controlled Trial

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Background: Between 25% and 62% of patients with idiopathic peripheral neuropathy are reported to have Prediabetes, and among individuals with Prediabetes, 11–25% are thought to have peripheral neuropathy, and 13–21% have neuropathic pain. Current recommendations for improving glycemic control involve performing moderate intensity aerobic exercise for several hours per week. However, general population fails to follow such regimes due to lack of time, motivation and adherence. This suggests that the current focus on time-consuming moderate intensity physical activity may not be optimal for reducing risk of developing Type 2 Diabetes. **Purpose:** To compare Sprint Interval Training (SIT) & traditional aerobic exercise (AE) with respect to changes in Nerve conduction velocity (NCV) in Sural & Median Nerve in Prediabetes. **Study design:** Randomised controlled trial. **Method:** Sample size determined using openepi software. 44 males aged 25 - 40 years having Prediabetes were enrolled and randomly allocated to SIT & AE groups. SIT group exercised at high intensity for 10 minutes a day, 3 days a week. SIT group performed Sprint training in 1:1.5 ratio i.e. one minute of all out sprint followed by one & half minute of cooling down, completing four such cycles per session. AE group exercised as per

ADA guidelines i.e. daily 30 minutes of moderate intensity exercise for 5 days a week. NCV in Sural & Median nerve & Audiovisual reaction time were evaluated before intervention and 6 weeks after intervention. **Conclusions:** SIT can be suggested as a time efficient exercise protocol for improving NCV in Prediabetes.

Body Composition In Type 2 Diabetes Mellitus

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Objective: To study the association of type 2 diabetes mellitus with body composition. **Method:** A total of 50 type 2 diabetic patients were taken for the study. Body fat% and BMI is measured by using OMRON BODY FAT MONITOR (HBF -306). Waist and hip is measured by using a measuring tape. Glycated hemoglobin (HbA1c) is measured by using high performance liquid chromatography. Statistical analysis was done by using student T test and Pearson's correlation. **Result:** The mean age of the diabetic patients was (55.37±11.07), mean body fat% was (31.59±6.93), mean BMI was (25.5±3.41), mean HbA1c was (7.64±1.82), waist /hip ratio was (0.98±0.09). The association of body fat% and BMI ($r=0.64$), body fat% and HbA1c ($r=0.13$). **Conclusion:** The study showed that there is significant association between body fat% and BMI but no significant association between body fat% and HbA1c.

A Study To Determine The Correlation Between Body Fat Content And Maximum Aerobic Capacity In Healthy Medical Students

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Obesity is a recognised public health problem and risk factor for many cardiovascular conditions. One of the important parameters used to assess cardiovascular fitness is maximum aerobic capacity or VO₂max. The correlation between body fat content and VO₂max has been sought by various studies but results have been conflicting. 104 male medical students (Mean; age-21 yrs; height-171.4 cm, weight-64.1 kg) were randomly selected and evaluated for body fat content using BMI, bioimpedance, skin fold thickness, body girth measurements, waist circumference and waist-hip ratio. Maximum aerobic capacity or VO₂max for all subjects was determined indirectly from maximum heart rate achieved using an incremental treadmill protocol and Astrand & Astrand nomogram. Maximum aerobic capacity when expressed in L/min showed a statistically significant positive correlation with body fat by all methods of estimation. Maximum aerobic capacity when expressed in ml/kg/min showed negative correlation with 5 of the 7 parameters of fat estimation. Of these statistically significant negative correlation was seen with skin fold thickness method. The positive correlation between VO₂max in L/min and body fat is the result of increased total energy expenditure observed in obese individuals. This is positive correlation does not remain when VO₂max is corrected for body weight and expressed in ml/kg/min. The negative correlation between VO₂max in ml/kg/min and body fat is probably due to increased non exercising body mass. The relationship between body fat content and maximum aerobic capacity is determined by characteristics of the study population, methods of estimation of body fat and protocol used for determination of VO₂max.

A Study Of Exercise Stress Testing In Asymptomatic Diabetics

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Background And Objectives: Coronary artery disease (CAD) is a common cause of premature morbidity and mortality in diabetics and is often asymptomatic because of silent myocardial ischemia. Early detection of silent myocardial ischemia may prevent catastrophic cardiac events. The objectives of the present study were to study the prevalence of asymptomatic coronary artery disease in diabetics and to study the relation of asymptomatic coronary artery disease with severity, type and duration of diabetes.

Material and Method: The present one year observational cross sectional study was conducted at Gurugobind Singh hospital, Jamnagar during the period of January 2011 to December 2011 in 50 asymptomatic diabetic patients without clinical evidence of coronary artery disease. All the patients attending to medicine OPD, diabetic clinic and indoor admissions at Gurugobind Singh hospital, Jamnagar were screened for eligibility. The eligible patients were administered an informed consent. The consented patients were enrolled in the present study. Descriptive data of the participants like name, age, sex, personal history, occupation were recorded by interviewing the patients. In each of the patients proper history and clinical examination was done. All of them had normal 12 lead ECG. **Results:** In the present study out of 50 patients, TMT was positive in 16(32%) and negative in 34(68%) patients. TMT was positive in 5/28(17.85%), 4/12(33.33%), 4/6(66.66%) and 3/4(75%) patients with duration of diabetes ≤ 5 , 6 to 10, 11 to 15 and 16 to 20 years respectively. **Conclusion And Interpretation:** The prevalence of asymptomatic coronary artery disease in diabetes mellitus without past history of ischemic heart disease or hypertension is 32%. Longer the duration and poor control of diabetes, greater the risk of asymptomatic coronary artery disease.

Klinefelter Syndrome A Basket Of Systemic Disorder

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Introduction: Klinefelter's Syndrome (KS) Is The Most Common Genetic Form Of Male Hypogonadism With Prevalence Rate 1-2/1000 Male Newborns. In India More Than 90% Cases Remain Undiagnosed. KS Commonly Presents As Infertility With Azoospermia To Gynaecologists And Are Advised Gamete Donation Without Proper Investigations. Their Final Diagnosis And Associated Conditions Remain Untreated Lifelong. Aim: Aim Of Present Study Is To Raise The Awareness Of Clinicians About The Complete Work Up For Hypogonadism And Chromosomal Anomaly Which May Be A Major Trigger In Background While Treating The Systemic Disorders With History Of Male Infertility. Case Summary: In 2006, A 23 Year Old Male Presented For Treatment Of Primary Infertility With History Of Poor Libido, Scanty Beard Growth, Learning Disability, And Poor Academic Performance. On Examination, He Had Poorly Developed Secondary Sexual Characters With Eunuchoid Habitus, Grade 2 Sexual Maturity Rating (SMR), Small (Firm, Peanut Size And Volume 2.5 MI) Testes, Patient's Vertical Height Was 185 Cm, Arm Span Was 192 Cm And Body Mass Index Was 25. Semen Analysis Suggested, Scanty Semen Volume Of 0.5 MI With Azoospermia. Hormonal Analysis Suggested, FSH 68 Miu/MI, Testosterone 46 Ng/Dl. Karyo Typing – 47 (Xxy), Which Confirmed Diagnosis Of KS. He Was Advised Lifelong Testosterone Replacement Therapy (TRT) And Gamete Donation. He Turned Up After 6 Years As Secondary Infertility With Discontinued TRT, Abnormally Developed Truncal Obesity (Weight Increased From 84 Kg To 112 Kg And BMI 33), Gynaecomastia And Chronic Leg Ulcer, Which Didn't Healed Even After Receiving Laser Ablation And Sclerotherapy. His Current FSH Is 88 Miu/MI, Testosterone Is 32 Ng/Dl, Haemoglobin Is 12.2 Gm%. He Has Hypertension With Concentric LVH. Other Serum Biochemistry Was Normal. Conclusion: The Present Case In Absence Of TRT, Developed Severe Hypogonadism, Syndromic Obesity, Chronic Leg Ulcer, Early Cardiovascular And Haemopoietic Disorder. This Low Immune Status Person In

Future Needs Constant Surveillance For Many Fold Risk Of Autoimmune Disorders, Breast Cancer, Various Malignancies Like Lymphoma, Leukemia, Metabolic And Degenerative Diseases Specially Hypothyroidism, Diabetes, Osteoporosis, Early Andropause Etc. In Such Patient TRT In Addition To The Specific Conventional Treatment May Be A Promising Approach.

Digit Ratio (2nd And 4th Digit) In Myocardial Infarction (Coronary Artery Disease).

Pradhnya Tirpude, M.M.Sagdeo and Amit Tirpude.

Background: Digit ratio, such as the second to fourth digit ratio (2D:4D), is biometric markers that is influenced by estrogen and testosterone concentrations in utero and is determined genetically by *HOX* genes (homeodomain-containing homeotic genes). Sex steroids also play a crucial role in the occurrence of myocardial infarction (MI), which is considered to be gender dependent and related to testosterone.

Objective: The aim of this work was to study digit ratio (2D:4D) in Nagpurian population and assess their clinical importance as markers of predisposition to MI. **Method:** Two samples were used: a group of Nagpurian men and women hospitalized with MI, and a control group of healthy Nagpurian men and women of the controlled stratified age. Finger lengths were measured twice for both hands using mechanical vernier caliper. In the results, digits were designated as 2D (second digit) 4D (fourth digit).

Results: A total of 338 Nagpurian men and 100 Nagpurian women with MI were recruited (mean [SD] age, 58.6 years for men; 59.2 years for women). The control group consisted of 367 healthy Nagpurian men and 102 healthy Nagpurian women (mean age, 52 years for men; 50 for women). In the control group, 2D:4D ratio was significantly higher in women than in men (mean 2D:4D for right hand males 0.97 and females 0.99 ($p < 0.001$)). The mean values of 2D:4D ratios appeared to increase in the following order: healthy men < men with MI < healthy women < women with MI, although this difference was not statistically significant. In men with MI, 2D:4D was significantly higher than the respective ratios in healthy men (2D:4D: right hand, $P = 0.001$; left hand, $P < 0.01$) but no significant differences were observed in the ratio between women with MI and healthy women. **Conclusion:** Digit ratio 2D:4D may be useful biomarkers for predisposition to MI in Nagpurian men, but not in Nagpurian women. Sexual dimorphism of digit ratios was present in both groups and was independent of the individuals' health status.

The Study Of Leukocyte Count During Menstrual Cycle In 1st MBBS Students Of Regional Institute Of Medical Sciences (RIMS), Manipur.

Sp Rosemary Anal

Resident, RIMS, Imphal

Background: To study the Leukocyte count and to find out any cyclical variations in different phases of menstrual cycle in 1st MBBS RIMS. **Method:** The study was conducted in Department of Physiology, RIMS. 19 apparently healthy students of 1st MBBS aged between 18-25 yrs were studied. Three blood samples of 1ml each were collected in an EDTA vial. First sample was collected within 48hrs of the onset of menstruation, 2nd sample during 8th to 10th day (proliferative phase) and third sample during 22nd-24th day (secretory phase) of menstrual cycle. The count was made under Compound microscope in an Improved Neubauer's counting chamber using Turk's fluid. Statistical analysis was done using one way ANOVA. **Results:** In 3 phases of the cycle the mean value of Total leukocyte count were 8810 ± 1107.9 (menstruation), 86474 ± 1101.6 (proliferative), 89474 ± 1001.8 (secretary) with $p = 0.6$ and

Differential neutrophil count were 63.842 ± 3.95 (M), 32.894 ± 4.22 (P), 64.736 ± 4.33 (S) with $p=0.001$ and Differential eosinophil count were 1.6316 ± 0.59 (M), 1.315 ± 0.4776 (P), 1.315 ± 0.4776 (S) ($p=0.004$). **Conclusion:** Above results show that there is a cyclical variations of Total leukocyte count in different phases of the cycle but was not statistically significant. However, in case of Differential neutrophil and eosinophil count, the variations were statistically significant. But as compared with other studies, the results were still inconclusive and contradictory.