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Cost-Benefit Analysis of a Community-Based Stroke Prevention Program in Bao Shan District, Shanghai, China

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ABSTRACT

Background: Stroke is a serious problem faced by society. This disease brings not only health problems to individuals suffering from it, but also a serious economic burden to patients and their families. Moreover, it reduces social benefits and the labor force. Therefore, it is important to think about the efficient control and prevention of this disease. It is well known that hypertension is the main cause of stroke. In Bao Shan District, located in Shanghai, China, a community-based prevention program has been in place since 1995. The program is trying to reduce the number of stroke patients and the costs to treat them, mainly by hypertension control and treatment.

Objectives: The purpose of this paper is to show the data, describe the results and give a cost-benefit analysis of the program according to data from 1995 to 1997.

Methods: The data is calculated by using the method of cost-benefit analysis.

Results: According to the cost-benefit analysis of the program, because the incidence of stroke goes down after the hypertension prevention work is taken, the 16 patients will not face economic loss because of stroke after the prevention. This is the biggest benefit of this community-based program. The input of this program is RMB 293,573 and the output is RMB 1,062,204; the ratio of cost and benefit is: cost: benefit=1:3.57. (The official currency of the People's Republic of China; RMB/USD currency exchange rate is 1: 0.1473).

Conclusion: The economic burden and the Cost-Benefit Analysis can provide important data to the medical and public health departments in order to make the pertinent prevention policy.

Keywords: Cost-Benefit, Hypertension, Prevention, Stroke

Effect of *Bacopa monnieri* on Cognitive functions in Alzheimer's disease patients

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ABSTRACT

Background: Alzheimer's disease is a degenerative condition mostly affecting the elderly. It significantly affects the patient's quality of life. So far there is no proven effective therapeutic intervention for such patients. *Bacopa monnieri* is an indigenous plant which is found throughout India. It has been referred in Ayurveda since centuries as a "Medhya Rasayan" (nootropic). Studies have shown various effects of *Bacopa monnieri* among which is its inhibitory effect on the enzyme cholinesterase. This can result in decrease in the breakdown of acetylcholine, an important neurotransmitter whose decreased levels are seen in Alzheimer's disease.

Aims & Objectives: We conducted this study to evaluate the effect of *Bacopa monnieri* on cognitive functions in Alzheimer's disease patients.

Study Design: This was an open label, prospective, uncontrolled, non-randomized trial. Study population included all newly diagnosed patients of Alzheimer's disease in the Psychiatry Outdoor Patient Department between 60-65 years of age. Baseline scores on Mini Mental State Examination Scale (MMSES) were recorded for all patients. Subsequently all patients took 300 mg of *Bacopa monnieri* standardized extract (Bacognize®) orally twice a day for 6 months. MMSES scores were recorded again after the completion of study drug.

Results: Mean age of 39 patients who completed the study was 65.23 years. Study patients showed statistically significant improvements in various components of MMSES including orientation of time, place & person, attention and in their language component in terms of reading, writing & comprehension at the end of trial. The patients involved in this trial also reported improvement in their quality of life, and decrease in the irritability and insomnia.

Conclusion: The results of our clinical trial show that *Bacopa monnieri* standardized extract (Bacognize® 300 mg twice a day orally) for 6 months results in improvement in some aspects of cognitive functions in geriatric patients suffering from Alzheimer's disease. While the above results are encouraging given the improvement in cognitive functions in geriatric Alzheimer's disease patients, further studies that include a control group are required to validate these results.

Keywords: Brahmi, memory improvement, MMSES score, dementia, Bacognize®

Effect of local injury to endometrium on implantation rate among patients undergoing in vitro fertilization/intra cytoplasmic sperm injection

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ABSTRACT

Background: Implantation failure is an important cause of recurrent in vitro fertilization/intra cytoplasmic sperm injection (IVF/ICSI) failure. Some studies indicate that local injuries to endometrium by endometrial biopsy in the luteal phase of menstrual cycles lead to increase in implantation rate.

Aim & Objectives: The present study was aimed to analyze the effect of local injury to the endometrium by biopsy on the rate of successful pregnancies in infertile women undergoing IVF.

Methods: In a randomized prospective study, infertile women referring to Fatemi Hospital, Hamadan in 2008 were selected. The inclusion criteria were all infertile women aged between 20 to 40 years whom the indication for ART was demonstrated by gynecologist. The exclusion criteria was included history of coagulative or hemorrhagic disorders, endometrial thickness less than 7mm or greater than 12mm at hCG initiation time, presence of uterine malformation, endometrioma, active uterine infections, and ultrasound evidence of hydrosalpinx. Overall, 96 women were selected and then randomly divided into two groups; 50 patients as a case group and 46 patients as a control group. Endometrial biopsy was performed in the case group at the luteal phase on the days 21-26 of spontaneous menstrual cycles, when gonadotropin-releasing hormone agonist use began. Chemical pregnancy was determined by measuring serum β hCG level more than 25 U/L, 15 days after embryo transfer. The SPSS version 15.0 software was used to analyze the data and differences in the implantation rate between case and control groups were analyzed using the chi-square test. This study was approved by ethics committee of Hamadan University of Medical Science.

Results: Mean age of patients was 29.67 ± 4.52 years and range of age was between 21 to 38 years. Fifteen days after embryo transfer, positive serum β HCG was seen in 21 patients treated by biopsy before IVF and in 9 patients from control group. Number of patients treated by biopsy before IVF was significantly more than the controls (42.0% vs. 19.6%; $P=0.03$).

Study Limitations: Because of paucity of time as well as financial limitations, we could not evaluate the rate of clinical pregnancy and live births in both the groups.

Conclusion: Local injury leads to increase in endometrial receptivity for implantation and substantially leads to increase in pregnancy rate.

Keywords: Biopsy, endometrium, infertile women, implantation, pregnancy

When does the clock start ticking? Administration of antibiotics in sepsis: A delay not worth waiting for

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ABSTRACT

Background: Prompt administration of antibiotics in the treatment of sepsis has been shown to be a critical determinant of survival in septic shock. It has been shown that a delay in providing this treatment results in a significant increase in mortality. The Surviving Sepsis Campaign therefore recommends administration of antibiotics within 1h from recognition of sepsis.

Aim & Objectives: This audit aimed to assess awareness of the campaign and how effectively these guidelines have been implemented in practice.

Methods: Septic inpatients were identified retrospectively through positive blood cultures received from the admission wards over a one month period. From these, 54 patients were selected who fulfilled the criteria for sepsis (presence of 2 or more signs of systemic inflammatory response syndrome with suspected infection) on initial assessment. Demographic data, observations on admission, time of admission, clerking and administration of antibiotics were obtained from hospital records. The mean time from clerking to administration of antibiotics (patients receiving antibiotics over 11h after clerking were excluded) and the percentage of patients receiving antibiotics within 1h was calculated. Awareness of Surviving Sepsis Campaign among 46 doctors (6 Specialist Registrars/Consultants; 15 Core Training Doctors; 25 Junior Doctors) was assessed by pilot questionnaires. Awareness defined by both knowledge of the recommended time limit and the Surviving Sepsis campaign.

Results: Mean time from clerking to administration of antibiotics was 124 min (range 15 min-780 min). 22.2% received antibiotics within 1h. 40.7% (22/54) received antibiotics more than 2h after clerking (5 of which received antibiotics after more than 8 h). 67.4% (31/46) of doctors were not aware of the campaign.

Study Limitations: In order to ascertain if these results were in fact due to a lack of awareness of the guidelines recommended by the Surviving Sepsis Campaign, a greater and more representative sample of questionnaires would have been beneficial.

Conclusion: This study found that a large proportion of septic patients did not receive antibiotics within the recommended time limit and that only a minority of doctors were aware of these recommendations.

Keywords: Surviving Sepsis Campaign, Sepsis, Antibiotics, SIRS

Risk Behaviour of lead-exposed Workers and Hearing Impairment

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ABSTRACT

Background: The widespread use of lead and its components has its hazards and causes health disorders to industrial workers. The hazards are determined by a number of factors e.g. work process, ventilation, general hygienic condition of the workroom and personnel, and preventive measures. No prevalence of deafness associated with lead exposed workers was found in Egypt. However, there is an increase in all-cause mortality with high blood lead level.

Aim and objectives: The aims of this study are:

1. To determine the association between elevated blood lead levels and hearing impairment in lead-exposed workers.
2. To investigate the use of preventive measures

Methods and study design: The study was conducted on a random sample of 61 lead-exposed (mean age 40.4 years) and 50 non-exposed male workers (mean age 39.2 years) in printing presses and battery industries in Cairo. Blood lead levels were determined and an audiometric evaluation was done at different frequencies (500-8000 Hz). The use of preventive measures for lead-exposed workers was investigated and regular check-up.

Results/ Findings: The mean blood lead level in the lead-exposed group was $52.5 \mu\text{g/dl} \pm 21.5$, and in the non-exposed was $18.2 \mu\text{g/dl} \pm 5.9$ ($t=10.9$ (CI 28.1 – 40.5) $p<0.001$). There was a significant correlation $r=0.7$ between blood lead levels and binaural hearing.

The audiometric evaluations revealed significant positive correlation between blood lead level in exposed workers and hearing impairment. All lead exposed workers had hearing impairment at different frequencies. Although all workers were aware of protective devices against lead exposure, 100% of them did not use any. They also did not go to regular checkups.

Study limitations: Researchers could not assess the environmental lead levels in workers' residences.

Conclusions: Hearing impairment in lead-exposed workers in printing presses and battery industries in Cairo is inevitable and irreversible. The mean blood lead level in the lead-exposed group was $52.5 \mu\text{g/dl}$, and in the non-exposed was $18.2 \mu\text{g/dl}$. All workers didn't use any protective devices or go to regular checkups.

Keywords: Blood lead, hearing impairment, masculinity, battery industry, print shop

Prevalence and Factors Associated with Needle Stick Injuries among Registered Nurses in Public Sector Tertiary Care Hospitals of Pakistan

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ABSTRACT

Background: Needle stick injuries remain the main cause of Hep B, Hep C and HIV which lead to mortality and morbidity in health care providers especially in nurses all over the world. Although needle stick injuries have been well studied in developed countries, data from developing countries is limited.

Aim & Objectives: To estimate the prevalence of needle stick injuries among nurses and its associated factors in public sector tertiary care hospitals of Pakistan.

Methods: This cross sectional survey was conducted in 3 major tertiary care hospitals of Rawalpindi, Pakistan. Study duration was from March 2010 to May 2010 (3 months). Two Hundred and Sixteen (216) nurses were selected by simple random sampling with proportionate sampling. All those registered nurses who were working in allied hospitals of Rawalpindi and involved in clinical work were included, while all those who were on administrative positions, students, retired or on maternity leave were excluded from the study. Pre structured questionnaire was used and data was collected by questionnaire having optional choices and few open ended questions. The questionnaire was piloted among thirty nurses in a tertiary care hospital and their comments were incorporated accordingly to redesign the final questionnaire. The data was analysed using SPSS 16.

Results: About two-third (67%) of nurses got needle stick injury during job. Almost all (99%) nurses said that they didn't report their injury because of no reporting system in their hospital (p value < 0.05). Injection and needles (72%) were found to be the most injury causing instruments and needle stick injuries mostly occurred (81%) by the bedside and ward (p value < 0.05)). Majority (66%) of nurses said that they didn't attended any educational session, seminar or workshop related to needle stick injuries during their job.

Conclusion: The frequency of needle stick injuries among nurses is quite high in public sector hospitals of Rawalpindi Pakistan. Non-reporting and less health education are the main factors leading to needle stick injuries.

Keywords: Prevalence, Needle stick injuries, Public sector hospitals, Registered nurses, Pakistan

Correlation between Body Mass Index and Sexual Dynamics

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ABSTRACT

Background: The limited number of studies on sexual quality of life in obesity suggests that this is an area in need of further study.

Objectives: We intended to identify how the BMI (Body Mass Index) affects the subjects' sexual dynamics.

Methods: A questionnaire with items regarding the sexual life and BMI measurements was used in a sample of 1493 subjects, aged 18-90, randomly selected from urban Romanian areas.

Results: The sample was characterized by average: weight of 72.11 kilograms, height of 1.71 m and a BMI of 24.30. The incidence of cases diagnosed with arterial hypertension is higher in overweight (51.3%) or obese (19.7%) subjects ($p < 0.001$). In the overweight category the men's proportion was twice higher ($p < 0.001$). As the age increased the proportion of the overweight persons increased ($p < 0.001$). In the entire sample the weekly sexual contacts prevailed (49.1%), most of the subjects reported an average duration of sexual contacts in the last year (without prelude and postlude) of 5-15 minutes (39.1%). The latent class analysis indicated that sexual life quality decrease with age and BMI. The univariate binary logistical regression showed a fragile association between high BMI values and sexual dissatisfaction. With no doubt the most influencing variable over BMI and sexual satisfaction is the age, followed by marital status. Although the BMI increases by age yet at adult age (40-50 years) the overweightness and obesity are less frequent to the persons who do not share the household environment.

Conclusion: For the obese people the benefits of weight loss to improve sexual life may be a way to motivate them to start and continue a special nutritional and physical activity program.

Keywords: Body Mass Index, Sexual life, Obesity

Predisposing factors of urinary tract infection in children aged 1 month to 12 years

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ABSTRACT

Background: Urinary tract infection (UTI) is considered as one of the common diseases in children and in some cases is associated with high morbidity and long term complications. Identification of predisposing factors timely is effective in reducing the incidence of UTI.

Aim & Objectives: This study was designed to evaluate the predisposing factors in children with symptomatic urinary tract infection according to gender.

Methods: In a randomized prospective study, 130 children with symptomatic UTI that were admitted to emergency department or referred to nephrology clinic of Abuzar Hospital, Ahvaz, Iran between October 2008 and August 2010 were reviewed. The inclusion criteria were all children more than one month that had clinical symptoms of UTI and positive urine culture. Complete blood cell, blood biochemical tests, urine analysis, and renal ultrasonogram were done in all patients. Voiding cystourethrogram (VCUG) was performed in all patients younger than 5 years with a UTI, any child with a febrile UTI, school-aged girls who have had two or more UTIs, and any boy with a UTI. Predisposing factors as a case sheet were asked from parents by the physician. They were included back-to-front wiping, washing with soap, using bathtub, constipation, infrequent voiding, urinary reflux, uncircumcision in boy, labia adhesion, tight underwear, pinworm infestation, history of urinary stones, and history of sondage. The exclusion criterion was included children that their case sheet had not been filled completely. The SPSS version 15.0 software was used for data analysis and differences in predisposing factors between boy and girl were analyzed using the chi-square test. The significant differences between groups were determined at level <0.05 . This study was approved by ethics committee of Ahvaz Joundishapur University of Medical Science.

Results: UTI was found in a significantly higher proportion of girls (106 girls vs. 24 boys, $P < 0.001$). The mean age of patients was 23.91 ± 27.0 (range: 1-138) months. The predisposing factors for UTI in our study were included: back-to-front wiping in 74 patients (56.9%), infrequent voiding in 55 (42.3%), washing with soap in 52 (40%), using bathtub in 38 (29.2%), constipation in 31 (23.8%), urinary reflux in 24 (18.5%), history of sondage in 16 (12.3%), tight underwear in 8 (6.2%), pinworm infestation in 7 (5.4%), history of urinary stone in 4 (3.1%), labia adhesion in 8 (7.5%), and uncircumcision in boy in 6 (25%). Urinary reflux in boys was significantly more than girls (41.7% vs. 13.2%; $P = 0.003$), whereas other predisposing factors in the two groups did not differ.

Study Limitations: Due to paucity of time and financial limitations, we could not follow patients for study of effects of predisposing factors in recurrent UTI.

Conclusion: In our study, most frequent predisposing factor was back-to-front wiping and in boys was uncircumcision. Thus, by providing simple hygiene instructions regarding how to properly wipe in children and recommended to perform circumcision in boys sooner we can update many urinary tract infections be prevented.

Keywords: Urinary tract infection, Children, Predisposing factors

A Rare Case Presentation of Meckel's Diverticulum with Situs Inversus Totalis

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ABSTRACT

Situs inversus, a rare congenital condition, is a complete mirror image of the thoracic and abdominal viscera, in which the positions of major visceral organs are reversed[1]. Here, we report a case of a 6 year old boy who presented with abdominal pain in both the iliac fossae, fever and vomiting. Imaging studies showed situs inversus totalis and a provisional diagnosis of acute appendicitis was made and a possibility of meckel's diverticulitis was suspected. A final diagnosis of meckel's diverticulitis was made during emergency laparotomy. This case report is being presented because of its rare occurrence.

Keywords: Situs inversus totalis, Meckel's diverticulitis, Congenital positional anomaly, Heterotaxia

Disbalance of the macro and micro elements in HIV infected patients

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ABSTRACT

Background: Microelemental content of the hair reflects the status of microelements in whole body and is an indicator of mineral metabolism. There is no sufficient literature on study of macro and microelements in HIV/AIDS. We study macro and micro elements in hair samples of HIV infected patients and healthy individuals.

Materials and methods: We collected samples from 100 people aged 21 – 55. 40 persons were healthy, 46 were HIV infected. HIV infected patients have been divided into 3 groups according to CD4 cells count: more than 500, 200 – 499, less than 200. Neutron activation analysis (NAA) was used to detect microelements in the hair.

Results: Our study revealed the following results: in HIV infected women levels of Cl, Fe, Co, Ni, Cu, K, Se, Br, Rb, Ag, Cd, Sb, Ba, As were lower than in healthy persons. Levels of I, Au, Hg, Sr were higher than in healthy persons, Cr, Mn, Zn, U levels were normal. Levels of K was decreased 5 times and Ni was decreased 2 times compare to norm.

In male HIV patients, the results were different: the levels of , Cr, Mn, Zn, Se, Br, Au, Sb, Ba were normal, levels of Cl, Ca, Fe, Co, Ni, Cu, K, Rb, Ag, Cd, Hb, U were lower compare to healthy people. Only Iodine (I) and Strontium (Sr) were higher than norm.

Conclusion: Analysis of our data revealed that HIV infected patient develop deficiency of some macro and micro element (Sc, Cr, Fe, Cu, K, Se, Rb, Sb, Cd, Hg, As). The causes of such disbalance are due to changes in microbiocenosis of intestines and an impaired absorption in progression of HIV/AIDS. Found disbalance of microelements in hair samples of HIV infected patients defines necessity of correction of deficiency of macro and micro elements in treatment of such patient. It necessitates further detailed research of such disturbances to better understand immunopathochemical nature of HIV/AIDS and goal oriented therapy.

Keywords: Microelements, HIV/AIDS, hair content, disbalance

Effect of serum urea and creatinine levels in aneurysmal subarachnoid hemorrhage

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ABSTRACT

Background: Acute kidney injury is a major problem in all critically ill patients and has a poor effect on the outcome. We have determined the burden of acute kidney injury in aneurysmal subarachnoid hemorrhage (aSAH) patients.

Aims and Objectives: We have studied the levels of serum urea and creatinine in aSAH patients and have investigated its effect on the outcome of such patients.

Methodology: A retrospective review of the levels of serum urea and creatinine in 1000 cases of aneurysmal subarachnoid hemorrhage was done from the records of Thomas Jefferson University Hospital, after obtaining the requisite permission from the Institution Review Board. The level of serum urea, creatinine and their ratio was documented. Parameters were initially analyzed by student's *t* test, *p* < 0.05 is taken as significant and were further scrutinized by multivariate regression analysis.

Results: Increased values of serum urea (BUN), creatinine as well as their ratio are associated with poor outcome (*p* < 0.05), although BUN: creatinine ratio < 9 was also related to bad outcome. While comparing the variables, BUN: creatinine ratio seems to have the greatest and creatinine the least, impact on patient prognosis. BUN: creatinine ratio > 22.2: 1 (95% confidence interval, 21.2: 1- 23.5: 1) accounted for more chances of a poor outcome.

Weaknesses of the study:

1. BUN and creatinine levels do not rise above the normal range until 60% of total kidney function is lost and hence by considering them alone we miss out on patients with less severe renal damage.
2. Long term follow up of the patients were not analyzed.

Conclusions: Electrolytic imbalances affecting the short term prognosis of aSAH patients are mainly following the cardiovascular or neurologic damage and are least likely as a result of direct kidney injury.

Keywords: Aneurysmal subarachnoid hemorrhage, kidney injury, BUN, creatinine, extended Glasgow outcome score

CSF picture in aneurysmal subarachnoid hemorrhage

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ABSTRACT

Background: The detailed cerebrospinal fluid (csf) picture in aneurysmal subarachnoid hemorrhage patients is routinely performed but seldom studied.

Aims and Objectives: We have considered the effect of the disease pathology on the csf picture at admission and the effect of individual csf determinants on the patient outcome.

Methodology: A retrospective review of the levels of csf glucose, protein, white blood cell count and culture in 661 cases of aneurysmal subarachnoid hemorrhage was done from the records of Thomas Jefferson University Hospital. Parameters were analyzed by student's *t* test, *p* <0.05 is taken as significant.

Results: Higher csf glucose as well as csf protein at admission worsened the chances of a good outcome, although csf glucose < 40mg/dl and csf protein < 15mg/dl at admission were associated with higher mortality. Csf white blood cell count of 3-5 /ml was associated with the best outcome, also culture negative cases had a better prognosis.

Weaknesses of the study:

1. Detailed microbiological analysis of culture positive cases could have revealed which organisms were related with worse prognosis.
2. Only short term follow up (at 15 days) was studied.

Conclusion: All the csf parameters studied gave the best prognostic results in their median values. More elaborate and prospective studies may be considered to give us a clearer picture.

Keywords: Aneurysmal subarachnoid hemorrhage, cerebrospinal fluid, protein, glucose, white blood cell, extended Glasgow outcome score

Pioglitazone induced weight changes in type 2 diabetic patients

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ABSTRACT

Background: Pioglitazone, a member of the thiazolidinedione drug family, with hypoglycemic action, is widely used for the therapy of type 2 diabetic patients.

Aims and Objectives: The effect of pioglitazone on body weight was investigated and the effects of monotherapy and combinations with other hypoglycemic agents were compared.

Methodology: A prospective study on 379 type 2 diabetic cases, who were being given pioglitazone for the first time, as either monotherapy or in combination with other oral hypoglycemic agents or insulin. Parameters were analyzed by Kruskal-Wallis test, considering $p < 0.05$ as significant.

Results: Pioglitazone therapy resulted in weight gain, especially in females, although triglyceride and lipoprotein levels were not adversely affected. Concomitant use of pioglitazone along with insulin or any of the sulfonylurea group of drugs accounted for more weight gain; (2.57 ± 1.4 kg) and (2.31 ± 1.2 kg) respectively; than that by pioglitazone alone (2.23 ± 1.3 kg). However pioglitazone combination therapy with metformin and alpha glycosidase inhibitors revealed lower weight gain: (0.31 ± 0.2 kg) and (0.16 ± 0.4 kg) respectively. Higher doses of pioglitazone were associated with more important weight gain.

Limitations of the study:

1. The study is an open-label prospective observational study and not a double blinded randomized controlled trial.
2. Long term changes in weight were not assessed, as the mean follow up period was only 6 months.
3. There were very few patients (only 28) on pioglitazone monotherapy.

Conclusions: Pioglitazone increases body weight, although less than other thiazolidinediones. Hence it should not be indiscriminately used in high doses and when used, it should be supplemented with metformin and alpha glycosidase inhibitors.

Keywords: Pioglitazone, thiazolidinedione, body weight, Type- 2 Diabetes Mellitus, insulin, oral hypoglycemic agents

Clinical profile of Rheumatic Heart Disease in children and young people in Eastern India

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ABSTRACT

Background: Chronic rheumatic heart disease (RHD) is still a major cause of mortality and morbidity in developing countries.

Aims and Objectives: The prevalence of different rheumatic valvular lesions and their complications were analyzed in a socioeconomically backward region of rural India.

Methodology: It was a prospective analysis of 596 RHD patients aged < 30 years, visiting the outpatient clinics of the Cardiology department of a rural tertiary care institution in eastern India. A performa was used to record the demographic data, clinical features on presentation, relevant investigations, cardiac valvular lesions, recurrences and the complications. All parameters were analyzed by student's *t* test, *p* < 0.05 is taken as significant.

Results: Combination of mitral stenosis (MS) and mitral regurgitation (MR) was the most common lesion (35.23%), followed by MS (31.21%) and MR (25.5%). 5 patients had 3 valve disease and 10 had combination of both stenosis and regurgitation of both the mitral and the aortic valves. Arthritis, chorea and erythema marginatum were seen in 67.78%, 5.87% and 1% cases respectively. Pulmonary hypertension was present in 37.41% of the patients, mostly in older patients. Overall, 5.53% of patients had atrial fibrillation, 1% pericardial effusion, 6.37% infective endocarditis and 32.38% developed congestive cardiac failure. Benzathine penicillin prophylaxis was regular in 56.87% cases and 15.6% cases presented with recurrence of the disease. Positive family history was present in 7.88% of cases.

Conclusions: Rheumatic fever is still a major menace in certain parts of India and rheumatic valvular lesions cripple a substantial portion of our youth. Improved health education should be provided to the masses for timely identification of the disease and prophylaxis with penicillin may be started to prevent progression of the severity of the valvular lesion and the disease recurrence.

Keywords: Rheumatic Heart Disease, mitral stenosis, mitral regurgitation, congestive cardiac failure, penicillin

A randomized controlled trial comparing the physiological and directed pushing on the duration of the second stage of labor, the mode of delivery and Apgar score

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ABSTRACT

Background: In recent year, there has been an increased trend to the physiological approach to labor. Physiological (spontaneous) pushing in upright position is one of the practices promote the normal physiological process.

Objective: Effect of physiological pushing versus directed pushing on the duration of the second stage of labor, mode of birth and Apgar.

Methods: A randomized controlled trial was completed on 191 women who gave birth at a maternity unit in Iran between August and December 2009. Randomization occurred upon confirmation of full dilatation of the cervix with using block randomization. In the intervention group (n = 100), with full dilatation of the cervix and a fetal head plus 1, the midwives providing care suggested they commenced pushing in upright position only when they felt the urge to do so and gave no specific instructions about the timing and duration of pushing. In the control group (n = 91), women were coached by the midwife to use closed-glottis pushing three to four times in supine position during each contraction immediately as the same period.

Findings: Mean duration of the second stage of labor in the primiparous women was 47.38 ± 36.75 mins and 57.12 ± 33.10 mins in the intervention and control groups, respectively; the difference was significant ($p < .0001$). In the multiparous women the second stage of labor lasted for 26.12 ± 23.43 mins and 33.20 ± 22.76 mins in the intervention and control groups, respectively, which was significantly different ($p < .0001$). One woman in the control group and 2 mother in the intervention group undertook cesarean surgery ($p=1$). Apgar scores were similar in both groups.

Conclusion: Physiological pushing was not associated with demonstrable adverse outcome. It seems that this technique can reduce the duration of the second stage of labor and it can be a safe method during the second stage of labor without any harm for mother and baby.

Keywords: Spontaneous pushing, Directed pushing, Valsalva, Second stage of labor

Systemic hypertension and associated factors in school adolescents

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ABSTRACT

Background: Systemic hypertension is an endemic disease, which causes serious morbidities and mortality in all age groups. Hypertension of adults in Egypt is 26%. It can start in childhood and needs to be assessed in Egyptian children and adolescents.

Aim and objectives: This study aims to investigate the prevalence of systemic hypertension in 12-14 year old school children and associated factors.

Methods and study design: A cross sectional study was done in some preparatory public and private schools selected from a district of Cairo. The 234 children (167 females, 67males) in this study were 12 - 14 year of age. Their weight ranged from 30 – 100 kg Subjects with high blood pressure (BP) were identified according to the percentiles of Rosner, et al. Beside characteristics of the sample and blood pressure (BP), associated factors investigated were: - weight and body mass index (BMI), tea / coffee consumption, "added salt before tasting food", sleeping less than 8 hours per day and physical activity. Each student filled out stress and tension level tests. The school health team obtained informed parental consent to include their children in this study. Statistical analysis was done with EPI using chi-square, t-test, odd ratio (OR) with 95% confidence limits (CI) and logistic regression with the 5% level for tests. The ethical committee of the faculty approved the study.

Results / Finding: The prevalence of systemic hypertension was 10%. Children with high BP (23) were compared to 211 subjects with normotensive BP. High stress and tension score, less sleeping hours / day, adding salt to food and higher BMI were found significantly associated ($p < 0.05$) with high BP.

Study limitation: Researchers could assess preparatory schools children. However, primary and secondary school levels are separated in other schools and administrations. We used US standards for hypertension and BMI for children as local standards are not published.

Conclusions: One tenth of 12-14 year old school adolescents in this study have systemic hypertension. The main associated factors are obesity, overuse of salt and less sleeping hours. A larger study is needed to assess the prevalence of hypertension in all ages of school children. A population-based case-control study is recommended for the future. School physicians and pediatricians need to measure routinely blood pressure of children to prevent hypertension.

Keywords: Stress/ tension, sleep, salting food, hypertension, adolescent, overweight

Occurrence of hepatitis B and C infection among hemodialyzed patients with chronic renal failure in Qazvin, Iran: A preliminary study

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ABSTRACT

Background: A critical problem for hemodialysis patients are hepatitis infections. Some of the risk factors associated with HBV infection include blood transfusion, frequency, and duration of hemodialysis, and equipment contamination of infected patients. In fact, HCV infection through dialysis units has increased worldwide.

Aims & Objectives: The aim of this study was to determine the prevalence of the hepatitis B virus (HBV) and hepatitis C virus (HCV) in hemodialysis patients in Qazvin province, Iran.

Methods & Materials: The data were obtained from a total of 195 patients who have been receiving hemodialysis for years, and who were screened for the presence of the hepatitis B surface antigen (HBsAg) and HCV antibodies.

Results: Results showed that six patients (3.1%) had the hepatitis B antigen and 13 patients (6.7%) had hepatitis C. Of the total sample, 195 patients participated in this study. Five patients (3.2%) were found to have seropositive hepatitis markers. Two patients (1.3%) were HBsAg seropositive and three patients (1.9%) were anti-HCV seropositive.

Conclusion: Considering the outcome of this study, education for dangerous behaviors along with screening, vaccination, and appropriate treatment for hepatitis is strongly recommended to control this persistent infectious source of hepatitis B and C in the community. Taking the medical history without a screening blood test for HBV and HCV might lead to treating infected patients as non-infected ones.

Keywords: Prevalence, hepatitis B, hepatitis C, Qazvin, Iran

Applying NICE Guidelines for Atopic Eczema in Maltese Children

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ABSTRACT

Background: Atopic eczema is a pruritic inflammation of the epidermis and dermis, often occurring in association with a personal or family history of hay fever, asthma or allergic rhinitis. NICE recommendations help in the diagnosis and the holistic approach to the management of eczema.

Aim & Objectives: To investigate the relationship between care and actual use of NICE guidelines in care given to children presenting with eczema.

Method: Data was collected from paediatrics clinics using a questionnaire. The prevalence rates for eczema in Maltese children were calculated, together with the sex prevalence and the rates of associated family history of allergies. NICE guidelines for the management of eczema in Maltese children were outlined and addressed to the Maltese paediatric population.

Results: The prevalence rate for eczema in Maltese children was found to be around twenty percent. Eczema accounts for around 3-4% of the consultations in the community. Boys are marginally more likely to develop eczema before the ages of 2 when compared to girls. Before the end of the first year, 60% of children suffering from eczema would have had symptoms. By the age of 14, 75% would have improved. 33% of the patient population have an associated family history of atopy, and 30-50% of children with atopic eczema develop asthma or hay fever later in life. Basic treatment involved reducing the trigger factors and using emollients as the basis of management.

Study Limitations: Investigators were not dermatologists but generalists and paediatricians with an interest in dermatology. Future reviews of atopic eczema would need more dermatology input.

Conclusion: Guidance to parents and training to professionals may help to reduce the physical and emotional morbidity for the both child and parents. Recommendations include the restriction of use of steroids and antibiotics, the use of non sedation anti histamines, and when needed, referral to the dermatology specialist.

Keywords: NICE Guidance, Eczema, Atopic Eczema

Evaluation of users Information Security Practices at King Saud University Hospitals

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ABSTRACT

Background: The growing dependence on information technology by healthcare organizations has made information security to be a permanent challenge for these organizations. While the risk of external threats can be assessed and accounted for by intrusion detection and other relevant tools, insider threats, are difficult to detect and manage because they primarily emerge from the authorized user malicious practices.

Objectives: This paper investigates the security behavior and awareness of employee at King Saud University hospitals, Saudi Arabia.

Methods: The study was conducted at King Saud University Hospitals (KSUHs) namely; King Khalid University Hospital (KKUH) and King Abdul Aziz University Hospital (KAUH). Data collection was done by a means of a questionnaire distributed to a random sample of 2000 employees (220 administrative staff, 380 physicians, 900 nursing staff and 500 technical staff). The questions were set to address the security behavior of users and explore their awareness on basics security issues. In total, 554 completed questionnaires were collected on which analysis was based. The (SPSS 16©) was used throughout the analysis to generate the summary tables and perform all data analysis. Comparison was held statistically significant if ($p \leq 0.05$).

Results: Results show that significant differences were reported between employee categories with respect to security awareness issues such as sharing of computers, communication of password between office mates, and changing of password after being known by others or after being generated by the system. In all these situations, nursing staff appeared to be the most vulnerable group from which information security threats are expected. They are the least to comply with preliminary security requirements ($p=0.0001$).

Conclusion: Increasing security awareness and embedding security culture in the work environment through continuous training of staff are very important to minimize user threats in healthcare organizations. In addition, systematic monitoring and evaluation of employees' security behavior, and setting concrete policies and procedures for employees to follow are of high importance.

Keywords: Information security, Privacy, Hospital systems, Insider threats, User behavior

School Health Services and Millennium Development Goals

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ABSTRACT

Background: School health services are geared at preventing, protecting and improving the health status of the school population to enable them benefit fully from the school system. The year 2015 is the target date for the attainment of the eight Millennium Development Goals adopted by world leaders at the Millennium Summit in September 2000. Coverage of immunisation against measles and prevalence of underweight children under five years are both indicators for tracking attainment of Millennium Development Goals (MDGs) 1 and 4 – eradicate extreme hunger and poverty and reduce child mortality.

Aims and Objectives: The objective of this study was to determine the immunization and nutrition status as well as general well-being of primary school children through pre-enrolment medical examination.

Methods/Study Design: A rural community in southern Nigeria was chosen for this pilot study, which was cross-sectional in design and conducted in 2010. The study instrument was a pre-enrolment medical examination form adopted from that provided by the State Ministry of Health. All newly enrolled school children in all three primary schools in the community were examined by medical doctors who completed the section on physical examination of the form. Nurses and volunteer assistants took the heights and weights of the children. Personal details and medical history of the examined children were thereafter obtained from the parents/guardians who were requested to give the dates their children received routine immunization, with photocopies of the immunization record where available. The heights and weights of the children were used to assess nutritional status by comparing with growth standards from the WHO Multicentre Growth Reference Study. Data were analysed using Epi Info version 3.5.1.

Results/Findings: A total of 95 children were examined males being 54.7% while females were 45.3%. Medical history was provided for 46 children, 54.3% of which had evidence of completing routine immunization including measles. Calculation of height-for-age revealed stunting and severe stunting in 16.3% and 18.6% of children respectively. Of those whose weights-for-age were calculated, 2.6% were underweight while 7.9% were severely underweight. Scarification marks were found on the abdomen of 34.7% of the children examined, denoting traditional treatment for a previous episode of severe febrile illness such as malaria. Splenomegaly was detected in 9.5%.

Study Limitation: The study was limited by the poor response from parents and guardians in providing personal details and medical history from examined children.

CONCLUSION: School health services can provide data for monitoring, evaluating and improving child survival strategies beginning at the community level.

Keywords: School health services, MDGs, immunisation, nutrition

Stress coping among nurses in Latvia

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ABSTRACT

Introduction/Background: Coping strategies play a significant role in the nurse's adaption to stressful work and life events. The rapid time of reforms, its dynamic pace and deficiency, and dominating social and economic problems entrust a nurse with great psychological, emotional and also physical load in her routine, which cause stress.

Aim&Objectives: The aim of this paper is to study coping strategies of nurses in Latvia.

Methods: The questionnaire used in this study based on demographic and work-related data and a stress coping scale (Lazarus and Folkmans Ways of Coping Checklist/Revised). Respondents were 200 nurses from four general hospitals in different regions of Latvia. All participants were nurses working in different departments at the hospitals.

Results: Most frequently used methods are Positive reappraisal 51.6%, Planful problem-solving 51% and Self-controlling 47.6%. Nearly each third respondent 32.9% uses Escape-Avoidance method. The data shows that the emotion focused coping are using 69% nurses, but the problem focused coping 29.5%, the differences are statistically significant. Statistical insignificant correlation was found between the ways of coping and age, work experience.

Discussion/Conclusion: Nurses in Latvia use the emotion focused coping overcome types, the most common is the use of Positive reappraisal, Self-controlling and Accepting responsibility.

Keywords: Stress coping strategy, problem-focused coping, emotion-focused coping

A Study on Factors Affecting Under-Utilisation of Medical-Termination-of-Pregnancy (MTP) Services in Rural Areas

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ABSTRACT

Background: Despite legalization of MTP Act by government of India in 1972, psycho-socio-economic implications in rural areas prevent women from undergoing safe abortion practices. We still have high maternal mortality and morbidity associated with unsafe abortion practices.

The first step towards this initiative perhaps is to understand what and where the lacunae are? Why even after three and half decades of liberalized law, abortion services to a woman who desires it remain underutilized? This research makes an attempt to answer some of these questions.

Aim and Objectives: This study aims to measure which of the factor influences the underutilisation of MTP services the most. The ultimate objective is to encourage women to undergo safe abortion by preventing them from visiting 'quacks' for unsafe abortions; to protect girls from abuse; and to reduce maternal mortality and morbidity rates.

Methods/ Study Design:

STUDY SITE: Department of Obstetrics and Gynaecology of Jawaharlal, Nehru Medical College, Sawangi, Wardha

STUDY TYPE: Cross-sectional (hospital-based)

STUDY DURATION: 2 months

SAMPLE SIZE: 200

INCLUSION CRITERIA: Advanced pregnancies due to Contraception failure, Lactational amenorrhea, In unmarried girls, Sexual abuse

EXCLUSION CRITERIA:

Girls below 15 years

Women above 40 years

DATA COLLECTION: With the help of a questionnaire after taking an informed consent in the local language.

DATA ANALYSIS: By Multiple Logistic Regressions. Microsoft Excel has also been used.

Results/ Findings: Using the Enter method, $p < 0.005$; R: 0.923; R Square: 0.852; Adjusted R Square: 83.8%

Study Limitations: This was a short-term study. However, efforts to make this study an on-going process should be made so that more rural population can be covered and counseled.

Conclusion: My study suggests that lack of awareness among women about safe MTP services is the major cause of underutilization of MTP followed by lack of awareness about legal status of MTP. Another ICMR Multi-centre Study in 5 States of India suggests the same. Major negative effects can occur when a pregnancy is forced on a woman despite today's liberal abortion laws. Thus, women's health education could have a positive impact on improving utilization of safe MTP services in rural areas.

Keywords: Medical Termination of Pregnancy, Unsafe abortion, Pregnancy

Telogen Effluvium : Causes and Treatment Modalities

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ABSTRACT

Introduction: Human Hair might not apparently have a very vital function in the body but hair loss may be associated with cosmetic problems and inferiority complex that might lead to depression in some patients, especially the younger ones. Hair growth occurs in three phases anagen phase (2–3 years), catagen phase (2–3 weeks) and telogen phase (around 3 months). A condition called Telogen Effluvium may be caused due to prolongation of Telogen Phase.

Material & methods: A case study of 25 patients of this disorder has pointed out Physiological stress to be the cause of Telogen Effluvium. Any change in dietary patterns (like crash dieting, iron deficiency and rapid weight loss), surgery, changes in thyroid, psychological stress, infections and new medications, has almost always been associated with patients of this disorder. Examination of hair and scalp or patient history is usually enough to diagnose Telogen Effluvium. Being a rare disorder, a close case study of 20 individuals was analysed. 11 patients had a drastic change in dietary pattern (including iron deficiency), 6 patients had hypothyroidism due to various causes and 2 patients each had the other above mentioned causes.

Results: The condition resolves itself within 6 months but in some instances the recovery time may be longer. The cause of this condition may be looked at and its resolution may add up to the recovery speed. However, for patients with chronic Telogen Effluvium, prescription of minoxidil topical solution of varying strengths usually helps.

Conclusion: Hence, Telogen Effluvium is a diffused pattern of hair loss and thinning caused by physiological stress and is self resolving in most cases.

Keywords: Telogen, diffused hair, thinning, baldness

Quality Of Life in Thalassemia Patients

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ABSTRACT

Background: Thalassemia is a recessively inherited and most common hemoglobin disorder in Pakistan with 4000 – 5000 babies born annually with the disease. New treatment modalities have now increased the life expectancy of these patients but they are now facing newer challenges of developing into independent, autonomous, functioning and healthy adults. Assessment of Quality of life (QoL) in these patients gives a more holistic view of their overall general health and various domains of QoL have been reported to be affected in these patients.

Objective: To assess the Quality of Life (QoL) in thalassemia patients.

Study Design: Cross sectional study conducted in Karachi, Lahore and Quetta centers of Fatimid Foundation. Data of 101 thalassemia patients ageing between 6 – 21 years were collected by Convenient method of sampling during their blood transfusion session. Preformed QoL questionnaire modified from SF-36 QoL questionnaire was administered to the subjects and collected back upon completion. It contained questions regarding the patients' view about their family, personal and social life, their emotional functioning and their concerns about their future because of their illness. Responses were entered and analyzed using SPSS.

Results: The mean age of the subjects was 10.57 years. (Range 6 to 16). All of the subjects were transfusion dependent. A little less than one third of the patients felt that their health was slightly worse as compared to last year. More than 44% of the patients had the feeling of loneliness secondary to their disease. Parents of 35.6% of the children at times did not allow their children to play because of their disease. Considering the social life of these patients, 27% stated that because of their disease, they often have difficulty in mingling with children of their age. Around 71% of the patients reported that at some or all times they were worried about their future life and career.

Conclusion: Life of these patients actually differs from that of normal subjects in that their life is difficult and more complex. Having physical impairments, social stresses, financial burdens and problems with their education and career makes them very much vulnerable to psychological trauma very early in their life. All of this creates a hindrance in their way of developing into autonomous functioning adults.

Keywords: Quality of life, Thalassemia, Emotional functioning, Financial burden, Social stress, Physical impairment

The Nigerian Health Care System: Need for Integrating Adequate Medical Intelligence and Surveillance Systems

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ABSTRACT

Background: As an important element of national security, public health not only functions to provide adequate and timely medical care, but also track, monitor, control disease outbreak. The Nigerian health care system what it is today has emerged through several developmental stages and reforms. Despite various reforms in the past, the level of health care in Nigeria has remained low. The Nigerian health care had suffered several infectious disease outbreaks year after year. Hence there is need to tackle the problem, in addition to increasing risk of bioattack.

Aims & Objectives: To review the state of the Nigerian health care system and to provide possible solutions (recommendations) to the worsening state of health care in the country. To give up-to-date recommendations for the Nigerian health care system, this study also aims at reviewing the dynamics of health care in the United States, Britain, and Europe with regards to methods of medical intelligence/surveillance.

Methods / Study Design: Databases were searched for relevant literatures using the following keywords – Nigerian health care, Nigerian health care system, Nigerian primary health care system. Additional keywords used in the search were: United States (OR Britain, OR Europe) health care dynamics, Medical Intelligence, Medical Intelligence systems, Public health surveillance systems, Nigerian medical intelligence, Nigerian surveillance systems, and Nigerian health information system. Literatures were searched in scientific databases: Pubmed, African Journals OnLine. Internet searches were based on Google and Search Nigeria.

Results / Findings: Based on the results of this study, medical intelligence/surveillance represent a very useful component in the health care system, control diseases outbreak, bioattack etc. Additional review of advanced medical setting like those in western countries, European countries and Britain as regards to surveillance techniques suggest the increasing role of automated-based medical intelligence and surveillance systems, in addition to the traditional manual pattern of document retrieval.

Conclusion: The Nigerian health care system is poorly developed. No adequate and functional surveillance systems are developed. To achieve success in health care in this modern era, a system well grounded in routine surveillance and medical intelligence as the backbone of the health sector is necessary, besides adequate management couple with strong leadership principles.

Recommendations: In this work, a model to increase medical intelligence/surveillance in the Nigerian health care is proposed to account for the health care system's adequate functionality in regards to effectiveness of disaster tracking (control of communicable diseases outbreak etc.) in this modern era.

Keywords: Nigeria, Nigerian health care system, health care, public health, medical intelligence, medical surveillance systems

Clinicopathological spectrum and therapeutic outcomes in Burkitt's lymphoma: A ten year experience in a tertiary care setting

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ABSTRACT

Objective: To evaluate clinico-pathological spectrum of Burkitt's Lymphoma and to evaluate treatment outcomes along with survival studies.

Background: Burkitt's lymphoma (BL) is one of the most aggressive non-hodgkin's lymphoma (NHL) characterized morphologically by monomorphic population of medium sized cells with round nuclei, basophilic cytoplasm and prominent cytoplasmic vacuolation. Cytogenetically there is a translocation between the long arm of chromosome 8 and either one of the following three translocations: Ig heavy chain region on chromosome 14, the k light chain region on chromosome 2 or the lambda light chain locus on chromosome 22. Cells of the BL have very high proliferative index with almost 100 % expression of Ki-67.

There are three forms of BL: endemic, sporadic and associated with immunodeficiency.

Treatment of BL is with multiagent chemotherapeutic agents and despite being an aggressive tumor the results are excellent with long term remission and survival rates.

There is no local published data from Pakistan /South Asia on Burkitt's lymphoma. This study was undertaken to determine the clinicopathologic spectrum of BL at a tertiary care center with survival data and response to chemotherapy. In areas where BL is endemic ie. some parts of Africa and New Guinea, the incidence is around 15 per 100000 children aged 5 - 10 years.

Methods: All patients with established diagnosis of Burkitt's lymphoma who presented between 1998 and 2008 to The Aga Khan University Hospital were reviewed retrospectively. The patients were identified using International classification of diseases ICD version 9.0. Medical records were evaluated for clinical and laboratory details using an in- house questionnaire. Statistics like multivariate analysis and survival studies (Kaplan Meier) were computed through SPSS version 16.0 . The data included clinicopathologic features, stage of the disease, laboratory parameters, treatment protocols, complications of chemotherapy, remission status and treatment outcomes.

The different treatment protocols that were used in patients are given in table 1. (Included the following: CALBG, CODOX, COPADM, Hyper CVAD and ICE. Among these the most commonly used protocol was COPADM.)

Results: During the study period, 34 patients were diagnosed with Burkitt's lymphoma. There were 30 (88 %) males and 4 (12 %) females. Median age was $9 \pm$ years (range 3.5-67 years). Anemia, hepatomegaly, splenomegaly and lymphadenopathy were observed in 25 (73.5 %), (26.5%), 6 (17.6 %), 14 (41.2 %) patients. Central nervous system was involved in three patients and jaw swelling was noted in only two patients at initial presentation. Eighty percent of the patients presented with abdominal symptoms like pain, mass or lymphadenopathy. Initial hemogram showed mean hemoglobin was $9.4 \pm$

G/dl (1.7-15) Normal Range (Men:13.8 to 18.0 g/dL, Women: 12.1 to 15.1 g/dL , Children: 11 to 16 g/dL), white blood cells $10.5 \times 10^9/L \pm (2.6-33.1)$ Normal Range (4 - 10×10^9 cells per liter) and platelets $315 \times 10^9/L \pm (10-994)$ Normal Range (150 to 400×10^9 /liter) Clinical presentation, baseline hematological and biochemical parameters are summarized as follows.

Demographic and laboratory parameters at presentation in 37 patients with Burkitt's Lymphoma

Characteristics	1-15y	>16y	All patients
Patients	25	12	37
M: F	21:4	10:2	31:6
Hemoglobin g/dl	9.0	10.2	9.4(1.7-15.4)
White blood count $\times 10^9/l$	10.7	9.23	9.2(2.6-33.1)
Platelets $\times 10^9/l$	360	209	52.0(6-1337)
LDH IU/l	1875	1399	1413 (365-6613)
Creatinine mg/dl	1.1	1.4	1.2 (0.4-3.6)
Bilirubin mg/dl	2.4	0.88	0.9 (0.3-13)
ALT IU/l	40	43	27 (12-165)
Uric acid mg/dl	4.8	6.9	5.4

Results of cytogenetics were available in 9 patients only with normal cytogenetics in 5 patients, t(8;14) in three patients while one patient showed hyperploidy.

Induction chemotherapy was given with COPADM in 9, CALBG in 5, Hyper CVAD in 2, CODOX in one patient respectively. Rest of the patients received other chemotherapy protocols comprising of cyclophosphamide, prednisolone, vincristine and doxorubicin. CNS prophylaxis and growth factors was given in all patients.

Complete remission was attained in 13 (35.9 %) while partial remission was achieved in one patient (residual disease seen after four cycles of chemotherapy on CT scan) who completed treatment but was thereafter lost to followup. Twelve patients died secondary to complications of chemotherapy. Out of the remaining 11 patients, 2 couldn't receive chemotherapy while 9 patients didn't complete chemotherapy due to financial constraints. The cumulative survival for all patients was 17.75 months. 2/13 who achieved CR relapsed after 10 months and 3 years respectively. One patient was reinduced and achieved complete remission again whereas the other patient was not reinduced and was lost to follow up. At the time of this review 10 patients were alive in complete remission and twelve patients had died. Rest of the 15 patients were lost to follow up. The most common complications of chemotherapy were tumor lysis in 18(46%) and Febrile neutropenia in almost 100 % of the patients. The causes of death included renal failure in 5, cardiac arrest in 4 and septic shock in 3 patients respectively. The survival curve is as follows:

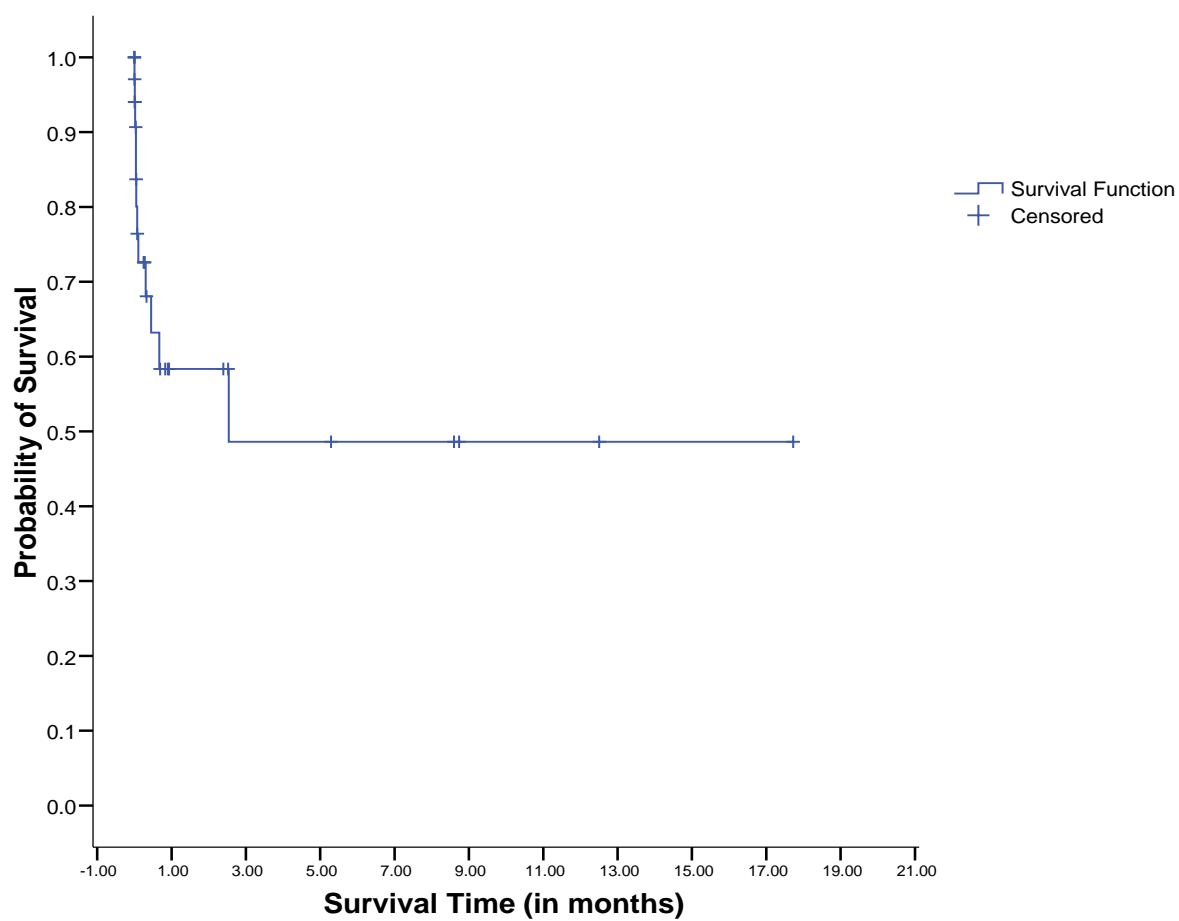


Figure 1: Cumulative survival time in months

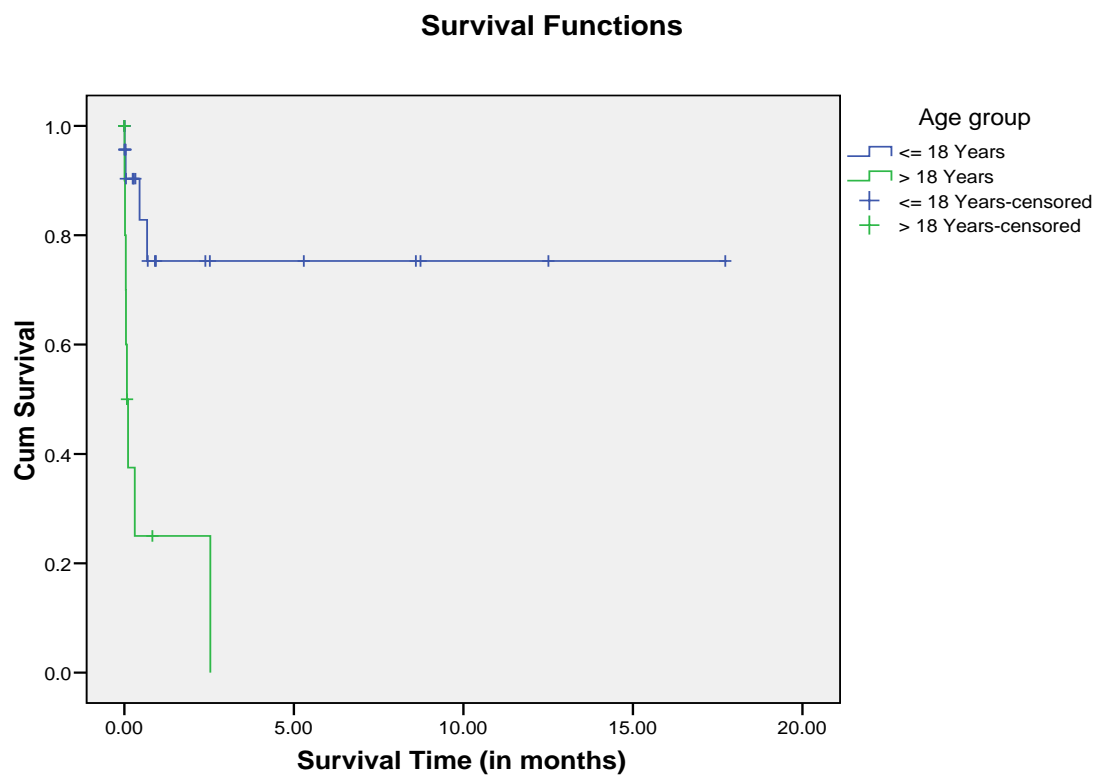


Figure 2: Survival according to age groups

Conclusion: Burkitt's lymphoma has a male predominance and is commonly seen in children. We found abdominal presentation as the most common manifestation of Burkitt's lymphoma. It is an uncommon malignancy but carries a poor prognosis.

Keywords: Burkitt's lymphoma, ICD

Team-working and stress in health and social care

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ABSTRACT

Background: Work-related stress is an important national issue and, with the rising costs of employees who fall prey to it, society and organisations require more interventions to help deal with the problem. While change is occurring in modern organisations that has the potential to escalate stress levels at work, policies can be enhanced with additional research on teamwork outcomes.

Aim & objectives: This research project examined studies that evaluated teamwork and its effect on employee well-being, it also determined the effects of good leadership and its influence on work-related stress and finally, it established to what extent team-working was implemented in the health and social care sector.

The review critically analysed 7 articles selected following rigorous methodology assessment of 105 potentially relevant titles on teamwork and its effects on work-related stress. It also provided a report on key messages and themes arising in the literature and made recommendations about future work.

Method: A systematic literature review and meta-analysis was conducted. The literature search was performed in Ebscohost, PsycArticles, AbiInfo, Emerald, and Healthcare Management Information Consortium (HMIC) from the year 1991 to 2010 with the keywords; team work, leadership, work structure, stress, and health and social care.

Articles included for review were closely examined with the aid of a checklist to assess methodological quality. Thematic analysis was used to identify and assess key concepts from the data.

Results: The study suggested that the effect of team-working on the well-being of employees depends on how it affects job characteristics, i.e. autonomy.

Team-working fails where the environment compromises the form of work design, i.e. interdependence, cohesion, communication etc. The study provided recommendations for enhancing the quality of working lives and a SMART (Specific, Measurable, Attainable, Realistic and Time-bound) objective approach to managing stress. The health and social care sector lacks a theoretical model and efficiency measure of team-working, performance and employee well-being, which would certainly help members of staff to improve their working lives.

Limitations: They were derived from the current statistical procedure applied to detect some facts, such as publication bias and heterogeneity.

Conclusion: Sufficient studies have demonstrated the rationale and benefits of effective team-working in providing seamless partnership working, improved communication and support systems among teams. Implementation of this model ensures a whole range of economic advantages in organisations which include; improved patient care/service delivery, improved outcomes, improved employee satisfaction and reduced liability (errors, employee sickness due to stress etc.).

Keywords: Team work, leadership, work structure, stress, and health and social care

Unusual Presentation of a Fleshy Mass in the Suprasternal Notch

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ABSTRACT

Introduction: The unusual presentation of this case was the strange and alarming appearance of the pink fleshy mass, which protruded from underneath the skin at the suprasternal region. This case illustrates that a cervical swelling can originate from superior mediastinum structures like the thymus gland.

Method: A 17 year old boy was presented at clinic with a pink fleshy mass, protruding from underneath the skin at the suprasternal region. He had previously undergone two operations, which had been performed in a district hospital, the first eight months and the second two months previously.

Seven days after the second operation, the patient noticed the appearance of a pink coloured mass, which was protruding from the surgical wound site of the second operation.

The CT scan of the chest and neck showed an anterior mediastinal mass within the thymus gland, which was connected to the mass in the neck.

A diagnosis of a thymic tumour was made and a thoracotomy operation performed through a median sternotomy, with the complete removal of the thymus gland and the mass connected to it.

Result: Histopathology of the specimen proved that the two solid tumor masses in the right and left thymic lobes, together with another mass connected to the isthmus of the gland by stalk, were all in fact a mature teratoma.

Conclusion: This case illustrate that not every cervical swelling with a retrosternal extension will be thyroidal or cervical in origin, but that a mediastinal mass such as the one in our case, could also present itself as a cervical swelling. This also demonstrates that a cervical swelling should always be taken seriously and full and complete investigations should be carried out by an experienced surgeon in a well equipped hospital.

Keywords: Thymus gland, teratoma, anterior mediastinum, suprasternal notch, retrosternal thyroid (goiter)

Splenogonadal fusion as a cause of Congenital Left Indirect Inguinal Hernia

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ABSTRACT

Introduction: Splenogonadal fusion (Polysplenia, accessory spleen) in the scrotum, simulating a testicular tumor has been reported as a rare finding, but to be as a congenital indirect inguinal hernia, may be even very rare and not reported before, which warrant recording.

Method: A young patient was presented with left scrotal mass, which has been proved in continuity as a chain of spleniculi within the abdominal cavity.

Operation was done, and a hernial sac found, which was opened, a violet-blue mass seen within the content of the spermatic cord and attached to the left testicle close to the head of the epididymis.

The testicle, epididymis and the spermatic cord appeared normal. The mass followed upwards inside the abdomen after a left Para median incision was done, a chain of Congenital Spleniculi found started at the hilum of the spleen and tail of pancreas, down through the abdominal cavity, and the left inguinal canal with the spermatic cord, in a peritoneal sac covering leading to a congenital indirect left inguinal hernia. Complete excision of the mass with the chain of spleniculi and herniotomy with modified bassini repair was done.

Conclusion: May be nowadays with the presence of the CT scan, MRI and needle cytological examinations condition can be diagnosed before surgery, still surgery may be needed for the treatment of hernia or of any complication might be happened. Accessory spleens should be removed if symptomatic or if they are identified at splenectomy for hematologic diseases.

Keywords: Splenogonadal fusion, polysplenia, accessory spleen, spleniculi, congenital anomaly, congenital indirect inguinal hernia, testicular tumour

Patient-Provider Reciprocity as Complex Adaptive System

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ABSTRACT

Context: Patient-Provider reciprocation is the axiomatic doctrine for adherence to treatment and satisfaction. Conventionally these interactions were solicited to decipher by archetypal mechanical system theory culminating in barely convincing assimilations and interpretation.

Objective: We propose the patient provider synergy as a complex adaptive system conducive to explain the epistemic uncertainties and multi-dimensional equations.

Method: Review of the published and gray literature on patient –provider interactions, Complex Adaptive System, System Theory, Approaches to health care through traditional system theory, Web2.0 and key papers.

Findings: Patient provider interface is of leading concern and more substantial than the system concerns. The fundamental architecture of the CAS philosophically may robustly rationalize the various dynamics of these interactions, moreover it does surmount over the traditional system theory in conjunctions with its proximity with living system and competency to take care of various conflicts and surprises.

Conclusions: Patients –provider interactions may be visualized/anticipated in the light of CAS in pursuance of annex and evoke the retorts for wavering affirmations.

Keywords: Interaction, patient- provider, complexity, system, conflicts

Study of clinical efficacy of inhaled tobramycin as an add on treatment in COPD patients

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ABSTRACT

Background: COPD is a serious illness that affects over 5% of the adult population and is characterized by a progressive development of airflow limitation which is not fully reversible. Tobramycin is an aminoglycoside antibiotic used to treat bacterial infections particularly gram negative infections. It acts by binding to bacterial ribosome preventing translation of messenger rna into proteins and cell death ensues.

Objective: To evaluate efficacy of inhaled tobramycin in COPD patients in a tertiary care teaching hospital in north India.

Methods: This randomized, prospective, case controlled study was conducted on patients admitted in inpatient medicine unit suffering from COPD with frequent chest infections (more than 6 per year) since last 8 years. One hundred and fifty indoor patients of 50-70 years were selected and divided into two groups (n= 75) each. Group 1: Patients were treated with bronchodilators like beta agonists and anticholinergics in addition to oxygen therapy and oral antibiotics without tobramycin. Group 2: Patients were treated with nebulisation with 300 mg of tobramycin twice daily in addition to bronchodilators, oxygen and oral antibiotics. For symptomatic relief drugs like paracetamol, proton pump inhibitors and antiemetics were prescribed. The progression of treatment was monitored by regular follow up of patient's total leucocyte count, Erythrocyte sedimentation rate, X ray chest, pulmonary function test on alternate days, oxygen saturation by pulse oxymeter and arterial blood gas analysis. Clinical parameters like respiratory rate, blood pressure, fever and patient's well being were also monitored.

Result: Using Z test this study showed that group 2 patients had better outcome (p value <0.02) in terms of less duration of hospital stay (5 days in group 2 as compared to 7 days in group 1), early clearance of Xray chest (7 days in group 2 versus 9 days in group 1), saturation >92%, rapid normalization of cell counts and clinical parameters improved in 4 days in group 2 in comparison to 6 days in group 1 patients.

Study Limitation: Minor comorbidities of few patients were not taken into consideration in this study.

Conclusion: Inhaled tobramycin when added to conventional treatment in COPD patients led to significant improvement in terms of hospital stay and improvement in pulmonary function tests.

Keywords: Tobramycin, COPD, Efficacy, Hospital stay, Add on treatment, Pulmonary function tests

A Study of Psychiatric Morbidity in Patients of Peptic Ulcer Diseases

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ABSTRACT

Background: A stressful life event or situation-internal or external, acute or chronic-generates challenges to which the organism cannot adequately respond some times. Recent studies have found that the people who face general stresses pessimistically are apt to experience psychosomatic disorders. Psychological factors like stress are important in development of initiation, progression, aggravation, predisposition or reaction to disease. For example, a stressful event might lead to exacerbation of attack of asthma, neurodermatitis, migraine and even gastrointestinal involvement like development of peptic ulcer. As the significant number of patients with peptic ulcer diseases show psychologic influences, the present study is a step to find out psychiatric morbidity in patients of acid peptic diseases.

Aims and Objectives: To study the prevalence of psychiatric morbidity among patients of peptic ulcer disease and to study the patients of peptic ulcer disease with psychiatric morbidity in comparison to patients of peptic ulcer disease without psychiatric morbidity on following variables: Socio-demographic variables & Attributes/ risk factors of peptic ulcer disease.

Methods / Study Design: The patients will be screened in department of General Medicine, outdoor as well as indoor patients, as having acid peptic disease diagnosed clinically and as per relevant investigations wherever required.

- I. Sample size
 - a) 50 cases of clinically proven peptic ulcer diseases.
 - b) 30 cases of control group.
- II. Patient inclusion criteria
 - a) Patients between the age group of 20-50 years
 - b) Both male and female patients almost equal in number.
- III. Patient exclusion criteria
 - a) Patient with any chronic and acute medical illness.
 - b) Patient with history of epilepsy, Psychiatric illness, alcohol or substance abuse.
 - c) Patients on long term treatment for medical or psychiatric illness.
 - d) Who refused to give informed consent.
- IV. Following instruments would be applied for the purpose of the study
 - a) Personal Biodata proforma (Appendix-I).
 - b) Symptom check list (SCL)- 80 (Appendix-II)
 - c) Hamilton rating scale for anxiety.
 - d) Hamilton rating scale for depression.
 - e) Presumptive stressful life events scale (P.S.L.E.).
 - f) Clinical diagnosis of psychiatric disorders will be made as per ICD- 10 criteria. Data collected shall be subjected to statistical analysis.

Results / Findings/Conclusions: From the present study:

1. 58% patients of acid peptic disease in study group were suffering from significant ($P<0.001$) psychiatric morbidity.
 2. In study group patients, mean score on SCL-80 was significantly ($P<0.01$) higher i.e. 66.36 as compared to 37.53 in control group subjects. They also had significantly higher mean score on SCL-80 subscales of somatization (20.42, $P<0.001$), depression (15.48, $P<0.05$) and anxiety (13.28, $P<0.05$).
 3. On HDRS and HARS mean score was found to be significantly ($P<0.01$) higher in study group patients (11.52 and 6.22) than control group subjects (3.8 and 2.76) respectively.
 4. As per ICD-10 criteria, significantly higher number of patients were diagnosed as Depression F32 (24%, $P<0.05$), Generalised Anxiety Disorder F41.1 (26%, $P<0.02$) and Somatization F45 (18%, $P<0.05$).
 5. On PSLE scale, the patients in study group reported significantly ($P<0.05$) more life events (personal and undesirable) with mean score of 2.44 and 3.04 as compared to 0.93 and 1.03 respectively in control group subjects.
 6. Significantly higher number of patients were females (65.51%, $P<0.05$), more patients were in late age group 41-50 years (51.72%, $P<0.05$) were married (96.55%, $P<0.001$), were labourers (41.37%, $P<0.01$), were illiterate (48.27%, $P<0.001$) and had low income (72.41%, $P<0.001$).
 7. The patients of acid peptic disease with psychiatric morbidity used alcohol regularly (27.58%, $P<0.05$), were heavy smokers (34.48%, $P<0.05$), chewed tobacco (17.24%, $P<0.05$), took NSAIDS (48.27%, $P<0.001$), used more spicy food (57.12%, $P<0.05$) and had stronger family history of mental illness like depression (10.34%), bipolar disorders (6.89%).
 8. Significantly higher number of patients with psychiatric morbidity were diagnosed as a case of acid peptic disease at late age of 41-50 years (34.48%, $P<0.01$), had long duration of illness i.e. >10 years (51.72%, $P<0.001$) and had stronger family history of acid peptic disease (48.27%).
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Keywords: Psychiatric Morbidity, Acid Peptic Disease, SCL-80, Hamilton Rating Scale, PSLE, ICD 10

Factors affecting adherence to the use of hip protectors in nursing homes

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ABSTRACT

Background: Falls in residents living in long-term facilities are a major health concern. Hip fracture is one of the main consequences of a fall and the literature suggests a high related mortality. Few post-fall residents return to pre-fall functioning state. There is a general recommendation for the use of protective devices in the literature and in published guidelines.

Aim & Objectives: To investigate the issues or factors affecting compliance and adherence of nursing or care home residents' use of hip protectors.

Method: A literature search investigating adherence to hip protectors; limited to research published between January 2005 and April 2010. Search terms included; nursing home; residential Facilities; homes for the aged; protective devices; hip; hip injuries; hip fractures. A total of twenty-three papers were found from these search terms. Five papers were found to fit all the set criteria after reviewed by two independent reviewers.

Results: Problems encountered included initial acceptance of the hip protector. Poor uptake was due to lack of education or belief in their beneficial use. Residents with a history of falls were observed to have positive views; whereas a large proportion of residents refused; reasons include complaints about size, comfort and difficulty in independent usage. Adherence factors related to residents (comfort, dependence, incontinence, cognition, falls risk and type); factors relating to staff (structured training and education, device policy availability, and carer attitude) and factors relating to institutions (finance and protector availability).

Study Limitations: The search was limited to five years to limit to recent versions of protectors. Most research was limited to use of the 'SAFEHIP' design and there was not sufficient investigation into the difference between the hard and soft-shelled versions.

Conclusion: Hip protector adherence is still low in residential homes where a number of determinants have been identified. A change in design is needed to improve adherence even though this is unlikely to solve compliance issues. Promotion requires active support of staff and, wherever possible, implementation of policy or departmental guidelines for effective utilisation.

Keywords: Nursing Home, Residential Facilities, Homes for the Aged, Adherence, Protective Devices, Hip Injuries

The effect of 6-weeks aerobic training on serum levels of lipoprotein changes in non-athlete females

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ABSTRACT

Objective: Having serum levels of high cholesterol can cause life-threatening disease specially cardiovascular problems. However, it is believed aerobic training can reduce the risk of cardiovascular disease, but this effect varies considerably among exercise intervention studies. Therefore, the present study was designed to evaluate the effects of aerobic training on serum levels such as cholesterol, high density lipoprotein, Low density lipoprotein, triglycerides and anthropometric parameters of inactive women.

Materials and Methods: This study was performed as an experimental study, in which 20 healthy non-athlete females (age 27.50 ± 4.11 yr, height 163.55 ± 4.22 cm, body weight 62.81 ± 4.66 kg) randomly divided in two groups (Control group, n=10 and Experimental group, n=10). Blood samples were taken 48 h before starting the aerobic training program. Then, experimental group performed a selected aerobic training program with 65-85% of individual maximum heart rate for 3 session per week, 60 minutes per session and 6 consecutive weeks. Then another blood sample was taken following the training period. Serum levels of lipoproteins of all subjects before and after the training period were measured using standard biochemical methods. Differences between post test and pre test were evaluated using a Student's t-test for paired samples. A P-value < 0.05 was considered to be statistically significant.

Results: Our results showed that the aerobic training caused significant changes ($p < 0.05$) in HDL-cholesterol (pre-test: 38.53 ± 1.34 vs post-test: 42.65 ± 1.6 , $p = 0.000$), LDL-cholesterol (pre-test: 134.61 ± 4.82 vs post-test: 127.72 ± 4.82 , $p = 0.001$), VLDL-cholesterol (pre-test: 131.98 ± 1.93 vs post-test: 127.53 ± 1.43 , $p = 0.000$), TG (pre-test: 117.05 ± 3.21 vs post-test: 92.37 ± 7.61 , $p = 0.001$) and TC (pre-test: 195.98 ± 4.30 vs post-test: 186.49 ± 4.48 , $p = 0.000$) in experimental group but not in control group.

Conclusion: The result of the present study revealed that regular aerobic training can lead to reduce cardiovascular risk factors with changing in the lipid profiles.

Keywords: Heart risk factors, Aerobic fitness, Serum lipids, Inactive females

Assessment of Acute Pain in Nursing Practice in Latvia

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ABSTRACT

Background: International Association for the Study of Pain defines pain as annoying sensations and emotions associated with actual or potential tissue damage or is described as such damage. Pains always are considered to be subjective sensations with multidimensional nature composed from physical, emotional and cognitive components. One of the main tasks in pain syndrome effective therapy is the option to perform objective assessment of pain intensity and quality utilizing principle of continuity. Independent surveys on pain management in postoperative period are performed in different countries of the world. Studies analyze effectiveness of both - medical and non-medical measurements in order to reduce pain syndrome. Very few investigations of chronic and acute pain influence on recovery process, progress and outcome of illness, assessment of pain intensity and quality are performed in Latvia. In the case of acute pain chronification, pain perception and management can be changed; pains become inadequately long lasting and may combine with psychogenic pains. According to the data obtained by the World Health Organization, fifty percent patients after injuries or operations have severe and insufferable pains despite the development of acute pain treatment and care. Insufficiently controlled postoperative pains become a risk factor for development of various abnormalities.

Aim of the study: To study the usage of postoperative period pain intensity and quality assessment scales in the clinical practice of nursing, as well as availability of these methods

Material and methods: Survey utilizes quantitative research method. As an investigation tool was chosen questionnaire. Survey was carried out in the surgical profile wards in Riga and regional clinics of Latvia. Questionnaire embraced 309 nurses, working in the surgical profile.

Results: Assessment of acute pains should be considered as the fifth vital sign providing more successful achievement of aims in pain care. Respondents recognize that in pain assessment pain evaluation scales are rarely used. In clinical practice prevails assessment of patient's subjective condition. Only 5% of nurses – respondents utilize visual analogue scale, 22% - verbal pain scale, 16% - numerical pain rating scale. Investigation data confirm the role of professional experience of nurse in organization of pain assessment and care work, because 98% of respondents mention pain assessment as a constituent of nursing.

Conclusions: One of the main objectives in effective therapy of pain syndrome is the possibility to perform objective assessment of pain intensity and quality. This objective should be achieved only with a help of shared team work – nurse, physician, anesthetist and other medical staff.

Keywords: Acute pain, assessment of pain, nursing, pain management, postoperative pain in adults, postoperative patient care

Frequency and Antibiotic Susceptibility Pattern of Amp C Beta Lactamase Producing Bacteria Isolated from a Tertiary Care Hospital of Pakistan

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ABSTRACT

Objective: Amp C beta lactamases are cephalosporinases which hydrolyze cephamycins and are poorly inhibited by clavulanic acid. Amp C beta lactamases confer resistance to a wide variety of antibiotics and pose both diagnostic and therapeutic challenges. The objective was to detect the frequency and antibiotic susceptibility pattern of Amp C beta lactamase producing bacteria isolated from a tertiary care hospital of Pakistan.

Methodology: Organisms were isolated from various clinical specimens. First, the screening of the isolates was done by using cefoxitin disc. Screen positive organisms were subjected to three dimensional extract test for detection of Amp C beta lactamases.

Results: From a total of 100 organism tested, 64 organisms were positive on cefoxitin screen test. Out of these 64, 40 (62.5%) showed the presence of Amp C beta lactamase. (*E.coli* 18, *K.pneumoniae* 14, *K.oxytoca* 1, *Enterobacter species* 5, *Citrobacter freundii* 2) by three dimensional extract test. The antibiotics found out to show good activity against these resistant bacteria include meropenem and tigecycline. This is the first study to determine the frequency of Amp C beta lactamases from Pakistan.

Conclusion: This study shows a high frequency of Amp C beta lactamase producing isolates from a hospital, which may lead to serious therapeutic problems.

Keywords: Amp C beta lactamases, Antimicrobial resistance, three dimensional extract test

Prevalence of risk factors for non-communicable diseases

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ABSTRACT

Background: Number of cases of noncommunicable diseases (NCDs) is on the rise. Taking into account their multicausal etiology, it is important to determine the prevalence of risk factors for noncommunicable diseases in different regions and countries in order to plan adequate preventive actions.

Aims and objectives: The aim of the study was to determine the prevalence of risk factors for NCDs such as overweight and obesity, high risk waist circumference, hyperglycemia and high blood pressure among individuals, aged 45 and older, living in the Autonomous Province of Vojvodina, according to their sex, age, level of education.

Methods/Study design: The study included gathering of the following data: general and demographic data, anthropometric measurements (body height [cm], body mass [kg], waist circumference [cm]) and calculated body mass index (BMI) [kg/m^2], values of systolic blood pressure and diastolic blood pressure [mmHg] and fasting glycemia [mmol/l]. General and demographic data were gathered using a questionnaire and an interview and included sex, age, educational attainment and type of settlement. Anthropometric characteristics were measured and interpreted in accordance with WHO Guidelines. A logistic model was used to determine the ODDS ratio for each risk factor and it was used for classification of risk factors for hyperglycemia and NCD development.

Data was collected from 77787 inhabitants of the Autonomous Province of Vojvodina (APV) of both sexes, aged 45 years and older.

Results/Findings: Calculating of BMI showed that 74.3% of the APV population was overweight or obese, and that 33.3% was obese. More men were overweight and more women were obese. The highest prevalence of overweight was among women and men older than 60 years. Individuals with college or university degree were less likely to be obese than individuals with no elementary education or partial elementary education. The obtained results showed that close to 80% of the examined population of AP Vojvodina had a desirable waist circumference (WC). High-risk and stage II WC were more frequent in women, whereas stage I WC was more frequent in men. A desirable waist circumference was more frequent among college and university graduates compared to those with lower levels of education. The prevalence of individuals with normal blood pressure (BP) according to the Helsinki Commission recommendations was 46.5%. Using JNC 7 criteria, 65.6% of the APV population was found to be affected by hypertension. Hyperglycemia was more frequent among women and diabetes mellitus was more frequent among men. The number of individuals with fasting hyperglycemia and diabetes mellitus increased with age and among the eldest there were 37.1% of individuals with fasting hyperglycemia, and 15.2% with diabetes. Fasting hyperglycemia and diabetes mellitus were more frequent in individuals without or with partial elementary school, consistent with the findings from USA.

Conclusion: Risk factors for NCDs are more often present among inhabitants of APV with lower education levels. Older age resulted in multiple risk factors presence. Almost half of the population of AP

Vojvodina older than 45 years (46%) had three or four diet-related risk factors for NCDs. Actions should be taken in APV in order to reduce the future social and economic burden of NCDs in AP Vojvodina.

Keywords: Non-communicable diseases, chronic diseases, risk factors, BMI, waist circumference, glycemia

Role of transmembrane tyrosin kinases in dexamethasone induced enhanced phagocytosis of apoptotic cells

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ABSTRACT

Background: The daily clearance of about 500 billion physiologically dying cells in the human body is performed safely mainly by the mononuclear phagocyte system. At least 10-15% of the cells in most human tissues are professional phagocytes as essential elements of the innate immune system. The engulfing cells can recognize dying cells by several cooperative mechanisms, but they also distinguish them from the living cells. Bridging molecules and receptors recognizing apoptotic cells show high redundancy and are linked with many intracellular signalling pathways. Deficiencies in clearing mechanisms can result recurring inflammations, autoimmune diseases or malignant tumours. Glucocorticoid can strongly increase the phagocytic capacity of human macrophages engulfing apoptotic cells, but the underlying molecular mechanism is not completely revealed. The importance of several genes was predicted in the up-regulation of phagocytosis by glucocorticoids by our quantitative-PCR (polymerase chain reaction) based "TaqMan Low Density Array" measurements on 95 apopto-phagocytic genes since their expression level was highly elevated as a result of dexamethasone treatment.

Aims & Objectives: Our goal was to knock-down the most remarkably up-regulated five genes (ADORA3, AXL, C1QA, MERTK, THBS1) in human macrophages by RNA interference and analyzing the consequent effect on phagocytic capacity.

Methods: Human monocytes were isolated from 'buffy coats' of healthy blood donors which were provided anonymously by the Hungarian National Blood Service on Ficoll–Paque Plus gradient and magnetic separation using CD14 human microbeads. Human macrophages were obtained through a 5-day differentiation using macrophage colony-stimulating factor. The glucocorticoid treated cells were differentiated at the presence of 1 μ M dexamethasone. After 3 days differentiation siRNA was transfected into the cells by electroporation. The knock-down effect was tested by real-time quantitative PCR at transcriptional and by Western-blot at translational level. To examine the phagocytic capacity of 5 days differentiated macrophages, neutrophil granulocytes were isolated by Histopaque density-gradient centrifugation of EDTA-treated venous blood of healthy volunteer blood donors following erythrocyte sedimentation. Default apoptosis in neutrophils was obtained by culture of freshly isolated cells in a presence of 10% AB serum for 20-25 hours. The phagocytosis assay was performed using fluorescent labelled cells and the rate of engulfment was measured by flow cytometry. To prove the role of MERTK at protein level, macrophages were pre-incubated with blocking antibodies immediately before the addition of neutrophils. Phagocytosis assay was performed both in the presence and in the absence of human AB serum. Statistical analysis was performed by using the paired Student's t-test. For these studies approval was obtained from the ethics committee of the Medical and Health Science Center, University of Debrecen (DEOEC RKEB/IKEB Prot. No. 2745-2008). The ethics committee approved this constant procedure.

Results: Powerful knock-down effect was found at each of the five investigated genes, but significant decrease in phagocytic capacity ($p < 0.01$) was observed only after knocking-down MERTK which could

be increased by the simultaneous knock-down of AXL. Significant reduction of phagocytosis ($p < 0.005$) was also noticed after macrophages were pre-incubated with MERTK blocking antibodies when human AB serum was not present during the assay. In the presence of human AB serum the decrease of phagocytosis was not significant.

Study Limitations: The phagocytosis blocking effect was much weaker when the assay was performed in human AB serum suggesting that blocking of MERTK can be compensated by other engulfing mechanisms in macrophages which have to be further investigated.

Conclusion: Glucocorticoids play an important role in the restitution of tissues after inflammatory processes in the human body. It was proved that transmembrane tyrosin kinases MERTK and AXL play an important role in the glucocorticoid augmented phagocytosis of human macrophages engulfing apoptotic neutrophil granulocytes. It was also concluded that the phagocytic machinery used by macrophages for engulfing apoptotic neutrophils depends not only on the treatment of phagocytosing cells but also on the apoptotic conditions of neutrophils.

Keywords: MPS, glucocorticoids, gene silencing, MERTK

Propofol-Related Infusion Syndrome

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ABSTRACT

Background: Propofol is a drug that is used for induction of anaesthesia at surgery. Its use is sometimes associated with sudden hemodynamic instability, which may be life-threatening.

Aim & Objectives: To report the occurrence of the propofol-related infusion syndrome in a child.

Methods/Study Design: A 13 year- old girl who received a bolus dose of propofol for induction of anaesthesia at surgery developed sudden hemodynamic instability.

Results/Findings: Investigations suggested that the child had developed propofol- related infusion syndrome. Close monitoring and supportive management eventually enabled the patient to recover from this dreaded complication.

Study Limitations: It was not possible to determine the exact reason why the child developed this syndrome.

Conclusion: An accurate specific diagnosis of this condition and prompt institution of appropriate therapy aid recovery from this syndrome.

Keywords: Propofol-related infusion syndrome, induced Brugada syndrome, anaesthesia

Relation of Peak Expiratory Flow Rate (PEFR) To Anthropometric Data of Male & Female school going Children of Serial Age-Group in a District Town Of West Bengal, India

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ABSTRACT

Background:

Pulmonary Function Tests (PFT) provides objective information about the extent of physiological impairment and Peak Expiratory Flow Rate (PEFR) is one of the most important parameters of PFT. PEFR is the simple way to follow up the patients with airway obstructive diseases, using Peak Flow Meter. The observed PEFR is compared with the patient's predicted value which is taken as a mean PEFR attainable by normal people. But, normal values are influenced by ethnicity, gender, age, body built etc. both in children and adults. Naturally PEFR varies in variation with the people, geography, gender, age and sex. In India especially in eastern zone study to serve normal reference values of PEFR is rare to find. This data can serve as a reference for childhood asthma patients in eastern India.

Aim & Objectives: To contribute the normal PEFR data in relation to anthropometric data in school going children aged 5 to 10years.

Methods/Study Design: This was a descriptive, observational, school based, cross sectional, clinical study which was carried out within two months on school going children of 5-10 years from randomly selected schools at Midnapore Town, West Bengal. Study population was divided into five age groups and 100 girls and 100 boys were taken in each group excluding those with pulmonary disorders or smoking habits. So, total sample size was 1000.

All eligible students were checked beforehand by physicians and eligible candidates were called for height, weight and three consecutive PEFR value measurements (with mini peak flow meter) among which the best values were taken for the record. Formulas suggested for prediction of PEFR in females $\{(age \times 4/8) + (height \times 10/6) - 25\}$ and in males $\{(age \times 1/7) + (height \times 2/1) - 208\}$. Data were stored with the help of computerized technologies and analyzed by SPSS software.

Results/Findings: The mean PEFR was 260.25 ± 71.99 L/min. Obtained PEFR with all anthropometrics variants indicate a good correlation. Correlation between PEFR and height was more significant and between PEFR and weight was lower, and according to importance of height and age which can be showed in table format along with the p-values wherever assessed.

Study Limitations: This was completely a single handed study done in a short period with population from only urban area.

Conclusion: The results of this study can determine normal PEFR and it can be useful for treatment and monitoring of children with asthma who live in this region.

Keywords: Peak expiratory flow rate; normal PEFR value; PEFR in children; PEFR of Indians

The Effects of LPG Massage System on Delayed Onset Muscle Soreness and Muscular Performance after Resistance Exercise

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ABSTRACT

Background: Muscular soreness and pain are common and prevalent experiences following performance of physical activities. This is accompanied with feelings of pain, stiffness, wellness and muscular cramp.

Aim & objects: This study was done in order to determining effects of LPG massage system on delayed Onset Muscle Soreness and muscular performance after resistance exercise.

Methods: twenty inactive females [aged 21.9 ± 1.02 years, BMI 21.61 ± 1.62 kg/m²] were randomly assigned to a treatment (LPG system) group (n=10) and control group (n=10). Both group performed 3 set \times 15 reps (70% MCV) with curl hamstring system to induce muscle soreness and 1set \times 25 reps (20% MCV) for recovery. One hour later, was received 15 min massaging by LPG system technique S6 model. Creatine Kinase (CK), pain, flexibility, thigh circumference, maximum isometric strength and vertical jump performance were measured at pre- exercise and 24 hour after exercise. Data was analyzed by independent t-test.

Results: Range of changes of Blood CK activity, pain and thigh circumference were significantly, decreased after LPG massage treatment ($t_{ck} = 9.08$ IU/ml, $t_{pain} = 6.72$, $t_{thc} = 5.85$ cm, $p < 0.01$) and range of changes of maximum isometric strength, vertical jump performance and flexibility were significantly increased after LPG massage treatment ($t_{mis} = -7.2$ kg, $t_{pow} = -3.26$ cm, $t_{flex} = -3.44$ $p < 0.01$).

Conclusion: LPG system technique could decrease cellular damages induce by DOMS and could recover muscle function.

Keywords: Delayed onset muscle soreness, LPG massage system, Creatine Kinase, maximum isometric strength and inflammation

Lipoprotein(a): an emerging cardiovascular risk factor in hypertensive patients

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ABSTRACT

Background: Several novel criteria can improve detection of subclinical atherosclerosis. In particular, the clinical interest has focused on lipoprotein(a), a modified LDL particle which presents a structurally homologue protein to plasminogen.

Aim: The aim of our work was to evaluate the levels of lipoprotein(a), in hypertensive patients with or without atherogenic dyslipidemia comparative with a control group and to estimate the relationship of Lp(a) with other biological and functional parameters.

Methods: The study included 40 hypertensive patients with atherogenic dyslipidemia (HTN+DYS), 43 hypertensive patients without atherogenic dyslipidemia (HTN-DYS) and 35 control subjects, aged and sex matched. The hypertensive patients were not receiving pharmacological therapy and had no clinical signs of associated pathologies or organ damage. We determined in all groups the levels of Lp(a), apolipoprotein A-I and apolipoprotein B and fibrinogen. Lipoprotein(a) was measured by enzyme immuno assay (ELISA) test. Using B-mode ultrasonography we determined carotid intima-media thickness (IMT) and flow mediated vasodilatation (FMD) in all patients.

Results: Lp(a) was significantly higher in HTN+DYS group than in HTN-DYS group and than in control group (77.18 ± 48.51 mg/dL versus 58.14 ± 47.31 mg/dL versus 22.64 ± 11.86 mg/dL versus, $p < 0.001$). A significant correlation was found between Lp(a) and IMT ($r = 0.64$, $p < 0.001$), between Lp(a) and fibrinogen ($r = 0.78$, $p < 0.001$), and between Lp(a) and brachial FMD ($r = -0.29$, $p < 0.001$). Lp(a) levels were not correlated with total cholesterol, LDL-cholesterol, HDL-cholesterol, apolipoproteins A-I or B or apoA-I/apoB.

Study Limitations: Potential limitations of our study are the relative small number of patients and controls and missing apo(a) phenotype.

Conclusion: Lp(a) levels are related to early structural changes of the carotid arteries as shown by ultrasound measurements of IMT and to early functional changes evaluated by brachial FMD and can be considered an emerging risk factor for premature atherosclerosis.

Keywords: Atherosclerosis, arterial hypertension, Lipoprotein(a), flow mediated vasodilatation (FMD), carotid intima-media thickness (IMT)

Pattern of Emergency Obstetrics Care (EmOC) services utilization at tertiary care hospital in rural areas

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ABSTRACT

Background: The maternal mortality ratio in India is 450 maternal deaths per 100,000 live births i.e. 1 woman dies every 5 minutes from pregnancy and childbirth related complications. India accounts for >20% of global maternal and child deaths, and also records 20% of births worldwide. What makes maternal mortality such a challenge is that these complications are extremely difficult to predict. Despite years of research, we still have no reliable method of predicting vast majority of cases of hemorrhage, obstructed labor and eclampsia. Therefore, focus for addressing maternal mortality has shifted from predicting complications during pregnancy to preparing for efficient emergency interventions. EmOC interventions are inexpensive and can easily be carried out by specially trained health professionals. Nearly all these lives could be saved if affordable, good-quality obstetric care were available 24 hours a day, 7 days a week.

Aim and Objectives: Considering these facts, this study was planned to assess proportion of normal institutional deliveries against EmOC deliveries, causes for seeking EmOC and mode of intervention provided at tertiary care hospital in rural setting. This study has been done to enhance health outcomes among women and children by providing early, adequate EmOC.

Methods/ Study Design:

STUDY SITE: Department of Obstetrics and Gynaecology of Jawaharlal, Nehru Medical College, Sawangi, Wardha

STUDY TYPE: Cross-sectional (hospital-based) / STUDY DURATION: 6 months / SAMPLE SIZE: 200

DATA COLLECTION: Extraction from written facility records of women who landed in emergency

STATISTICAL ANALYSIS: By Multiple Logistic Regressions. Microsoft Excel has also been used.

Results/ Findings: Of 698 deliveries, 267 deliveries (38%) required EmOC. Direct causes implicated were eclampsia, sepsis and hemorrhage. 33% underwent Induction, 31%-Caesarean Section, 25%-Forceps delivery and 6%-Vacuum extraction. 76% patients are between 20-30 years and literate enough to take decisions. Primigravida (47%) required more EmOC intervention.

Study Limitations: This was a short-term study. However, efforts to make this study an on-going process should be made so that more rural population can be covered and counseled.

Conclusion: Low utilization of EmOC facilities in rural areas is responsible for high maternal mortality. Three most important delays have been identified in ensuring access to EmOC:

- DELAY 1: Decision of seeking care.
- DELAY 2: Receiving timely health care facilities and referrals.
- DELAY 3: Receiving adequate treatment.

Quality services at PHCs and focus on well-trained birth attendants could improve utilization of EmOC services.

Keywords: Emergency obstetrics care, Maternal mortality, Complications, Pregnancy

Can Body Mass Index (BMI) be used as a screening tool for Osteoporosis?

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ABSTRACT

Background: Osteoporosis is one of the leading causes of pathological fractures in the world and puts a lot of moral as well as financial burden on the patients. Therefore it is important to be able to predict or provide early diagnosis for this condition. In this perspective the aim of study was to determine whether BMI can be used as a screening tool for osteoporosis. This study was sponsored by ICMR (Indian Council of Medical Research) under the Short Term Studentship programme STS 2009. 21/KA/KMCMP-64/09-BMS

Aim: Determine whether BMI can be used as a screening tool for osteoporosis.

Objectives:

1. Establish the strength of association between BMI and osteoporosis.
2. Determine the proportion of patients having a BMI below the cut-off value of 18.5kg/m² in each population i.e. cases (osteoporotic group) and controls(non-osteoporotic group)
3. Determine whether there is a significant difference between the two proportions mentioned above.

Both a strong association and a significant difference between the two proportions needed to be present to say that BMI can be used as a screening tool.

Study design: Case control study

Methodology: 564 files of female patients were used for collection of data (Source: Kasturba Hospital Osteoporosis Registry concerning women patients). Ethics committee clearance was obtained prior to use of data. The case control study involved two populations:

- Cases (Women having osteoporosis)
- Controls (Women not having osteoporosis)

Selection of cases and controls

a) Definition of cases

- Diagnostic Criteria: WHO clinical definition of osteoporosis: Bone Mineral Density (BMD) 2.5 or more standard deviation below the peak bone mass.

BMD is measured using Ultrasound based technique (Sunlight Omnisense 7000, right distal radius) at the Kasturba Hospital

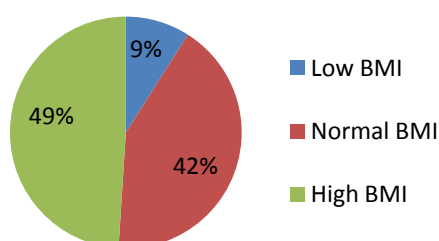
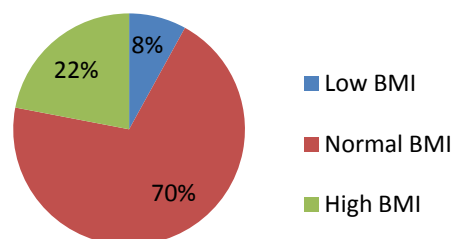
b) Definition of controls

- Non-osteoporotic group - BMD of 1.0 standard deviation below normal peak bone mass or higher.

BMI was calculated as per the WHO guidelines¹.

Results:

Risk Factor	Cases	Controls
	(osteoporosis present)	(osteoporosis absent)
Low BMI (<18.5kg/m ²)	30	17
Normal BMI (18.5kg/m ² -24.9kg/m ²)	168	157
High BMI (>24.9kg/m ²)	142	50
Total	340	224

Cases**Controls**

Statistical Analysis: *Pearson's Chi Square Test* yielded a Chi Square value of 25.262. P value: less than 0.01 ($P < 0.01$). Both values show a strong significance of the study.

The above values also suggest that there is a strong association between BMI and osteoporosis. BMI *does* affect the onset of osteoporosis. However the difference between the two proportions of patients in the low BMI category is not significant (9% in osteoporotic group and 8 % in non-osteoporotic group)

This means that although there is a strong association, there is no evidence that patients having a BMI below the cut-off value of 18.5kg/m² are more prone to having osteoporosis. Therefore it would be wrong to use BMI in a screening test whereby people with BMI below the cut-off value are labeled as potential victims of the disease. It is worth noting that the majority (70%) of the non-osteoporotic population had a normal BMI compared to a smaller proportion (42%) in the osteoporotic population. This hints at a possible protective effect of maintaining a normal BMI as regards to the disease.

Study Limitation: DEXA (dual X-ray absorptiometry), the gold standard to diagnose osteoporosis, is not used at the Kasturba Hospital because of logistic reasons.

The files used to collect data were those of female patients *only*.

Conclusion: BMI cannot be used as a screening tool for osteoporosis. Incidental finding: A normal BMI can be protective against osteoporosis.

Keywords: BMI, Body Mass Index, Osteoporosis, Orthopedics, Retrospective Study, Screening tool

Impact of Health Education in Raising Community Awareness on Flood Preparedness

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ABSTRACT

Background: In India, 168 floods have been reported from 1980-2008, occurring at a frequency of 5.79 per year. Karnataka's total coastline of 280km is often struck, more severely Dakshina Kannada and Udupi coasts. In Udupi District, from April 2009 - April 2010, 14 lives have been lost, 408 hectares of crop area and 668 houses were damaged. Because of the causal link between people being aware of a hazard and acting appropriately, an education program will be useful in increasing the resourcefulness of the community in the event of a flood.

Aims and Objectives:

- (a) To determine existing awareness about flood preparedness;
- (b) To significantly increase public awareness of flood risk;
- (c) To determine impact and effectiveness of health education on the community;
- (d) To identify any possible risks or vulnerability of the community to the hazards of flood.

Methodology: The study subjects chosen (sample size of 55) were the population from flood prone areas of Heroor and Uppoor, Udupi Taluk. They were addressed at their monthly meeting where a questionnaire was used to assess the community's vulnerability and concern about the risk of flood, and existing awareness on flood preparedness measures. Following this, a community flood education program (which included a talk, a Microsoft PowerPoint Presentation, and a short interactive session) was implemented. The data has been summarized using proportions. The impact of the intervention has been analysed using Paired Sample T Test.

Results:

- (a) The pre-test determined a baseline awareness score of 5.87 (39.2%);
- (b) The post-test gave an awareness score of 11.62 (77.5%);
- (c) The improvement was by 5.75 (38.3%) which was found to be statistically significant ($p < 0.001$).

Conclusion: The study was able to determine the community's pre-existing awareness level and through the flood education program, improve on it. The community was found to be highly vulnerable to floods due to lack of acquaintance with flood preparedness measures and the number of dependents.

Limitations: Most of the participants (92.3%) were female. In India, men usually make the decisions for the family and hence the flood education material taught to the participants may not be effectively implemented. However, if a flood strikes in the absence of the men, educated women can carry out the appropriate actions.

Keywords: Awareness, community, education, flood, mitigation, preparedness

Physical and mental health at third age - risk factors

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ABSTRACT

Objectives: Identifying biological and socio-demographic factors influencing old people's health state and their impact on their life; psychological evaluation of a third-age (60-90 years) cohort.

Methods: The sample was made up of 120 urban subjects of both sexes, aged between 60-90 years, evenly distributed into 3 age groups: 60-70, 70-80 and 80-90. Subjects were randomly selected from non-institutionalised population (with no claims of representativeness). Two instruments were used: a questionnaire including socio-demographic and biological data and Beck Depression Inventory. Subjects were also measured and weighted and their BMI (Body Mass Index) was determined. For efficiency, we have considered both score types for Beck Inventory. Data was analysed with SPSS 13.

Results: Sample's mean age was 70.95 years, respectively 70.6 years for women and 71.5 years for men. BMI evaluation distributed 70% of the subjects in *Overweight* and *Obese 1st degree* classes, women representing the majority in these groups. On ages, 60% of the subjects between 60-70 de years were overweighted. Each of the 60-70 and 70-80 years age groups rated 40% in the 1st degree Obesity class. Using Pearson's correlation analysis we found significant correlations. According to Beck first scoring, women with minor depression were three times more numerous than men. Furthermore, subjects mildly depressed were **only** women. ($r=-0,543$; $p < 0.01$) Pondering the second scoring type, all men subjects situated in normal depression' limits and 25% of women suffered from mild depression. Female gender emerged again as risk factor for depression. Younger subjects (60-70 years), were more confident and optimistic about their future and self-rated positively (low or null scores at B and D items). Furthermore, 90% of those subjects situated among the ones with normal scores, regardless the scoring type. Depression scores increased with subjects' age ($r=0,602$; $p < 0.01$). Subjects' relationship with their family, especially children, influenced depression, its level proportionally increasing with the dissatisfaction degree experienced in those relations. Family constitutes the main emotional support of old people. In our sample, economical level did not institute as key-factor for the satisfaction level of interfamilial ties or for depression.

Conclusions: Depression level increased directly with subject's age, regardless the scoring method. Marital status influences significantly subjects' general mental state, depression rate being higher at subjects who have experienced stressful life events (partner's death, divorce). Depression rate wasn't influenced by socio-economic circumstances, being rather determined by the stress generating events in subject's life.

Keywords: Third-age, depression, BMI

Serum Leptin changes following a selected aerobic training program in un-trained Females

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ABSTRACT

Objective No doubt , obesity can cause for some metabolic syndromes , type 2 diabetes , hypertension, other cardiovascular disease and osteoarthritis. Leptin is single-chain proteohormone with a molecular mass of 16 kDa that is thought to play a key role in the regulation of body weight and obesity, meanwhile adipose tissue is the major source of leptin expression. Hence, Given the undeniable role of sport in general health, the aim of this study was to assay the effect of regular exercise on serum level of Leptin in un-trained female.

Materials and Methods: 24 un-trained female subjects(age 29.8 ± 4.1 yr, height 161 ± 7 cm, body weight 65.6 ± 5.2 kg) randomly divided in two groups(Control group ,n=12 and Experimental group ,n=12). Blood samples were taken 48 h before starting the aerobic training program. Then, experimental group performed the aerobic training program included running with 65-85% of individual maximum heart rate on treadmill for 3 session per week, 30 minute per session and 8 consecutive weeks. Then another blood sample was taken following the training period. Serum level of leptin of all subjects before and after the training period were measured using standard biochemical methods from all the subjects in both groups again. Differences between post test and pre test were evaluated using a Student's t-test for paired samples. A P-value < 0.05 was considered to be statistically significant.

Results: Our results showed that the aerobic training resulted in a significant decrease in leptin serum in experimental group but no significant difference was seen in leptin serum in control group (experimental group: pre-test= 28.42 ± 12.78 vs post-test= 17.10 ± 10.54 & Control group: pre-test= 24.72 ± 15.63 vs post-test= 25.01 ± 14.14).

Conclusion: The result showed that regular and light aerobic exercise could decrease leptin levels in un-trained female (p=0.008). So, decreases in serum leptin may be one mechanism by which weight loss improves physical function.

Keywords: Exercise training, Leptin, un-trained female

Attitudes to and practice of breast and cervical cancer screening in Romania

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ABSTRACT

Objectives: Identification of the characteristics of women who have a low regard for Breast Self-Examination (BSE), mammography (MM), Pap testing (PAP); of psychosocial barriers in their way to visiting the gynecologist for routine gynecological examinations; and if a correlation exists between cervical and breast cancer screening.

Methods: This study included 848 Romanian women, aged 18-82, who had started their sexual life. In 2007 the women were questioned regarding receiving the examinations and tests mentioned above. In 2010 we also organized two focus groups of 20 women. The Chi square test, binary logistic regression and latent class analysis were employed.

Results: The proportion of BSE monthly is very low and the proportion of no self-examination is very high in the 15-24 years and over 50 years age groups. Only 15% of the interviewed women had had an MM. The proportion of the women who had had an MM in the age group under 44 years is almost double compared with the proportion in the group 44 years and older ($\chi^2=10.5$, $df=1$, $p=0.001$). Less than half of the interviewed women had received a routine gynecological examination in the last 3 years.

Conclusions: In respect of genital and breast health attitudes the women are distributed in four latent classes.

Keywords: Papanicolaou Smear; Mammography; Breast Self-Examination; Screening; Social disparities

Impact of body mass index on correlation between insulin resistance and progesterone 17 oh concentrations in women with polycystic ovarian syndrome

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ABSTRACT

Polycystic ovary syndrome (PCOS) is one of the most common endocrine –metabolic disorders affecting about 7% of reproductive- age women. The symptoms and severity of the syndrome vary greatly among women. While the causes are unknown insulin resistance, diabetes and obesity are all strongly correlated with PCOS. While most women with PCOS frequently have higher levels of progesterone 17 oh, so far few studies have evaluated the correlation between insulin resistance and progesterone 17 oh in women with PCOS in regard to BMI. A total of thirty one women with PCOS diagnosed by Rotterdam criteria and thirty six control subjects without PCOS were enrolled in this cross sectional study. The serum samples were collected for determination of fasting insulin level, insulin resistance (IR), fasting blood sugar (FBS) and progesterone 17 oh. Both case and control group were subdivided into three groups (normal, overweight, obese) according to their BMI and were evaluated regarding to their fasting insulin level, IR, FBS and progesterone 17 oh. The present study showed that fasting insulin was higher in case group ($p=0.004$), and there was a significant enhancement in insulin resistance ($p=0.02$) in case group. After subdividing the subjects regarding their BMI a significant increase could be observed in insulin resistance in normal case group ($p=0.02$), and fasting insulin ($P=0.004$) was also found to be significantly higher in normal weight PCOS patients than the normal weight control group. Progesterone 17 oh levels was not significantly different in case group (neither before nor after subdivision). A positive correlation ($r=0.84$; $p=0.02$) between insulin resistance and progesterone 17 oh concentrations in overweight women with PCOS was demonstrated. There was also a positive correlation ($r=0.87$; $p=0.002$) between progesterone 17 oh concentrations and fasting insulin levels in overweight women with PCOS. The current results suggested that the probable insulin resistance/ hyperinsulinemia responsibility for high progesterone 17 oh concentrations may be partially due to elevated body mass index as such a correlation between IR and progesterone 17 oh concentrations could not be seen in normal case group.

Keywords: Polycystic ovary syndrome, insulin resistance, progesterone 17 oh

Low-cost tools for microbial quality assessment of drinking water in South Africa

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ABSTRACT

Background: Monitoring capacity shortages exist around South Africa, leading to a lack of microbial data, which is needed to make public health decisions about drinking water quality.

Aims and Objectives: To evaluate a combination of two low-cost tests as potential tool for microbial monitoring of drinking water quality, and detection of infrastructural and treatment problems in South Africa.

Method: Opportunistic sampling was conducted using the H₂S strip test and the heterotrophic plate count (HPC) between June 2008 and February 2010.

Results: No public health risks were detected in Matlosana City, Fochville and eThekweni Municipality. Twenty eight percent of drinking water samples were faecally contaminated in Makana Municipality, where the HPC concentrations ranged from 5 to greater than 1500 CFU/mL. Combination of the results from the tests correctly indicated that insufficient treatment, microbial re-growth and/or pipe bursts were the likely sources of contamination. Implementation of a monitoring programme, involving the Makana municipal officials, the authors and community volunteers, has so far been dysfunctional due to insufficient involvement by municipal officials.

Conclusions: The two tests used here provide a valuable tool for drinking water quality monitoring in South Africa. Results of statistical testing indicate that the rates of faecal contamination are significant.

Keywords: Hydrogen-sulphide strip test, HPC, South Africa, drinking water quality

Stress-related Psychological Disorders Among Surgical Care Nurses in Latvia

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ABSTRACT

Background: The subject of stress related psychological disorders is considered to be one of the most critical problems in the 21st century. Latvia's social-economic situation is stressful and a lot of nurses still need to work more than one shift. There are no complete studies about surgical care nurses and operating room nurses burnout, depression, anxiety and compassion fatigue situation in Latvia.

Aim and Objectives: Research aim was to find out burnout, depression, compassion fatigue and anxiety presence among surgical care and operating room nurses practicing in Latvia.

Methods/Study Design: The research instruments were State-Trait Anxiety Inventory (STAI), Maslach Burnout Inventory (MBI), Professional Quality of Life Scale (ProQOL R-V) and Beck Depression Inventory (BDI). Maslach Burnout Inventory helped to assess of three burnout components: emotional exhaustion, depersonalization and rank of personal success for surgical care nurses and operating room nurses.

Results/Findings: The participants of the study were 118 surgical care nurses and operating room nurses from several hospitals in Latvia. All participants were women, age range - from 26 till 56 years, with work experience in surgical ward or operating room. The averages for Beck Depression Inventory was 11,96 ($\pm 8,93$), averages for Professional Quality of Life Scale Compassion Satisfaction subscale was 38,83 ($\pm 6,60$), for Burnout subscale was 23,40 ($\pm 6,75$), for Secondary Traumatic Stress subscale was 19,86 ($\pm 6,57$) averages for State-Trait Anxiety Inventory for state anxiety subscale was 48,39 ($\pm 10,61$), and for trait subscale was 45,81 ($\pm 9,35$). Averages for Maslach Burnot Inventory by subscales were for Emotional Exhaustion subscale - 23,49 ($\pm 10,82$), for Depersonalization subscale was 6,65 ($\pm 5,36$) and for rank of personal success subscale - 36,73 ($\pm 6,97$).

Study limitations: This study has such limitations as relatively small number of participants and use of some tools not standardized in Latvia.

Conclusion: Results of the research indicate burnout presence among surgical care nurses and operating room nurses, as well as indicate levels of anxiety, compassion fatigue and depression.

Keywords: Surgical care nurse, operating room nurse, burnout, anxiety, depression, compassion fatigue

Geographic and Ethnic Distribution of *P knowlesi* infection in Sabah, Malaysia

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ABSTRACT

Background: *Plasmodium knowlesi*, an originally zoonotic malaria parasite is now increasingly recognized as a potentially virulent type of human malaria, particularly in South East Asia. The initial diagnosis based on light microscopy would not differentiate *P knowlesi* from *P malaria* and the nested PCR (Polymerase Chain Reaction) assay is the only reliable diagnostic method to correctly differentiate the two species. Sabah State Public Health Laboratory has launched its PCR service in 2007 for all government hospitals of Sabah to get accurate verification of malaria species. Sabah state is famous for its significant tourist attraction sites, of which Mount Kinabalu and Tip of Borneo are the most unique and mostly visited. A large variety of ethnic groups reside in Sabah with Kadazan-Dusun forming the largest indigenous group followed by Bajau and Murut.

Aim & Objectives: To determine the geographic and ethnic distribution of zoonotic malaria among Sabah population so as to recommend effective preventive and control measures at popular tourist sites of Sabah.

Methods/Study Design: A record review of all nested PCR assays done during 2009 at Sabah State Public Health Laboratory was made. SPSS version 16 and Microsoft excel 2007 softwares were used in analysis.

Results/Findings: 445 cases were referred in 2009 for PCR assay from various hospitals of Sabah. Age range was 1 to 89 years (33±18 years) and about 12 % were symptomatic cases while the rest were confirmed malaria by microscopy. 343 cases (253 males and 90 females) were positive for *Plasmodium knowlesi* single infection or mixed with other species. Mixed infection with *vivax* was common (65 males and 18 females). Only two cases each for mixed infection with falciparum and malarie were detected. *P knowlesi* infection was confirmed in all age groups (under five as well as over 80). Among the positive cases, about 32% were Rungus, 28% Dunsun and 15% Murut. 41.7% were from Kudat which is close to the Tip of Borneo and 16.3% came from Ranau area in which Mount Kinabalu is situated. Keningau and Tenom areas contributed 15% each.

Study Limitations: The PCR assay was done only on hospital referred cases that the study results would not reflect the actual community prevalence.

Conclusion: Major tourist attraction sites showed high number of *P Knowlesi* infection calling for establishment of effective preventive measures against this monkey related malaria in Sabah.

Keywords: *P knowlesi*, PCR, Sabah, malaria, monkey

Policy, Perception and Health Care Utilization in Myanmar

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Note: This research was done in Yangon Myanmar before both authors joined Universities in Malaysia.

ABSTRACT

Background: Health Care financing is one of the challenges in health sector globally, and Myanmar is not an exception. Myanmar provided free health care to all citizens till 1993. As health care cost escalated in line with technological advancements and newer treatment options, Myanmar envisaged a policy to encourage alternative health care financing by promoting the role of co-operatives, joint ventures, private sectors and non-governmental organizations in delivery of health care. Thus a community cost-sharing system was introduced in all government hospitals and health clinics since 1993. Government hospitals opened Private wards. Private clinics were developed and upgraded to private hospitals. Clients shared the cost of medicines at government health care facilities, although consultation and accommodation is free. In private sector, clients pay all health care expenses out-of pocket. Formal health insurance is not well developed in Myanmar and Social Security is the only available Scheme. However coverage of that scheme is limited to some Ministries and enterprise. In this context how people make a choice among public and private sector and how they manage to share the cost of health care is important to see the consequences of cost sharing policy implementation from patient's perspectives. .

Aim & Objectives: To explore the client perspectives of "individual financing" at private hospital and government hospital under community cost-sharing scheme.

Methods/Study Design: A cross sectional study was done in a government hospital, namely Yangon General Hospital (YGH) and one private hospital in Yangon, Myanmar. Study population was all surgical cases undergoing operation in study hospitals during the study period of 3 months. As YGH has 3 surgical wards, one of them was randomly selected. Researcher visited selected surgical ward from YGH and surgical ward of one well known private hospital everyday during 3 months of study period. Newly admitted surgical patients were approached and explained about the research and informed written consent was taken. The interviews of the consented patient were done by the researcher. Altogether 83 surgical cases, 35 from private and 48 from government hospital, were interviewed. Among the 48 patients in YGH only 4 patients sought private ward. Data collection tool was a pretested pre-coded questionnaires developed for this purpose. Structured as well as open ended questions were included in the questionnaires. Quantitative analyses were done for the structured questions and qualitative analysis was made for the open ended questions. Chi square test was applied to see the statistical differences in socio demographic characteristics of two hospitals. P value of 0.05 was set at 95% confident level.

Inclusion criteria

Surgical (both minor and major) patients age 18 and above, both gender, either planned or emergency cases admitted to the hospitals under study.

Exclusion Criteria

- Patients who were operated outside the study hospitals and being transferred in to the study hospitals

- Cases who were transferred out from the study hospital before completion of treatment
- Patients who declined to give consent to be interviewed

Results/Findings: High family income group were 7 times more likely to use the private hospital compare to low family income group. It was statistically significant ($P=0.00008$). However, no significant difference was found in other socio demographic characteristics of private hospital users and government hospital users. Median Monthly family income of patients was highest in the private ward of government hospital. Patients chose private hospital because of better accommodation, shorter waiting time, minimum restriction of visiting hours and perceived lack of free services at government hospital. Users of public hospital gave reasons that they were already familiar with the government hospital and they were aware that services in private hospital were expensive. Relatively larger number of human resources for health care and availability of private ward in government hospital were among the reasons provided by the public hospital users. Out-of pocket expenditure was reportedly adjusted with family's monthly income and support from non-family members. Some secured the payment with borrowed money or selling of personal assets.

Study Limitations: Being a cross sectional study, comparison among private and public hospital could not be strongly supported by statistical significance. This study did not extend to the details of individual financing mechanism such as interest rate for borrowing money, what is the long term impact of selling possession on family.

Conclusion: The private sector was sought by the rich but the richer preferred the private ward from government hospitals. Patients' perceived quality of care played a role in health care utilization in Myanmar. Nearly half of the YGH users borrowed or sold possessions to cope with the out-of-pocket expenditure.

Keywords: Policy, health expenditure, health care utilization, patient perception, surgical cases

hsCRP AND ALL CAUSE MORTALITY IN HEMODIALYSED PATIENTS

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ABSTRACT

Introduction: High sensitivity CRP (hsCRP) has been used as a marker of low intensity chronic inflammation in many different pathologic conditions.

Aim of The Study: The aim of this study was to elucidate the value of hsCRP as a marker of one year and two years all cause mortality in patients on chronic hemodialysis treatment.

Patients, Methods and Study Design: All 60 patients (31 men and 29 women) from Department of Hemodialysis were included in study. Four consecutive measurements of serum hsCRP were done: at the beginning of the study, after two weeks, 6 and 9 months. Immunoturbidimetric method on Olympus (now Beckman Coulter) AU400 automated biochemistry analyzer was used.

The lowest of four hsCRP values was considered as the "basal hsCRP value" for any individual patient. Based on their basal hsCRP values all patients were divided in three groups:

1. basal hsCRP value up to 1 mg/L (n = 26, 8 men and 18 women; age = 57 ± 12 years; duration of hemodialysis = 8 ± 7 years);
2. basal hsCRP value from 1 to 3 mg/L (n = 18, 12 men and 6 women; age = 62 ± 10 years; duration of hemodialysis = 7 ± 6 years);
3. basal hsCRP value above 3 mg/L (n = 16, 11 men and 5 women; age = 66 ± 9 years; duration of hemodialysis = 9 ± 7 years).

The all cause mortality rate was calculated after one and two years since the last hsCRP measurement. Student's t-test, Chi-Square test and Fisher's exact test were used for statistical calculations, as appropriate.

Results: There was no statistically significant difference in the duration of hemodialysis between all three groups ($p > 0,05$). There was no statistically significant difference in the age between the first and second group as well as the second and third group. Patients from the first group were significantly younger than those from the third group ($p < 0,025$) therefore these two groups were not compared.

One year after the last hsCRP measurement, the mortality rates were: 3,8% for the first group, 5,6% for the second group and 37,5% for the third group.

There was no statistically significant difference in the mortality rate between first and second group one year after the last hsCRP measurement. At the same time, the difference in the mortality rate between the second and third group was statistically significant ($p < 0,025$).

Two years after the last hsCRP measurement the mortality rates were: 3,8% for the first group, 27,8% for the second group and 37,5% for the third group.

Statistically, there was no significant difference in the mortality rate between the second and third group. However, the difference between the first and second group was statistically significant ($p < 0,025$).

Almost all patients that died during the study period were older than 60 years.

Conclusion: High hsCRP values, above 3mg/L, could be considered as a marker for prediction of one year all cause mortality among elderly patients on chronic hemodialysis treatment, while values between 1 and 3mg/L have a higher association with two years all cause mortality when the age of the patients and duration of hemodialysis were standardized.

Very low mortality rate within the two years study period among patients with basal hsCRP lower than 1mg/L confirms that these are “safe hsCRP values” associated with very low risk of all cause mortality independently of age, duration of hemodialysis and comorbidities.

Keywords: hsCPR, all cause mortality, elderly, hemodialysis

Sri Lankan national health policy to reduce maternal mortality

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ABSTRACT

Sri Lanka is not an affluent country. The health services were disrupted for 30 years due to terrorist activities. Tsunami and other natural disasters affected the island adversely.

In spite of all the hardships the maternal mortality ratio was the lowest in this part of the world

In the year 1935 there were 265 maternal deaths for every 10,000 deliveries. However within 65 years the maternal deaths were reduced to 1 in 10,000 deliveries. How Sri Lanka achieved this substantial reduction with minimal health expenditure?

The national health policy of Sri Lanka was instrumental in reducing the maternal mortality by providing the optimal care during pregnancy, labour and afterwards by skilled health personnel.

The health care is absolutely free in Sri Lanka. This made all the low income people to have easy access to the hospitals. Free health by the state, infrastructure facilities to provide health services at the grass root level, health services by the well trained Family Health Workers (FHW- field midwives) in remote rural areas, child births mostly at hospitals and liberal use of contraceptives to prevent unwanted pregnancies are the key success in minimizing maternal deaths in Sri Lanka.

The modern contraceptive methods were provided free of charge and made available even in remote rural areas. This reduced the unwanted pregnancies. The contraceptive prevalence is about 70% and almost comparable to the developed countries

The care during pregnancy, labour and postpartum period were given by the skilled and trained health personnel. The government encouraged hospital deliveries. In the year 2008 there were 352,443 (97.84%) Hospital deliveries, and 6,855 (2.16%) Home deliveries. This minimized the complications during delivery. Out of the total deliveries 90% had occurred in hospitals where consultants and theatre facilities are available. This had drastically reduced the maternal morbidity and mortality.

Keywords: Maternal mortality, Sri Lanka

Safety and efficacy of rennin-angiotensin system inhibitors in heart failure with preserved ejection fraction

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ABSTRACT

Background: Approximately half of the patients with chronic heart failure have preserved left ventricular systolic function. The trials of rennin-angiotensin system inhibitors (RASIs) in this population have yielded mixed results. We performed a meta-analysis of these trials to evaluate the safety and efficacy of RASIs in heart failure with preserved ejection fraction patients.

Methods: A total of 8425 patients from six prospective randomized controlled trials were analyzed. The end points extracted were total mortality, cardiovascular mortality, hospitalization for heart failure, worsening of heart failure, worsening of renal failure, hyperkalemia, hypotension, six minute walk test, quality of life score. RASIs evaluated were perindopril, enalapril, ramipril, valsartan, candesartan and irbesartan. Combined odds ratios (OR) across all the studies and 95% confidence intervals (CI) were computed. A two-sided alpha error <0.05 was considered to be statistically significant. All studies were homogeneous for outcomes studied, so fixed effect model was used for this meta- analysis.

Results: Both groups share similar baseline characteristics. There was significant reduction in worsening of heart failure events [OR: 1.16, CI: 1.03-1.31; $p<0.05$] with RASIs compared to placebo group. This was associated with a tendency toward reduced hospitalizations due to heart failure [OR: 1.11, CI: 0.99-1.24; $p=0.052$] but it could not achieve statistical significance. RASIs also failed to show any benefit in total mortality [OR: 1.07, CI: 0.96-1.19; $p=0.19$] or cardiovascular mortality [OR: 1.01, CI: 0.89-1.15; $p=0.84$] [Figure 1]. However, treatment with RASI lead to significant improvement in six minute walking distance [$p<0.05$] and quality of life score in RASIs group [$p=0.002$] [Figure 1]. Safety analysis, as expected, revealed significantly more hyperkalemic events [OR: 0.53, CI: 0.29-0.95; $p<0.05$] and worsening of renal failure [OR: 0.65, CI: 0.50-0.85; $p<0.05$] in RASI group as compared to placebo group.

Conclusion: RASIs treatment in heart failure with preserve ejection fraction patients showed significant improvement in six minute walking distance, quality of life and significant reduction in worsening heart failure events but failed to reduce total and cardiovascular mortality.

Keywords: ACE inhibitor, Angiotensin receptor blocker, Heart failure with preserved ejection fraction

Complications of Thyroid Surgery: Analysis Of 1159 Cases

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ABSTRACT

Background: Despite various complication rates of thyroidectomy having been reported, there is still no common consensus on the surgical procedure around the world.

Aim: In this study, we aimed to evaluate the rate of complications after thyroid surgery and the risk factors contributing to the complications.

Methods: In this retrospective study, 1159 consecutive patients operated between 1995 and 2005 were evaluated. Patients follow up data were obtained from hospital records, telephone interviews with patients and additional information was retrieved from our clinic's database. The patients with missing data were excluded. Gender, physical findings, imaging methods, laboratory results, extent of resection, differences in the surgical technique, history of previous thyroid surgery, perioperative complications and histopathologic diagnosis were interrogated as factors affecting the post-operative complications such as hypocalcemia and recurrent laryngeal nerve palsy. Statistical analysis (χ^2 or the Fisher's exact test, Student's t-test or the Mann-Whitney U tests) was performed using the SPSS (Statistical Package for Social Sciences, Chicago, USA) program.

Results: The mean age of patients was 43.3 (7-78) years. In the early postoperative period, the most frequently seen complications were vocal cord paralysis (n=146, 12.6%) and hypocalcemia (n=131, 11.3%). In our study, permanent vocal cord paralysis occurred in 39 (3.4%) patients. The rate of permanent recurrent laryngeal nerve palsy was 1.9% when assessed per nerve at risk. The risk factors affecting recurrent laryngeal nerve palsy were adhesions (p=0.05), recurrent thyroidectomy operation (p<0.01), extension of resection (p=0.03) and presence of early postoperative complications (p=0.01). Permanent hypoparathyroidism was developed in 22 (1.9%) patients. The factors affecting this situation were the number of parathyroid glands observed during surgery (p=0.02), the type of the operation (p=0.01) and female gender (p=0.04).

Conclusion: Major factors that impact on complications after thyroid surgery were extended resections and repeat surgery. Recurrent laryngeal nerve dissection is identified as a reducing factor for recurrent laryngeal nerve palsy. But dissection of parathyroid glands has brought more harm than benefit. Today, reported complication rates for total thyroidectomy is not very different from a more limited resection. For permanent control of the thyroid diseases like Graves or malignancy; total thyroidectomy seems to be inevitable. By a meticulous dissection in a bloodless field, lobectomy plus isthmectomy and bilateral total thyroidectomy have an advantage of no recurrences.

Keywords: Thyroidectomy, recurrent laryngeal nerve palsy, hypoparathyroidism, complications

Health service seeking behavior and factors associated with under utilization of public health care facilities in a rural area of Bangladesh

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ABSTRACT

Background: Healthcare funding is an important issue in developing countries. The overall situation of health care system is poor in developing countries like Bangladesh due to inadequate access to modern health services and poor utilization.

Aim & objectives: Aim of the study was to determine the health service seeking behavior and factors associated with under-utilization of public healthcare facilities in rural areas of Bangladesh.

Methods: It was a community-based cross sectional study conducted among 492 systematically selected households having at least one child up to 1 year of age. Data were collected through face-to-face interview of the spouses of the household heads or any married women aged 15-49 years who could give information about the household.

Findings: Education status of the household heads and the respondents, monthly family income and standard of living were significant predictors for non-utilization of public healthcare facilities. Respondents pointed out poor quality of care and long waiting time as the main reasons for not taking services from public healthcare facilities. Inconvenient service timing was the best predictor for not taking public health services for family planning (OR 1.67; $p<0.05$). Long waiting time was the best predictor for not using public health facility for immunization of children (OR 1.97; $p<0.001$). Short consultation time was identified as the best predictor for not using public health service for antenatal care (OR 1.74; $p<0.005$), child delivery care (OR 2.00; $p<0.005$), postnatal care (OR 2.08; $p<0.001$) and for disease prevention and health education (OR 2.69; $p<0.001$). Absence of nearby public facility was the best predictor for not seeking self medical treatment from public health services (OR 1.29; $p<0.005$), which was followed by inconvenient service time (OR 1.74, $p<0.05$) and long waiting time (OR 1.69; $p<0.05$). Absence of nearby public health facility (OR 3.99; $p<0.001$) and long waiting time (OR 2.20; $p<0.001$) were the predictors for not seeking child medical treatment from public health services. Respondents who did not seek other family members' treatment services from public health facilities were more likely to agree that there were no nearby public facility (OR 3.69; $p<0.001$), waiting time was too long (OR 1.89; $p<0.005$) and facility timing was inconvenient (OR 1.55; $p<0.05$). Short consultation time was the best predictor for not seeking child growth monitoring (OR 2.24; $p<0.001$) and health checkup services (OR 2.08; $p<0.001$) from public health care facilities.

Limitations: Study was conducted in selected areas, so findings may not be generalized.

Conclusion: Public health care facilities and overall medical services were under-utilized and actions should be taken to improve the overall scenario of health system of rural Bangladesh.

Keywords: Healthcare service, public healthcare facilities, under-utilization, rural area, Bangladesh

The prevalence of alcohol consumption among students newly enrolled at a public university

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ABSTRACT

Introduction: Alcohol is the number one toxic substance by consumption among all age groups, which makes its use a public health problem. The overall trend shows that university students are those who punctually suffer biggest pressure.

Objective: To assess the prevalence of alcohol use among students newly enrolled at a public university in Alagoas, Brazil.

Methodology: We developed an analytical sectional study at the Federal University of Alagoas, with 1435 (44% of total) newly enrolled students of all courses in 2006. They answered a questionnaire based on the CAGE. Some points such as sex, age, marital status, course, housing, family characteristics and how drugs fit into the student life were studied with the resources of EpiInfo version 3.3.2. The survey was approved by the Research Ethics Committee of the Federal University of Alagoas (number 000878/2005-17).

Results: Out of the group, 95.9% lived with family and 87.6% reported ever drinking alcohol at some time in life. Of all respondents, 55.4% of men reported having habit of drinking with friends or colleagues (Odds=0.71; CI=0.58-0.88; P-value=0,00088). Among all respondents, 17.7% of male students and 9.8% females skipping class after using alcohol (Odds=0.52; CI=0.38-0.72; P-value= 0,000023).

Discussion: The transition from adolescence to youth and study time at university are marked by greater vulnerability to alcohol abuse. The family is decisive for the initiation of alcohol use, and the university a factor that increases the possibility of maintaining the practice.

Study Limitations: The fact that not all students were present in the classroom at the time of the application questionnaire may have limited the search, because this is a sectional study.

Conclusion: Alcohol consumption in this university is similar to other higher education institutions in the world, which is a cause for concern, since the external lesions are accentuated with the practice of using alcohol, characterizing risk of violence.

Keywords: Alcohol consumption, students, university, family, drug, public health

The Effects of NCMS on the Equity of Health Service Utilization in China

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ABSTRACT

Background: Equity of health service utilization, which means health care ought to be distributed according to need, rather than willingness and ability to pay, is a goal pursued by policy-makers in all countries, and China is no exception. In order to improve people's health utilization equity, China implemented NCMS (a community based health insurance scheme) in rural area since 2003, from which the benefit package only covers hospitalization, and for outpatient service, household saving account is established. However, very few studies provided scientific evidence on whether people's health utilization equity is improved by NCMS.

Aim & Objectives: This study aims to investigate the effect of NCMS on the income-related equity of health service utilization in rural China and make recommendations on improving China's health insurance system.

Methods: The data came from the National Health Services Survey in Shaanxi province in 2008, from which 8010 NCMS enrollees and 459 uninsured residents were interviewed by using a questionnaire designed by the Health Ministry of China. In order to estimate the effect of NCMS on health utilization equity, the Propensity Score Matching (PSM) was firstly employed to match the insured and uninsured residents in this study. Then, based on the matched data, methods like concentration index and decomposition of concentration index were employed to calculate the residents' horizontal-inequity index of health service utilization.

Results: The pro-rich outpatient utilization inequity (with the same need, the rich use more outpatient service than the poor) was increased by NCMS, from which the horizontal-inequity index of probability of outpatient visit was increased from -0.0419 to 0.1525 and the horizontal-inequity index of outpatient visits was increased from 0.0499 to 0.2266. Different from outpatient service, the pro-rich inpatient utilization inequity was reduced by NCMS. For the insured and uninsured residents, the horizontal-inequity indexes of probability of inpatient visit were 0.1676 and 0.2005 respectively, and the horizontal-inequity indexes of inpatient visits were 0.2350 and 0.2998 respectively.

Study limitations: As there is a precondition of using PSM—that is, that selection bias is eliminated by controlling for observables, the conditional independence assumption was made in this article.

Conclusion: The household saving account established in NCMS decreased the outpatient utilization equity and the benefit package which covers hospitalization in NCMS improved the inpatient utilization equity, which suggests that not only inpatient service but also outpatient service should be covered by NCMS.

Keywords: NCMS, PSM, health service utilization, equity

A Comparison of the Salivary Aldehyde Dehydrogenase (ALDH3A1) Activity in Patients with Radicular Cysts, Keratocystic Odontogenic Tumours and Healthy Subjects

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ABSTRACT

Background: The salivary ALDH3A1 (E.C. 1.2.1.3) is a homodimeric enzyme oxidizing mainly long- and medium-chain aliphatic and aromatic aldehydes. The protective role of ALDH3A1 in the oxidative stress is considered because of its relatively high affinity ($K_m = 45 \mu\text{M}$) for 4-hydroxynonenal (4-HNE), the concentration of which increases as a result of the oxidative stress and the lipid peroxidation. Therefore, the total ALDH3A1 activity increases as a result of oxidative stress and inflammation caused by such factors as e.g. cigarette smoking, alcohol or a proinflammatory diet.

The up-regulation of ALDH3A1 transcription could be the result of the activation of xenobiotic responsive elements (XRE) or electrophile responsive element (EpRE) which are present in the 5'-upstream regions of this gene. Moreover this up-regulation might also be related to such transcription factors as NF- κ B, Oct1 and Pax6.

The inflammation is also related to certain pathologies of the oral cavity. The radicular cyst (RC) develops in response to an inflammatory stimulus. Moreover the inflammation mediators (e.g. prostaglandins, interleukins) also contribute to the cyst enlargement. Interestingly the cytokine expression pattern of cells originating from RC is similar to that derived from the keratocystic odontogenic tumour (KCOT). Even though the KCOT was classified as neoplasms (by WHO) in 2005, it is still considered to be a pathology with features of both odontogenic cysts and neoplasms.

Aim & Objectives: The aim of the present study was to compare the activity of ALDH3A1 in the saliva of healthy subjects and patients with RC and KCOT.

Methods: Saliva samples were collected from healthy volunteers (N=130) and patients with RC (N=74) and KCOT (N=11) in the morning and immediately transferred to test tubes with 50mM pyrophosphate buffer solution of 1mM EDTA, 1mM GSH, pH=8.1.

Salivary ALDH3A1 activity was measured fluorometrically. Fluorimetric assays were run in the 50 mM pyrophosphate buffer, pH 8.1, at 25°C, in the presence of 1 mM EDTA and 0.5 mM DTT. The assays utilize a highly fluorogenic naphthaldehyde substrate, 6-methoxy-2-naphthaldehyde (5 μM), reacting with NAD^+ (100 μM) as co-substrate. 6-methoxy-2-naphthoic acid (1.5 μM), was added as internal standard.

The saliva samples were diluted 50-fold with buffer and an increase in the fluorescence of the naphthoate was recorded at 360 nm, with excitation at 315 nm for 6 – 10 minutes.

One enzyme unit is defined as the amount oxidizing 1 micromole of 6-methoxy-2-naphthaldehyde per minute. This unit is approximately twice as large as the commonly used benzaldehyde unit.

Specific activities were calculated as the ratio of the reaction rate to protein concentration, the latter determined by the Bradford method.

Normal distribution and homogeneity of variance of the data were assessed with the Shapiro-Wilk test and Levene's test respectively.

Results: Because of the lack of normal distribution and/or homogeneity of variance of the data ($p < 0.05$), a subsequent statistical evaluation of significance was performed using the Mann—Whitney U test. The average total ALDH3A1 activity of RC patients was significantly higher than in the control group (3.9 U/g (6.6 U/g) versus 2.6 U/g (3.8 U/g), $p = 0.00789$; median (interquartile range)). Moreover, the activity of salivary ALDH in the healthy group was lower than in the group with KCOT (3 U/g (11 U/g), $p = 0.04832$).

Study Limitations: a small group of patients with KCOT.

Conclusion: The activity of salivary ALDH3A1 increases as a result of the inflammation and the oxidative stress related to e.g. oral pathologies like RC and KCOT. The protective role of the enzyme in the oral cavity against aldehydes generated during the lipid peroxidation is therefore anticipated. Moreover, ALDH3A1 activity in saliva might be considered an auxiliary marker of oxidative stress.

Keywords: Aldehyde dehydrogenase, saliva, keratocystic odontogenic tumor, odontogenic cyst

***In Vitro* Study to determine the effect of zinc on non-heme iron absorption**

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ABSTRACT

It has been well documented that bioavailability of iron is influenced by other food constituents. We carried out a kinetic study to look at the effect of zinc on ferric iron uptake in human epithelial Caco-2 TC7 cell-line. Zinc reduced iron uptake in a concentration-dependent manner. Iron uptake was significantly increased in the presence of ascorbic acid in the medium. We also found that zinc significantly increased the main iron transporter Divalent Metal Transporter-1 (DMT1) expression in whole cell and membrane proteins. The evidence from *in vitro* studies show that zinc suppressed iron uptake by Caco-2 cells and this phenomenon could be reversed by the presence of ascorbic acid in the growth media.

Keywords: Iron uptake; Caco-2 TC& cells; Zinc; Ascorbic acid; Ferric iron

Perceptions regarding the use of long-lasting insecticide-treated bed nets for preventing malaria among rural females of Pakistan

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ABSTRACT

Background: Globally, there are 300-500 million clinical cases of Malaria annually. It is endemic in Pakistan and has shown epidemic potential in the past. In World Health Organization's Eastern Mediterranean Region (EMR), about 10.5 million malaria episodes and 49000 malaria-related deaths occur every year. In Pakistan, Annual Parasite Incidence (API) is 0.8/1000 populations. Provincially, the Annual Parasite Incidence is highest in Baluchistan (5.8/1000 population) followed by Federally Administrative Tribal Areas (4.0/1000 population) and Sindh (1.08/1000 population). Long Lasting Insecticide-Treated-Nets (LLINs) when used properly, can reduce malaria transmission by at least 60% and child deaths by 20%. LLINs are advanced form of Insecticide Treated Nets. They are factory impregnated, stronger and longer-lasting with better efficacy than the ones without insecticides.

Objective: To assess the knowledge, attitude and practices of the community regarding use of long lasting insecticide treated bed nets (LLINs) for preventing malaria.

Methods: Primary data collection was done by the principal researcher on an estimated sample of 200 households based on 6% distribution of LLINs by multistage survey. Data was collected through the trained healthcare workers, cleaned and entered, whereby analyzed thereafter and results interpreted for the three domains of knowledge, attitude and practice on Likert scale.

Results: Using the Likert scale, about half (56.8%) of the respondents did agree that the LLINs were useful in preventing against malaria, coated with insecticide (53.3%) and protect from nuisance effect (44.7%). Overall most (94.5%) of the respondents had a good knowledge regarding use of the LLINs, majority (63.8%) has fair attitude and all (100%) had good practice. Majority of people (63.8%) were in favor of using LLINs and almost all (100%) of them knew how to use them properly. Increasing age was found to be associated with good knowledge ($p=0.007$), but not the better education ($p=0.803$) as majority (74%) of the participant remained illiterate.

Limitation and strength: The study was done in the intervention area and was accessible through the local healthcare workers with a support from the local institutions. The interviewees were not representative of the population as a whole, with hundred percents females and mostly house-wives. The data collectors were the LHWs and there was a possibility of observer's bias which was minimized by administering structured questionnaire and training augmented by surprise visits by the principal researcher and data cleaning.

Conclusion: The study shows good Knowledge, attitude and practices among the study population. However, an effort to impart education to females may have an augmenting effect on better implementation of the healthcare interventions.

Keywords: Malaria, Lady Health Workers, Long Lasting Impregnated Nets

Study of Catastrophic Health Expenditure in China's Basic Health Insurance

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ABSTRACT

Background: The catastrophic health expenditure, which could result in impoverishment, is defined as the health expenditure exceeds some fraction of "capacity to pay". In order to protect households from catastrophic health spending, the Chinese government has implemented three basic health insurance schemes (UEMS, URMS and NCMS) in the last decade. However, as only parts of residents' medical expense are reimbursed by these health insurance schemes, the insured households might still have high chance of suffering catastrophic health expenditure.

Aim & Objectives: The purpose of our study is to investigate the extent of catastrophic health expenditure for the households enrolled in UEMS, URMS and NCMS, and to identify factors associated with catastrophic health expenditure.

Methods: The data came from China's National Health Service Survey conducted in 2008 in Shaanxi province. In this survey, a four-stage stratified random sampling procedure was used to sample households in urban and rural areas. By using a questionnaire designed by the Health Ministry of China, 5960 households were interviewed, from which 1215 households covered by UEMS or URMS and 2875 households covered by NCMS were chosen. The indicators of incidence and intensity of catastrophic expenditure were employed to measure catastrophic health expenditure with different thresholds levels (10, 15, 25 and 40%), and two logistic regression models were used to estimate the factors of the probability of catastrophic expenditure for the households enrolled in urban and rural health insurance schemes.

Results: There were 16.87 to 68.07% households covered by UEMS or URMS that suffered catastrophic health expenditure and the average degree by which payment exceeds the thresholds varied from 2.68 to 13.36%. For the households covered by NCMS, the incidence and intensity of catastrophic expenditure were 19.62 to 75.86% and 3.12 to 15.51% respectively. Poor health, families comprised of seniors, small family size and low economic status were significantly led to catastrophic health expenditure for households enrolled in both of urban and rural health insurance schemes.

Study Limitations: As indirect costs of health care and the patients' earnings losses were not included in the health expenditure, the catastrophic health expenditure might be under-estimated in this study.

Conclusion: In order to reduce catastrophic expenditure, we recommend the Chinese government to expand the health insurance schemes for covering outpatient service as well as improve the reimbursement rates, meanwhile, strengthen illness prevention and subsidize low-income households.

Keywords: UEMS, URMS, NCMS, Catastrophic Health Expenditure, Logistic Regression Model

Patterns of Glycemic Control Using Glycosylated Hemoglobin in Diabetics

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ABSTRACT

Background: Till now estimation of blood glucose is the gold standard method for diagnosing diabetes mellitus but it provides a short term picture of control. More evidence is required to prove that plasma glucose and glycosylated hemoglobin levels together gives a better estimate of glycemic control and compliance with treatment. Indian Diabetes Risk Score [IDRS] is a simplified screening tool for identifying undiagnosed diabetic subjects using four simple parameters, which requires minimum time and effort and can help to considerably reduce the costs of screening.

Objective:

- 1) Patterns of glycemic control using glycosylated hemoglobin in diabetic patients.
- 2) To find out correlation between levels of plasma glucose and glycosylated hemoglobin in diabetics.
- 3) Calculating IDRS (Indian Diabetic Risk Score) of the study population

Research Design and Methods: A cross sectional study was conducted among of 300 known diabetic patients attending outpatient department of a rural medical college in Haryana, India. Following standard procedures and protocols FPG and Glycosylated hemoglobin were measured to find out a pattern of glycemic control in them after taking their written and informed consent. A correlation between the levels of glycosylated hemoglobin and fasting blood glucose was also calculated. These patients were made to fill a performa and their demographic and clinical risk factors were noted and based on this, their IDRS (Indian diabetic risk score) was calculated. This was done to validate the IDRS in Indian rural population.

Results: A 52% of the population had fasting plasma glucose level between 125-150mg/dl, 21% had this level between 151-175 mg/dl. 13% of the study subjects had HbA1C between 6.5-7.5, more than half (57.3%) had this value between 7.5-8.5, 12% and 18% had values between 8.5 -9.5 and 9.5-10.5 respectively. 12% of the participants had HbA1C level higher than 10.5. Correlation of fasting plasma glucose level and HbA1C was also studied and found that correlation coefficient came out to be .311. This correlation was found to be statistically significant (p=.007). 65% of the case had IDRS higher than 60 whereas 35% of the diabetic had IDRS lower than 60.

Conclusions: The results of this study suggest that FPG alone may give false negative results. This could be eliminated by the using glycosylated hemoglobin along with FPG. A positive correlation between FPG and HbA1c allows the use of HbA1c along with FPG in diagnosing type 2 DM but the two should not be used interchangeably. IDRS can be used as a screening tool for diabetes.

Keywords: Diabetes Mellitus, Glycosylated Hemoglobin, IDRS

Transvaginal Ultrasonography in First Trimester of Pregnancy & its Comparison with Transabdominal Ultrasonography

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ABSTRACT

Background: Ultrasonography being non-invasive, safe and without hazards of radiation, it has gained wide acceptability, as an integral part of basic investigative procedures. Transabdominal scanning is used predominantly in the second and third trimesters of gestation. Its use in first trimester is relatively limited and mostly diagnostic in nature. The introduction of the higher frequency transvaginal probe, with its higher resolution of images, opens new possibilities to study early gestation. So it is an attempt to study Transvaginal/ Transabdominal Ultrasonography in 1st trimester of pregnancy and its comparison.

Aims and Objectives: Examination of pregnant women in the first trimester with transvaginal ultrasonography with the aim to study various foetal development markers e.g. gestation sac, yolk sac, foetal heart motion, CRL length and foetal anatomy in both normal and abnormal pregnancies.

- To assess the relative merits and demerits of transvaginal ultrasonography in comparison with transabdominal technique.

Material and Methods: The study will be conducted on fifty females patients during the first trimester of pregnancy. The study population will consist of both normal and abnormal pregnancies. These patients will be included on the basis of suspicion of or proven pregnancy of duration up to 12 weeks from LMP.

The evaluation of the patients will include the following:

- Record of patients obstetrical history and clinical examination.
 - Record of pregnancy test and relevant investigations.
 - Ultrasonic examination of pregnancy (a) transabdominal ultrasound scanning will be done with moderately distended bladder by using real time scanners with low frequency probe (3/3.5 MHz)
- b) Transvaginal Sonography
- It will be done with real time sector scanner using high frequency endovaginal probe (5/ 7.5 MHz), after the patient voids urine.

Results: In the present study of 46 normal intrauterine pregnancies, TVS showed additional information in 36 patients (78.3%) as compared to TAS, in detection of gestation sac, yolk sac, double bleb sign or better visualization of embryonic anatomy. In the abnormal pregnancy (n=17), TVS provided more information in 11 cases (64.9%), which included detection of embryonic demise, yolk sac, double bleb sign, or sub-chorionic haemorrhage. Regarding ectopic gestations (n=7), TVS gave additional information in 5 cases (71.4%) which included detection of ectopic fetal pole, yolk sac, decidual cast, adnexal mass and fluid in cul de sac. In 2 cases, both TAS and TVS gave equal information. However in 2 cases TAS demonstrated the extent of intra-abdominal fluid better than TVS.

Conclusion: In the last two decades, ultrasound has become an essential diagnostic modality in the field of obstetrics for evaluation of pregnancy and foetal well being. However the standard transabdominal scanning (TAS) using lower frequencies with relatively poorer axial resolution is unsuitable for imaging

first trimester conceptus. The introduction of higher frequency transvaginal probe which can be placed close to the pelvic organs and has better resolution has opened entirely new possibilities to study in detail the early gestation.

Not many workers have compared various parameters of early pregnancy (normal as well as abnormal) by transvaginal and transabdominal sonography on the same patients. So, it was thought that it would be highly imperative to study both these techniques on the same patients to rule out any subjectivity and examiner's bias.

To conclude TVS reliably identified normal and abnormal pregnancies, and various developmental markers at an earlier stage than with TAS.

Keywords: TransabdominalUSG, TransvaginalUSG, 1st Trimester, Gestational Sac, Evaluation, Comparison

Prevalence & Risk Factors of Nephropathy in Type 2 Diabetic Patients

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ABSTRACT

Background: 31.7 million people in India suffer from diabetes. Diabetic nephropathy (Kimmelstiel-Wilson syndrome) is the leading cause of end-stage renal disease (ESRD) worldwide and a leading cause of DM-related morbidity and mortality. It is estimated that 79.4 million diabetic patients will be in India by 2030. So a study was done on the prevalence rate of diabetic nephropathy (DN) and its associated risk factors.

Aims and Objectives: This study is a small cross sectional study conducted in a tertiary hospital (Dr. Ambedkar institute of diabetes, Kilpauk medical college hospital, Chennai.). The objective is to analyze the prevalence of DN and to determine the factors leading to DN in type 2 diabetic patients (mainly containing urban Asian Indian population)

Materials and Methods: 200 Type 2 diabetic patients were randomly selected. All the patients were interviewed with a questionnaire. A detailed history including risk factors like age ,sex , socio economic status, duration of diabetes , smoking , alcohol , family history of DM and kidney disease, Ischemic heart disease(IHD), Oral Hypoglycemic Drugs(OHA) , Insulin was taken followed by measurement of blood pressure, BMI assessment, urine analysis for albuminuria and microalbuminuria using dipsticks, lipid profile, GFR estimation, retinopathy screening. Statistical analysis was done by SPSS software. Univariate analysis, Chi-square and Binary Logistic Regression Model was used.

Results: In this study prevalence rate of overt nephropathy is 2.5% and microalbuminuria is 13%, Using Binary logistic regression analysis, Woman gender, Duration of diabetes, family history of kidney disease, Hypertension, BMI, GFR, retinopathy were found to be significantly associated with overt DN. There was no increased risk among IHD patients, smokers, alcoholics and no significant relationship with treatment history.

Limitations: This is a hospital based cross sectional study. Population based Case control studies should be conducted for assessment of multiple risk factors. This triggers the need for studies with higher sample size to assess various risk factors and mass screening programs.

Conclusion: According to study, as the duration of diabetes increases, the incidence of nephropathy also increases and is statistically significant. Hence all diabetic patients, especially those with increased duration should be screened for nephropathy and made aware of the complications. Since nephropathy is a forerunner for end stage renal disease, preventive measures can help in preventing renal failure.

Keywords: Diabetic nephropathy, risk factors, diabetes

Maternal obesity and preeclampsia

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ABSTRACT

Background: Obesity is a modern day epidemic. The incidence appears to be rapidly increasing in both developed and developing countries and has become much more obvious in the last decade.

Aim& Objective: The present research was done with the aim of studying the effects of obesity defined as a first trimester maternal body mass index >30 on the preeclampsia.

Methods: This study was a descriptive-comparative study two hundred fifty singleton pregnancies of women with first trimester BMI >30 who delivered at Emam Hospital, Sari Iran during 2008–2009 were studied A control group with two hundred fifty nine women of normal body mass index matched for age and parity were selected and incidence of preeclampsia were compared between groups. χ^2 and Odds-ratio and 95% confidence were used to analyze the data. Statistical significance was defined as $P < 0.05$.

Results: There was a significant relation between obesity and preeclampsia (20.8 vs. 5.8%, $P < 0.0001$) compared to non-obese women.

Conclusion: Obesity in pregnant women appears to be a risk factor for adverse perinatal outcomes.

Keywords: Obesity, BMI, pregnant women, reproductive age

Treatment of AIDS: A Prevention Pill

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ABSTRACT

Background/Rationale: HIV transmission only occurs from people with HIV, and viral load (VL-concentration of HIV) is the single greatest risk factor for all modes of transmission. HAART can lower viral load to nearly undetectable levels. Prevention of mother to child transmission & Post-Exposure Prophylaxis(PEP) offers proof of the concept of HAART interrupting transmission, and observational (among sero-discordant) & ecological studies and modeling work support using HAART for prevention and research is ongoing on their use for Pre-exposure prophylaxis (PrEP). A model by scientists from WHO published in 2008, suggested that expanding antiretroviral therapy to people with CD4 cell count < 350mm³ and beyond could substantially reduce the growth of the epidemic. Some models have predicted substantial reduction in HIV transmission rates all HIV infected individuals are treated with ART, which is reflected by the usage of terms and phrases for this approach ('test and treat', testing and linking to care plus')

Aims and Objectives: To critically examine various studies, explaining the impact of Anti Retro Viral Therapy (ART) on prevention and to discuss it to be potentially used as one of strategies of prevention from HIV/AIDS.

Methods/study design:

Data Source: The scientific literature and eligible materials were surveyed related to the topic of strategy of 'treatment of AIDS as prevention'.

Data Selection: Building on this conceptual framework, the related observational, ecological studies and modeling works who met the selection criteria of being related to 'treatment of AIDS as prevention' and examined the effectiveness strategy of 'treatment of AIDS as a prevention pill'

Data Extraction: Reports were screened and information from eligible studies was abstracted independently and synthesized.

Findings /Results:

1) On an individual level:

ART is a significant component of Prevention of Mother-to-child transmission (PMTCT) interventions - 340,000 children were born HIV-free between 2004-2009 because of the preventive effects of ART,

According to PEPFAR estimates ART is effective as post exposure prophylaxis (PEP)

In a case-control study, a 80% reduction in the risk of acquiring HIV in exposed individuals was observed when treated with AZT (a drug used to delay the development of AIDS) alone.

A study of Spanish serodiscordant (one partner HIV-positive and one negative) couples showed that no HIV seroconversions took place in the sexual partners of HAART treated patients.

The use of HAART was independently associated with an 86% reduction in HIV transmission.

A study of 3400 couples in seven African countries found that ART lowered the risk of HIV transmission by an estimated 92% in serodiscordant heterosexual couples.

2) On a population level:

In Taiwan, a 53% reduction in new HIV positive diagnoses was observed between 1997 and 2002 when free access to HAART was introduced.

A population study in British Columbia, Canada showed that the initial ART rollout resulted in an approximate 50% drop in new HIV diagnoses between 1996 and 1999.

In San Francisco, a substantial increase in HIV testing and treatment between 2004 and 2008 was linked to i) a decrease of about one-third in the average viral loads of people living with HIV; ii) a decline of around one-third in HIV incidence and; iii) a decrease in the number of newly reported HIV cases (from 798 new HIV cases in 2004 to 434 newly diagnosed HIV cases in 2008)

During the expansion of ART in British Columbia, Canada, a 50% decline in HIV positive diagnoses among one section of marginalized population --injection drug users (IDUs) was observed after 2007. Furthermore, the proportion of IDUs with a viral load above 1,500 copies/mL (considered as a "high" HIV-1-viral load) fell from about 50% from 2000 to 2004 to about 20% in 2009.

3) There is also one ongoing efficacy trial, called **HPTN 052**, which has enrolled 1,750 serodiscordant couples (one HIV-positive and one HIV-negative partner) to look at ARV treatment as prevention in a number of countries. It asks whether initiating treatment in the HIV-positive partner can help reduce the risk of sexual transmission of HIV to the HIV-negative partner.

Conclusions: In the studies reviewed, the arguments in favour of preventive ART are: (1) evidence indicates that ART reduces viral replication in a durable way with manageable toxicity (2) the immediate cost of HAART will be compensated by cost-savings from avoided infections (3) intervention could reduce blame, shame and fear, improving social attitude.

Limitations: Using 'ART as a preventive strategy may present with certain limitations like (1) chances of increased sexual risk-taking (2) development of HIV resistance could lead to failure of protection and transmission of resistant virus, 3) issues of sustainability--funding, outreach, infra structural weaknesses, sudden increase in number of patients to be treated. Whether physicians should counsel their patients to initiate HAART, as a prevention strategy is still unresolved.

Discussion: In the meantime, prevention efforts should focus on: (1) development of prospective clinical trials to confirm the role of HAART in reducing transmission and will be critical to monitor, collate, and analyze data from the full range of research projects and the one current randomized trial **HPTN 052** (due to release results in 2013) to develop a sense of how this strategy might be used. It will be equally important to assess the risks and benefits of a test and treat or treatment as prevention approach for HIV (2) identifying HIV infection as early as possible to counsel partners about avoiding risks of infection (3) encouraging partners to always protect themselves, even when the infected partners are being treated successfully (4) infected persons seeking early HAART, as a preventive strategy, should never be denied this intervention. (5) The findings suggest that the benefits of the infections averted would outweigh the initial investments required and most importantly ART is being provided as part of a package of prevention and treatment interventions & not in isolation. (6) Furthermore, this strategy may work better on 'population level than on 'individual level' because the 'undetectability' of Viral load (VL) does mean only about the virus being too low in the blood for the test to find it and not the total absence of the virus.

Keywords: HIV transmission, Anti-retroviral therapy(ART), Viral load(VL), Sero-discordant couples, PMTCT, PEP, PrEP

Use of fast technology for the analysis of nucleic acids to store ribonucleic acid extracts at elevated temperatures

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ABSTRACT

Background: Resource-poor countries in Sub-Saharan Africa have laboratories that are constrained by erratic municipal power supplies, which make reliable cold storage of specimens impossible. In order to circumvent this problem, several methods have been attempted including the use of hybrid power systems to provide continuous power, but the resources needed to provide solar arrays, deep cycle batteries and technical expertise to manage the energy systems, which should guarantee a cold chain are prohibitively high and unaffordable by many. Even where the energy systems are successfully installed, the cost of maintaining a -20 °C or -80 °C freezer perennially is hard to afford by laboratories in these countries. This situation exists in laboratories in Sierra Leone. Moreover, evidence abounds that, Whatman, fast technology for the analysis of nucleic acids, (FTA) cards, can store nucleic acids at room temperature. The FTA cards were developed to protect nucleic acid samples from degradation by nucleases and other processes. They are embedded with a weak base, chelating agent, anionic surfactant or detergent, and uric acid (or a urate salt) added to a cellulose-based matrix. FTA cards have been shown to adequately store deoxyribonucleic acid samples at room temperature for weeks or years without noticeable degradation, however, it is uncertain if ribonucleic acids can be stored on FTA cards at temperatures well above room temperature, or when subject to dramatic changes in temperature.

Objectives: The main objective of this paper was to investigate if FTA cards can store pathogen RNA extracts at temperatures above 25°C, identical with temperatures in resource-poor settings in West Africa where dry ice or cold chains are barely available.

Methods: Three sets of FTA cards were spotted with known amounts of RNA extracted from a sample of influenza B. Each set of cards was exposed to different temperature conditions: 1) Room temperature (20-25 °C); 2) Incubation at 30 °C; and 3) Outside during the summer (30-45 °C). After 24-hour, 3-day, and 10-day incubation periods under these conditions, the quality of the RNA on the FTA cards and RNA stored at -20 °C was analyzed by RT-PCR as described previously.

Results: Visualization of the PCR products following agarose gel electrophoresis indicates no discernible degradation of RNA stored on FTA cards at temperatures up to 45 °C. PCR products (copy deoxyribonucleic acid, cDNA) from the samples with lowest RNA concentration (10² copies/μL) were not apparent after the 10-days under any of the incubation conditions. However, the lack of a DNA,(PCR Product) 'smear' on the gel, suggests that the DNA concentration was merely below the limits for PCR amplification.

Limitations: the study was limited by the unavailability of other pathogen RNA's apart from Flu B.

Conclusion: It is evident that FTA cards can be used to store ribonucleic acid samples at temperatures up to 45 °C for at least 10 days without any sign of degradation.

Keywords: Fast Technology, Store, Nucleic Acids, Elevated Temperature

Assessing the cross-cultural acceptability of a holistic needs assessment tool for older people: A pilot study in Colombia

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ABSTRACT

Introduction / Background: With an ageing global population, effective identification of the health care needs of older people has become an issue of increasing importance. Older people may have a wide range of clinical and social care needs, subsequently, clinical assessment requires a 'holistic approach' in which wider health-impacting factors such as finances and social support are considered, as well as specific medical problems. The EASY-Care system has been developed in the UK for this purpose. It is a set of clinical assessment instruments, guidance and training materials. It aims to identify care needs, whilst providing a clear framework through which to address them. The system focuses on early identification and prevention as well as identification of active issues. By using a structured and thorough approach with easy coding of patient responses, the tools aim to work as an effective clinical system, while concurrently providing population level data to help direct health policy. The system is being developed for international use, therefore must be seen as acceptable by healthcare workers and patients in all targeted contexts.

Aims and Objectives: To assess the acceptability of the EASY-Care system from the perspectives of healthcare workers and patients in Colombia.

Methods/Design: Healthcare workers (n=10) were trained in using the EASY-Care assessment system. Using the system, these staff then assessed 14, opportunistically selected patients, in 3 primary care settings. Patient and healthcare workers then completed questionnaires, to assess perceptions regarding the acceptability of the system, using quantitative and qualitative components.

Study limitations: Participants sample all came from the same town, hence, their views may not be representative of wider Colombia.

Results: In general, the tools were seen as highly useful by both patients and healthcare workers. Free text answers included 'very helpful' and 100% of participants recommend the systems future use. Certain improvements were identified relating to contextually pertinent health impacting factors, such as religion and health resource availability.

Discussion / Conclusion: The acceptability of the EASY-Care tool could be improved through further development as suggested by study participants. At present the EASY-Care system is seen as an effective and culturally acceptable by healthcare workers and patients in Colombia. Further research is required to assess international acceptably and validity.

Keywords: Older people, holistic assessment, geriatrics

Self-reported chronic somatic diseases among adolescent students in Mansoura, Egypt

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ABSTRACT

Objectives: To estimate the prevalence of the common self-reported chronic diseases among adolescent students in public secondary schools in Mansoura, Egypt.

Methods: This is a cross-sectional study conducted on a sample of 1493 adolescent students. Thirty clusters were selected to cover both general and vocational public schools of both sexes in urban and rural areas. A self-administered questionnaire was used to collect sociodemographic data from the students and their families, as well as a checklist of 15 chronic diseases.

Results: About 6% of students reported one or more chronic somatic disease. The most frequent are acne vulgaris (4.2%), rheumatic heart disease (3.4%), refractive errors (1.4) and bronchial asthma (1.1%). This pattern does not show significant differences between males and females.

Conclusions: Despite the self-reported nature, our findings indicate that Egyptian adolescents are not healthy as it is often considered.

Keywords: Chronic diseases, public schools, rheumatic heart disease, Egypt

Running title: Chronic diseases among adolescent students

Bone Marrow Derived Adult Stem Cell Implantation: A Possible Permanent Treatment Modality for Type 2 Diabetics

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ABSTRACT

Introduction: Diabetes is one of the most prevalent chronic disease that exists in the world. Type 2 Diabetes is the predominant type of diabetes. Management is basically limited to exercise, diet and oral hypoglycemic drugs before insulin therapy has to be instituted. But bone marrow derived stem cell implantation into the islets has shown very encouraging results for diabetics.

Methods: Bone marrow derived stem cells when implanted in the pancreas leads to regeneration of insulin producing Beta Cells and hence significant increase in both Endogenous Insulin and levels of C-Peptide. 12 patients (9 males and 3 females) on insulin therapy were treated with this modality, out of which 9 successfully responded and 3 were non-responders in which the effect was short lived. The responders showed weight loss, improved glycosylated Hb profile and reduced insulin requirement

Results: Significant improvement in levels of Endogenous insulin and C-Peptide was observed. 75% of the patients responded well to the treatment while the rest 25% were non responders (compared at 5 weeks after the transplant).

Discussion: This new invasive therapeutic modality can hence be used to improve the quality of lives of about 75% of patients with Type 2 Diabetes by partially or significantly decreasing the required exogenous insulin. The long term complications of this procedure need to be observed before it's effective application on a larger scale. Overall, has proved to be a very significant break-through in the field of medicine.

Keywords: Stem Cells, Diabetes, Permanent Cure, Type 2

Hygiene and Nosocomial Infection surveillance in hospitals in Odessa, Ukraine

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ABSTRACT

Introduction: Nosocomial infections are commonly known as Hospital acquired infection; as they can be acquired during non-infection inpatient stay. Infections are considered nosocomial if they first appear within 48 hours or more after admission; or 30 days after discharge. These infections are life threatening and lead to complications in a patient such as ventilator associated pneumonia, urinary tract infections, gastroenteritis, abscesses etc.

Aim: To assess the presence of infection causing bacteria within certain wards of hospitals situated in Odessa, Ukraine.

Method: 40 sterile swabs were used to swab from various hospitals wards and operation theatres in Odessa region. Swabs were taken twice a day, in the morning and evening; and immediately sent to microbiological laboratory for culture.

Results: Contamination was rated based on intensity of growth of microbes on culture media; with 1+ being lowest and 3 + being the highest. Only 11 (27.5%) swabs demonstrated the microbial growth. There were not found any causal or opportunistic microorganisms on the swabs received from operation theatres and the most of hospital wards. However culture reports found five types of bacteria: Acinobacter (1+) ,Staph. aureus (3+), Enterococcus fecalis (3+), Clostridium difficile (2+), Klebsiella (1+). These were found on door knobs, heaters, as well as stretchers indicating poor control of hospital hygiene.

Conclusion: Optimal hygienic conditions must be maintained to reduce the rate of nosocomial infections in hospitals. The bacterial contamination in these wards can prove to be fatal as Staph. aureus can cause necrotizing pneumonia, Acinibacter iwoffii causes bacteremia or meningitis; and enterococcus fecalis can cause pseudomembranous colitis. These infections are difficult to treat because of antibiotic resistivity of bacteria. Personal hygiene of medical staff, hand decontamination before and after contact with patient, safe injection practice, disinfection of medical equipment on regular basis; are some of the procedures that can improve hygienic conditions and decrease nosocomial infection rate in patients who are highly susceptible for such infections.

Keywords: Nosocomial infections, sterile swabs, hospital hygiene, microbial growth, antibiotic resistivity

Nutritional status of older adults on national financial assistance in an urban Asian country

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ABSTRACT

Background: Public Assistance (PA) is a form of social welfare for the socioeconomically disadvantaged. Financial need and lower socioeconomic status contributes to insufficient nutritional intake. No previous studies have been done in this population.

Objective: Assess the nutritional status of PA recipients, identify contributory factors for risk of malnutrition and evaluate their barriers to adequate nutrition.

Design: The inclusion criteria for study subjects were: participants currently receiving PA and aged 55 years or older. Individuals who were non-communicative due to mental or physical impairment were excluded from the study. Eventually, 399 community-dwelling PA recipients, from a list of 711 provided by Central Singapore District, were interviewed by trained pairs of interviewers using a coded questionnaire including assessment tools like Mini-Nutritional Assessment (MNA), DETERMINE Your Nutritional Health checklist, etc to quantitatively assess nutritional status, nutritional knowledge, comorbidity burden, depression risk, functional status, and awareness and utilisation of available food assistance services. Further in-depth qualitative interviews were done with malnourished individuals to evaluate the barriers they faced.

Results: 50.3% respondents were at risk of malnutrition as defined by a score of 17 or less on the Mini Nutritional Assessment. Increased risk of malnutrition was independently associated with advanced age (OR: 1.38, 95% CI: 1.20-1.71), single marital status (OR: 1.47, 95% CI: 0.98-2.21), risk of depression (OR: 1.43, 95% CI: 1.17-1.74), impaired functional status (OR: 1.42, 95% CI: 1.17-1.71), having a Body Mass Index (BMI) less than 19 (OR: 2.21, 95% CI: 1.85-2.83), and poor nutrition knowledge (OR: 1.26, 95% CI: 1.03-1.53) [All p values <0.05.]. Qualitative analysis showed financial, social and physical barriers and lack of knowledge to be main contributors to poor nutritional status. [NB: OR = Odds ratio, CI = confidence interval.]

Study Limitation:

- a. lack of objective biochemical tests to quantify nutritional status
- b. questionnaire-based assessment of nutritional status with limited quantifiable indices.
- c. inability to determine causality in relationship between risk of malnutrition and associated factors.

Conclusion: The risk of malnutrition among PA recipients is higher than in the general population. Education and increasing awareness in PA recipients about nutrition and food assistance services is recommended to improve their nutritional status.

Keywords: Malnutrition, nutritional assessment, geriatric assessment, geriatric nursing, nursing homes, food services

Breast Cancer -its impact on national resource and survival

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ABSTRACT

Aim: To determine the prevalence of breast cancer in Malaysia and its cost effectiveness in advanced cases.

Materials and Methods: This was a retrospective review of data in public hospitals and available literature on the epidemiology of breast cancer in Malaysia.

Results: In Malaysia breast cancer is the 2nd most common case of carcinoma related admissions to hospital; 34 per 100,000 populations are affected and 3500 new cases diagnosed every year. Locally advanced cases were found in 44.1% in the first visit to hospital. Approximately RM 10 thousand is the cost of treatment in early stage disease whereas it will cost 2-3 times more in advanced disease (3500 cases X20K =70, 00,000 i.e. RM 70 millions).It is a huge economic burden on the national health budget and wastage of precious time of clinician as well (another loss of human resource)

Conclusion: We want to convey the message to the health care personnel to take initiative for early detection of breast cancer and initiate appropriate treatment at the earliest to save the national resource as well to improve survival.

Keywords: Breast cancer, Malaysia, prevalence, national resources

Diaphragma sellae meningioma mimicking pituitary macroadenoma: a case report

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ABSTRACT

Background: Meningiomas are mostly benign intracranial tumours. Diaphragma sellae meningiomas are rare and may be hard to differentiate from pituitary adenomas. We report a rare case of diaphragma sellae meningioma mimicking pituitary macroadenoma in a 32-year-old man.

Case Presentation: The patient was admitted to Ahwaz Golestan Hospital with a 2-year history of headache, especially at night. Also, he had a bilateral ocular pain with visual field defects. Endocrinology examination revealed hyperprolactemia. His cranial radiographs revealed an enlarged sellae turcica and destruction of dorsum sellae. Computed tomography (CT) reveals a homogeneous, enhancing, and isodense mass in the intra- and suprasellar lesion without calcification. Magnetic resonance imaging (MRI) showed a solid mass with well defined margin. This mass was isointense on both T1 and T2 weighted images and homogeneously enhanced. The preoperative diagnosis was pituitary macroadenoma. A transsphenoidal rhinoseptal approach was used. The specimen consisted of fragments of brownish soft tissue. External surface was irregular. Sections showed a lesion compound spindle cell proliferation with dense nucleus and scanty cytoplasm with whorling pattern, which suggested meningioma (fibrous type).

Conclusion: It is necessary to distinguish diaphragm sellae meningioma from pituitary macroadenoma for the appropriate surgical approach and to subsequently decrease the complications from surgery.

Keywords: Diaphragma sellae, Meningioma, Pituitary adenoma

Correlation of Diabetic Retinopathy Grading with Peripheral Neuropathy

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ABSTRACT

Background: Awareness about the course and progression of related complications of the disease is important due to sub clinical progression and varied presentations. Objective assessment of these complications is needed for detection at a primary screening level. Hence grading will help correlate severity of complications that may not be clinically apparent.

Aims and objective:

1. Detection and grading of retinal changes in diabetics (with or without symptomatic peripheral neuropathy)
2. Correlation of the grading with results of nerve conduction studies.

Design: Cross sectional study: 60 Type 2 Diabetes Mellitus patients were randomly recruited and fundoscopic examination was done and retinal picture graded according to ETDRS classification. Data regarding age, duration of diabetes was collected. Nerve conduction velocity of sural nerve was documented. Statistical analysis done using spearman correlation

Results: Out of 120 eyes screened 97.5% of the eyes had presence of diabetic retinopathic changes (16.66% mild; 33.33% moderate; 22.5% severe; 20% very severe DR and 5% had PDR). Out of 60 patients undergoing nerve conduction study only 45 % were clinically symptomatic with distal sensory impairment. Significant Negative correlation was seen between presence of retinopathy and nerve conduction velocity (NCV). Coefficient of determination relating neuropathy and presence of retinopathy was $\rho^2 = 0.44$ (44%). Significant positive relation at level 0.01 was seen between duration of diabetes and both factors i.e. presence of retinopathy ($\rho = -0.667$) & average NCV ($\rho = 0.613$). No significant correlation was found between retinopathy and HbA1c levels.

Study Limitation: More extensive study involving larger sample size and wide geographical area is necessary. Longitudinal study would confirm the above results.

Conclusion: Advancement of retinopathy and peripheral neuropathy was seen with increasing duration of diabetes at a similar rate regardless of clinical onset of symptoms. Progression of retinopathy indicates nerve pathology and decrease in NCV. This indicates that in the presence of diabetic changes in the retina an objective assessment of the peripheral nerves should be done as it is a more accurate indicator than clinical presentation. Risk stratification of patients will thus institute a modified approach to screening and patient education

Keywords: Nerve conduction study, diabetic retinopathy, correlation

Hearing loss in Diabetes Mellitus

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ABSTRACT

Background: The complex arrangement of inner ear makes it potential target of hyperglycaemic damage. A study was conducted to identify the probable occurrence of hearing loss as a complication of Diabetes Mellitus (DM).

Aims and objective:

- To assess the hearing loss in type 2 diabetic patients and correlate with age, duration of diabetes, HbA1C.
- To correlate hearing loss with nerve conduction study.

Design: Cross sectional study was done involving randomly 110 Type 2 DM patients. Data regarding their age and duration of diabetes was collected. Pure tone Audiometry and Nerve conduction study was done. HbA1c level determined. Data statistically analysed using Pearson correlation coefficient.

Results: Out of 110 patients 48 patients (43.6%) had bilateral Sensorineural hearing in higher frequency (2000hz, 4000hz). Among them Severe hearing loss (71 dB to 90dB) was seen in 7 patients (6.36%), moderately severe hearing loss (61dB to 70dB) in 16 patients (14.54%) and moderate hearing loss (30dB to 60 dB) in 25 patients (22.7%). Among 47 patients who had diabetes for more than 10 years, 29 patients (61.7%) showed at least mild hearing loss. Duration of DM and sensorineural hearing loss at 2000Hz and 4000Hz showed statistically significant correlation (Pearson coefficient $r = 0.561$ and $r = 0.727$ respectively) at 0.01 level. In other frequencies no significant correlation was found. Coefficient of determination was $r^2 = 0.31(31\%)$ and $r^2 = 0.52(52\%)$ respectively between duration of DM and hearing loss at 2000Hz and 4000Hz. The correlation of hearing loss in lower frequency with HbA1c did not show any statistical significance. However HbA1c and hearing loss in higher frequency (2000 hz and 4000hz) showed statistically significant correlation (Pearson coefficient $r = 0.282$ and $r = 0.385$) respectively. The correlation of hearing loss with Nerve conduction study did not show any statistical significance.

Study Limitation: Longitudinal study involving larger sample size and wide geographical area would confirm the above results.

Conclusion: We concluded that progressive bilateral high frequency sensorineural hearing loss is a complication of DM and probably due to involvement of inner ear structures particularly hair cells with preservation of vestibulocochlear nerve functions. However hearing loss is unrelated to development of peripheral neuropathy. Further study needs to be conducted to confirm the mechanism of hearing loss.

Keywords: Diabetic chronic complications, Hearing loss, Nerve conduction study, Presbycusis

The relation between QT interval and T wave variables in hypertensive patients

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ABSTRACT

Background: Standard 12-lead ECG continues to be the most frequently recorded noninvasive test in medicine. A prolonged ECG QT interval and Tpeak-Tend (Tpe) interval are predictors of ventricular arrhythmia and sudden cardiac death.

Aim: The aim of the study was to analyze the relation between QT interval and T wave variables in hypertensive patients, with and without left ventricular hypertrophy (LVH).

Methods: Fifty-nine consecutive patients with grade 2 essential hypertension were included in the study. They underwent standard 12-lead ECG, and QT intervals: QTmax (the maximal duration of the QT interval in the 12 ECG leads), QTc (heart rate corrected QTmax), QTm (mean QT interval), QTII (the QT interval in lead DII), QTcII (heart rate corrected QTII), QTd (QT dispersion), and T wave variables: T0e (T wave duration), T0em (mean T0e), Tpe, Tpem (mean Tpem), Ta (T wave amplitude), Tam (mean Ta) were manually assessed. LVH was diagnosed using both echocardiography and ECG criteria.

Results: QTc was prolonged in 41 patients (69%). Multiple regression analysis revealed a significant association between QT intervals and T wave variables: QTmax and Tpe ($p=0.015$), QTd and Tpe ($p=0.022$) and Ta ($p=0.004$), and Tpe with QTd and T0e ($p<0.05$). A moderate but significant correlation was found between Tpe and QTmax, Tpe and QTII and between Ta and QTd. A prolonged QTc was more prevalent in hypertensive patients with LVH (85%), compared to hypertensive patients without LVH (50%). QTm, QTd, QTII, Tpe, Tpem were significantly elevated ($p<0.05$) in patients with LVH.

Conclusions: Hypertension is associated with an increased prevalence of prolonged QT intervals. QT intervals and T wave variables are close connected in hypertensive patients. QTm, T0em, Tpem and Tam, do not provide significant additional information compared to QTmax, T0e, Tpe and Ta. Left ventricular hypertrophy is associated with prolonged QT interval and Tpeak-Tend interval in hypertensive patients.

Keywords: QT interval, Tpeak-Tend interval, hypertension, left ventricular hypertrophy

Clinical Profile Of HIV/AIDS Patients in Srinagar, Kashmir (India)

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ABSTRACT

Background: Since the inception of the integrated counseling and testing centre (ICTC) at government medical college (GMC) and associated hospitals, there was no previous study on the clinical experiences in HIV/AIDS positive cases in this institution.

Aims & objectives: The aim of this study was to delineate the epidemiological profile of HIV/AIDS seropositive cases and which included to study:

- Number of HIV seropositive patients from April 2002 to December 2009.
- Common signs and symptoms of HIV/AIDS seropositive patients.
- Age and sex distribution of all seropositive cases.
- Mode of transmission of HIV infection.
- Residence and profession profile of seropositive cases.
- Different types of opportunistic infections in these patients.

Methods/study design: The present study is documental and analytical descriptive and it was conducted at the govt. medical college and associated hospitals through data collection of 128 records of individual who tested positive for HIV by three rapid test methods using three different antigens at integrated counseling and testing centre (ICTC). Demographic variables such as age, sex and occupation, data on mode of transmission and clinical manifestation were examined together.

Results/Findings: A total of 128 patients had tested positive for HIV by at least three tests using three different antigens, which included 112 (87.5%) male and 16 (12.5%) females. The mean age of these patients were 34.45 ± 8.40 with male to female ratio of 7:1. The peak incidence was found in the age group of 30-39 yrs (36.8%). Majority of HIV positive patients belonged to security personnel's followed by migrant labourers and housewives.

Transmission of infection was through sexual contact in 90.7 % followed by homosexual transmission in 4.7 %. Vertical transmission and blood transfusion accounted in 2.3% cases each. 78.9 % of patients presented with fever of > 1mon-th duration, 35.1 % with weight loss and 33.5 % with diarrhea. Tuberculosis and candidiasis were common opportunistic infection followed herpes zoster and varicella.

Conclusion: This study highlights the burden of HIV/AIDS patients in the study place. The results will be useful for various programmes in health promotions in patients of HIV/AIDS from this region.

Keywords: Clinical profile, HIV/AIDS seropositive cases, opportunistic infections

Antigen specific cellular response in patients with Hepatitis C virus infection and its association with HLA alleles

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ABSTRACT

Background & objectives: Host genetic diversity is believed to contribute to the spectrum of clinical outcomes in hepatitis C virus (HCV) infection. The present study aimed at finding out the frequencies of HLA class I alleles of HCV infected individuals from western India (Maharashtra state).

Methods: Forty three clinically characterized anti-HCV positive patients from Maharashtra were studied for HLA A, B, C alleles by PCR- sequence specific primer (SSP) typing method and compared with 67 and 113 ethnically matched, anti-HCV negative healthy controls from western India(Maharashtra state).

Results: Our analysis revealed an association of HLA alleles HLA A*03 (OR= 16.69, EF, 0.44, P=7.9E-12), A*32 (OR= 1474, EF 0.21, P=1.8E-9), HLA B*15 (OR=14.11, EF 0.39, P=2.18E-10), B*55 (OR= 12.09,EF 0.07, P=0.005), Cw*16 (OR= 7.45, EF 0.12, P=0.001), Cw*18 (OR= 402, EF 0.05, P=0.003), with HCV infection, chronicity.

Interpretation & conclusions: Our results suggest that the establishment of viral persistence in patients is due to a failure of the immune response and is associated with HLA class I allele mainly A*03, A*32, B*15, B*55, Cw*16, Cw*18 restricted individuals, as indicated by the absence of a significant T-cell response thus this proves that associated haplotype influence HCV infection as a host genetic factor.

Keywords: HCV-Hepatitis C virus - human leukocyte antigen - HLA A*03, A*32, B*15, B*55, Cw*18 - western India

Study of Drug Utilization Pattern and Cost of Therapy in Patients Undergoing Cholecystectomy in a Tertiary Care Hospital

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ABSTRACT

Introduction: In a resource poor country like India, choice of drugs like antibiotics, analgesics should be done properly to reduce the burden of cost among patient families. Cholecystectomy is one of the most common operation done in our setup, in both forms, i.e open and laparoscopic Cholecystectomy. There are no definite guidelines to follow regarding antibiotic and analgesic usage causing indiscriminate use of these drugs in a post operative Cholecystectomy case done with complete aseptic measures producing excess burden of cost on patients. The study was done based on this procedure to generate data regarding cost effectiveness of pharmacotherapy, specially antibiotics and analgesics in open and laparoscopic Cholecystectomy and to study the usage pattern of these drugs in the tertiary care hospital setup so that a guideline can be formulated for use in the future.

Objectives: 1. To study the pattern of drug usage with special emphasis on antibiotics and analgesics in post operative Cholecystectomy patients. 2. To study the cost of pharmacotherapy of the patients based on duration of stay in the post operative period.

Sample Size: The sample size of the study was 67 cases. This study was done for a time period of two months. We have included all the admitted cases for surgery of Cholecystectomy (both open and laparoscopic) in our study within the stipulated 2 months time period.

Methodology: An observational, prospective analytical study by collection of data without intervention was done in Calcutta National Medical College and Hospital, Kolkata, west Bengal, India for a period of two month under ICMR's (Indian Council of Medical Research) short term studentship programme with 67 cases of patients. Informed consent and Ethical committee's approval was duly taken. Data were collected in the department of general surgery from the bed side tickets of the patients after taking a short history and informed consent from the patient. Patients were followed till discharge and the cost of the therapy was calculated from CIMS (Current Index of Medical Specialities) and CENTRAL MEDICAL STORES.

Result: Open Cholecystectomy done in our setup is 58.20%, in which females are 97.43%. laparoscopic Cholecystectomy is done in 41.79% cases, in which again the majority are females with a percentage of 85.71%. Among antibiotics, Metronidazole (97.43% in open & 64.28% in laparoscopic cholecystectomy) and Cefoperazone-sulbactam (30.77% in open & 57.14% in laparoscopic cholecystectomy) are used most commonly. The other antibiotics used are amikacin (10.25% in open & 25% in laparoscopic Cholecystectomy), Ceftriaxone (12.82% in open and 14.28% in laparoscopic cholecystectomy), Cefotaxime (in open Cholecystectomy 12.82% and laparoscopic Cholecystectomy 3.57%), ciprofloxacin (in open Cholecystectomy, 8 % patient were given ciprofloxacin while in laparoscopic Cholecystectomy 3.57 % were given ciprofloxacin), ofloxacin (in open cholecystectomy, ofloxacin was not used but in laparoscopic Cholecystectomy, 17.85% of ofloxacin was used.) Among the analgesics, Diclofenac

Sodium (48.71% in open and 57.14% in Laparoscopic cholecystectomy) and aceclofenac-paracetamol combination (46.15% and 42.85% in open and lap.Cholecystectomy respectively). The average duration of stay in post operative period in open Cholecystectomy was found to be 6-7 days and that in laparoscopic Cholecystectomy was found to be 3-4 days. Cefoperazone-sulbactam, amikacin, ceftriaxone, ciprofloxacin has the highest cost per day which are Rs. 334.36, Rs. 116.00, Rs. 159.50, Rs. 179.20 respectively. The average cost of pharmaco-therapy in case of open Cholecystectomy is Rs. 600-Rs.800 and in laparoscopic Cholecystectomy it comes out to be Rs. 400 – Rs.600.

Conclusion: Cholecystectomy is performed in major operation theatres of Surgical department of Calcutta National Medical College under complete aseptic measures, still surgeons use antibiotics as prophylactic measures, also analgesics as and when required. The different group of antibiotics and other drugs are used as pick and choose method due to lack of standard treatment protocol. Judicious use of antibiotics and other drugs may reduce the economic burden on the patients. Open Cholecystectomy is still performed in higher percentage in this setup, thus increasing the duration of stay in the post operative period. This again increases the cost of the therapy associated with the procedure.

Study Limitations:

1. The study should be conducted over a longer period of time.
2. The number of patient selected for the study should be large enough to generate data for designing a standard guideline for treatment.
3. The study was an observational study without any intervention. Intervention with drugs may have shown a better result regarding cost effectiveness data generation.

Keywords: Cholecystectomy, laparoscopic cholecystectomy, drug utilisation in cholecystectomy, cost effectiveness in cholecystectomy, 3rd generation cephalosporins, metronidazole

Anthropological-medical aspects of feeding behavior of children in modern society

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ABSTRACT

Background: The field of nutrition research have shown that an appropriate nutritional balance for each professional occupation, age and environment in which the individual lives, is the ideal solution to prevent profound physiological changes.

Aim & Objectives

1. To understand the influence of the modern society on children physical development and diet.
2. To analyse from a medical anthropology perspective, a serie of factors and actual tendencies which led to a change in diet and consequently to the increase of the percetenge of overweight children.
3. To promote a balanced and healthy diet and life style at an early age.
4. To suggest recommendation.

Methods/Study Design: The study was conducted in Bucharest in 2010 on a sample of 472 subjects (11-14 years old), through medical and anthropometric examination. Questionnaires with 32 items relating to eating habits were used. The results were processed using statistical methods and compared with those obtained in 1977 on a control group of 142 children from Bucharest. In the study only children from a school with a standard schedule of 4-5 hours per day were included.

Study Design: Cross-sectional prospective study.

Consent: The study was conducted with parents' written consent, and the interviewed persons had the opportunity to withdraw at any time. Confidentiality respected Romanian and European legislation in force. During the research no person has withdrawn from the study.

Results/Findings: The percentage of children in the control group (34.55% male, 18.39% girls) who ate meat or sweets daily (32.73% male, 24.14% girls) was about equal, the difference being statistically insignificant ($p>0.05$). The percentage of girls in the study group (29.66%) who ate meat every day is less than those who ate sweets daily (42.97%), the difference being statistically significant ($p<0.05$). For boys the difference is statistically insignificant ($p>0.05$). The percentage of children who do have dinner in the study group (4.31% male, 6.84% girls) and in the control group (10.91% boys, 9.20% girls) is lower than those who do not eat anything in the morning (9.09% male, 15.59% girls-the study group and 18.18% boys, 13.79% girls-control group) and at noon (boys 5.26%, 8.75% girls-group study and 20.00% boys, 17.24% girls-control group), with a statistically significant difference ($p<0.05$).

Conclusion: Higher consumption of sweets, snacks, high percentage of children who consume cooked meal, meat or cheese in the evening, as well as those who eat in front of the television have contributed to increasing the percentage of overweight children in the study group compared to the control group, the difference being statistically significant ($p<0.05$). The increase is significantly higher in the analysed sample of both boys and girls and requires that parents and children are better informed on the effects of an unhealthy diet on children development.

Keywords: Food, children, modern society

“Sex” is gift of nature. What if she betrays?

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ABSTRACT

Introduction: Intersex is a condition of abnormal sexual maturation resulting in abnormal karyotype or primary or secondary sexual characteristics which can be diagnosed by ambiguous genitalia or abnormal characteristics in adolescent. Prevalence of this rare condition is too low (1 in 20,000 live births). It is very confusing for a doctor to determine the treatment chapter which includes proper diagnostic technique, sufficient time for interpretation and intervention and informing the patient. But the steps are too confusing and controversial. Prescribed case made us highly confused by its characteristics which was none of 5-alpha reductase deficiency syndrome, Reifensteine Syndrome, Pseudo-harmaphodism and also having a balance between a male and female which is very rare and unique. As the diagnosis was difficult to define, initiatives were taken to reveal the proper diagnosis for better treatment so that this kind of cases in future could be managed properly.

Case Presentation/Description: 15 years old unmarried girl came to Gynaecology outpatient department complaining of primary amenorrhoea, gradual swelling of the external genitalia since 12 years of age and hoarseness of voice since last month.

Physically she was tall, with male pattern pubic hair, tanner stage 0 sized breast, having cliteromegaly rather micropenis, perineal hypospadias, palpable mass in both labia major and a blunt space resembling vagina in between.

Laboratory investigations revealed very high Testosterone (246ng/dl) and Thyroid Stimulating Hormone (8.09 mcIU/L) but low level of Follicle Stimulating Hormone (13.83IU/L) and Oestrogen (17pg/dl).

Cytogenic study showed 46XY/46XX mosaic chromosomal pattern.

In laparoscopy there was no internal female genital organ.

Biopsy of the labial mass was done after operation which depicted seminiferous tubules lined by sertoli cells with no sperm production and interstitial fibrosis.

Case was very much mysterious as it was in a balance to support both sexes. After informing the family members first, the society had become an obstruction for the doctors to treat with freedom. Then according to the will of the family members and for the sake of the society diagnosis was hidden from patient and managed by Gonadectomy, Clitorectomy, and Vaginoplasty in same sitting with hormonal therapy for life long to make her a “girl” again.

After 2 months of the treatment patient came with a good respond towards the hormone therapy. Our case proved that ‘Intersex’ is a mystery of nature and do not always follow the known clinical features.

Discussion: Sometimes we treat the patient for sake of society, family etc. and never think about the patient’s will. This case was not a different in this aspect. Doctors were bound to follow the rules made by society without protest. Patient of INTERSEX is one of them who have nothing to do against the Nature’s betray. More they need physical rehabilitation, ramification, adaptation and a helping hand to come out of gasping agony inside.

Keywords: Intersex, Pseudo-harmaphodism, sex disorder

Magnetic Resonance Spectroscopic Imaging (MRSI) Study of Breast Cancer

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ABSTRACT

Background: Breast cancer is the fifth most common cause of cancer death worldwide and most serious form of neoplastic diseases in both developed and developing countries. Mammography and ultrasound are the most often used screening methods in breast cancer. Magnetic Resonance Imaging (MRI) uses the protons in water and fat to create the image of breast cancer. But recent studies says neoplastic breast lesions contains elevated choline concentration (tCho) and altered mean apparent diffusion coefficient (ADC) which can be used as good biomarkers to evaluate the cancer stages even follow up the Neoadjuvant Chemotherapy (NACT).

Aim & Objectives:

1. To evaluate the relation of age, tCho concentration and mean ADC with breast cancer.
2. To estimate the correlation between the factors.
3. To calculate the main difference between breast cancer patient before and after menopause.

Methods/Study Design: This was a cross sectional, observational study done on 14 randomly selected diagnosed stage I breast cancer patients newly registered in surgery department of All India Institute of Medical Sciences, New Delhi, India during 3 months study period. Intentionally 7 of them were selected to be postmenopausal and rest 7 premenopausal. Patients with claustrophobia, serious illness, pacemaker or associated diseases were excluded. Volunteers were selected by lottery method after confirmation of absence of the exclusion criteria in them. All the breast MRS images were taken only after signing the consent form of being a volunteer for the study with breast coil. All the spectroscopic images were analyzed with computer technologies and SPSS software with the help of non-parametric statistical tests.

Results/Findings: Mean age of patients were 44.85 ± 6.97 where in premenopausal and postmenopausal women it was 40.14 ± 4.59 and 49.57 ± 5.26 respectively. tCho concentration was high in postmenopausal women (4.85 ± 2.64 mmol/kg vs 3.72 ± 1.64) where unlike to them premenopausal women showed higher mean ADC values (1.02 ± 0.20 vs 0.91 ± 0.09). All together weak correlation ($r = 0.439$) found in between the tCho and mean ADC where age and tCho were weakly correlated among the premenopausal patients ($r = 0.440$). Among the postmenopausal women strong correlation found in between age tCho and mean ADC ($r = 0.620$) and age and mean ADC ($r = 0.498$).

Study Limitations: It was short term study with very less population of same category of breast cancer which can be more appreciated if done in a large population cohort study design though as a pilot study the aims were satisfactorily reached.

Conclusion: Postmenopausal women show adverse conditions in breast cancer and using tCho and mean ADC as biomarkers; the management process becomes easier for a doctor.

Keywords: Breast Cancer, MRSI, MRI, Cancer Biomarkers

In Search of Efficacy of Valethamte Bromide, a Cervical Dilator

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ABSTRACT

Background: Labour is a normal physiological process, progress of which depends upon the strength and frequency of uterine contractions and simultaneous active cervical dilatation. But sometimes active cervical dilatation lags behind even though there is presence of uterine contraction and causes pain abdomen, prolongation of labour which can hamper both maternal and foetal health. Hence comes the need to use the cervical dilators to encourage the cervical dilatation to compete with the frequent uterine contractions and facilitates the labour process. Valethamate Bromide (VB) belongs to those groups of drugs which can be used as a cervical dilator in need. Now a day, the use of VB has become very less in comparison with other cervical dilators and reason is not clearly established yet.

Aim & Objectives:

1. To compare the safety of VB in comparison to Drotaverine Hydrochloride
2. To compare the efficacy of VB with Hyoscine Butylbromide and
3. To study the actions of Valethamate Bromide upon duration of labour.

Methods/Study Design: It was an interventional, hospital based study done in MMC&H, India. After taking necessary permissions for the study, total 450 primi gravida patients without any obstetrical abnormality and contraindications to the drugs were selected randomly for six months. Three equal (150 each) groups were formed to satisfy each objective separately. First two groups were divided into three (50 each) and rest into two (75 each) equal sub-groups. All of the drugs were given intramuscularly only in first stage of labour following the prescribed doses. Necessary clinical evaluations were done at a regular interval and collected data were analyzed with SPSS software.

Results/Findings: In first group, Drotaverine HCl has proved to be quicker cervical dilator than Valethamate Bromide; but produced cervical lacerations in considerable number of patients (12.5% unilateral, 19% bilateral). In second group, sub-groups were given Valethamate Bromide, Hyoscine Butylbromide, and distilled water (placebo) respectively. Average rate of cervical dilatations were (2.05 ± 0.58) cm/hr, (1.79 ± 0.64) cm/hr and (1.12 ± 0.14) cm/hr & Average duration of labour was 5 hours, 6.7 hours and 9.5 hours respectively. In remaining study group Valethamate Bromide significantly reduced both the first stage ($p < 0.01$) and second stage ($p < 0.01$) of labour in respect to the group got placebo.

Study Limitations: It was single handed study done on small population and many clinical correlations were overlooked to focus the aims only.

Conclusion: Leaving the contraindications in normal pregnancy with no abnormal obstetric problems the Valethamate Bromide can be used to achieve safe, accelerated delivery with least complications

Keywords: Labour, Cervical dilators, Valethamate Bromide, Hyoscine Butylbromide, Drotaverine Hydrochloride

The effect of aerobic training on serum levels of lipoproteins in inactive females

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ABSTRACT

Objective: Having serum levels of high cholesterol can cause life-threatening disease specially cardiovascular problems. However, it is believed aerobic training can reduce the risk of cardiovascular disease, but this effect varies considerably among exercise intervention studies. Therefore, the present study was designed to evaluate the effects of aerobic training on serum levels such as cholesterol, high density lipoprotein, Low density lipoprotein, triglycerides and anthropometric parameters of inactive women.

Materials and Methods: This study was performed as an experimental study, in which 20 healthy non-athlete females (age 27.50 ± 4.11 yr, height 163.55 ± 4.22 cm, body weight 62.81 ± 4.66 kg) randomly divided in two groups (Control group, n=10 and Experimental group, n=10). Blood samples were taken 48 h before starting the aerobic training program. Then, experimental group performed a selected aerobic training program with 65-85% of individual maximum heart rate for 3 session per week, 60 minutes per session and 6 consecutive weeks. Then another blood sample was taken following the training period. Serum levels of lipoproteins of all subjects before and after the training period were measured using standard biochemical methods. Differences between post test and pre test were evaluated using a Student's t-test for paired samples. A P-value < 0.05 was considered to be statistically significant.

Results: Our results showed that the aerobic training caused significant changes ($p < 0.05$) in HDL-cholesterol (pre-test: 38.53 ± 1.34 vs post-test: 42.65 ± 1.6 , $p = 0.000$), LDL-cholesterol (pre-test: 134.61 ± 4.82 vs post-test: 127.72 ± 4.82 , $p = 0.001$), VLDL-cholesterol (pre-test: 131.98 ± 1.93 vs post-test: 127.53 ± 1.43 , $p = 0.000$), TG (pre-test: 117.05 ± 3.21 vs post-test: 92.37 ± 7.61 , $p = 0.001$) and TC (pre-test: 195.98 ± 4.30 vs post-test: 186.49 ± 4.48 , $p = 0.000$) in experimental group but not in control group.

Conclusion: The result of the present study revealed that regular aerobic training can lead to reduce cardiovascular risk factors with changing in the lipid profiles.

Keywords: Heart risk factors, Aerobic fitness, Serum lipids, Inactive females

Cellular Interaction around Capillaries in Different Parts of Heart at Myocardial Infarction

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ABSTRACT

Background: The problem of high mortality from myocardial infarction (MI) is very actual all over the world in spite of the progress in diagnostic and treatment. The great amount of investigations is directed to cell therapy, which is focused on the correction of cell populations in hurried and intact zones to stimulate reparation. In this work the investigation has been done according to the study of perivascular communicative systems.

Materials and methods: 73 hearts of dead people from MI were investigated. According to the morphology and multiplicity, they were divided into 6 groups: acute (AMI) and recurrent (RMI) MI with prescription 1-2 days (AMI-1, RMI-1); 3-5 days (AMI-2, RMI-2); more than 5 days (AMI-3, RMI-3). During the autopsy samples of cardiac muscle 1 cm³ in capacity were cut from the centre of necrotic zone (LV-1), demarcation zone (LV-2). We accepted the center of interventricular septum (IS) as intact zone. The material was microscopically analyzed with Hematoxylin and Eosin and morphometric accounting of cells of stroma was done. For statistical treatment non parametric methods were used: U-test and Spearman rank correlation coefficient. Probability values <0.05 were considered significant.

Results: Quantitative differences were the following: prevalence of hematogenic cells for AMI and histogenic cells for RMI. The greatest amount of differences were found in AMI-3 and RMI-3. Quantitative differences were more particular for macrophages (Mph), fibroblasts (Fb) and polymorphonuclear leucocytes (Pnl) in LV-1 - LV-2 and LV-1 - IS. Significant differences were mostly for groups AMI-2-RMI-2. Significant differences LV-2 and IS were rare and were related to Fb, fibrocytes (Fc) and lymphocytes (Lf). Only Lf of LV-1 had a positive correlation with Lf in LV-2 and IS in all groups. In all groups mostly histogenic cell elements had a positive correlation (Lf, Fb, Fc).

Conclusions: Differences of quantitative rates for AMI and RMI were concentrated in demarcation zone. There was a domination of the hematogenic cells elements for AMI and histogenic for RMI. The most significant differences were for AMI-2 and RMI-2. There was not a great number of correlation, probably because of a short-run process.

Keywords: Myocardial infarction, cell populations, morphometry

Outcomes of patients with low risk cardiac chest pain underwent immediate exercise testing: two months follow up

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ABSTRACT

Aims and Objective: The objective of our study was to evaluate the outcomes of patients with low cardiac risk presenting to the emergency department (ED) with chest pain suggestive of a cardiac etiology and underwent immediate exercise testing during two months follow up.

Methods: From September 2007 to September 2008, all patients presenting to the ED of Rasool-e-Akram Hospital in Tehran with chest pain compatible with a cardiac origin and clinical evidence of low risk on initial assessment underwent immediate exercise treadmill testing according to the Bruce protocol. Method of sampling was non-probability and consecutive. Sixty days follow up after exercise testing was done for determination of subsequent clinical status included myocardial infarction (MI), unstable angina pectoris (UAP), coronary artery disease (CAD) demonstrated by thallium scan scintigraphy or the coronary angiography, undergoing a revascularization procedure, and death.

Results: Exercise testing was performed to in 184 patients (116 men, 68 women; mean age 46.9 ± 10.3 years). Exercise testing was positive in 53 (28.8%), negative in 119 (64.7%), and nondiagnostic in 12 patients (6.5%). Cardiac event in positive exercise testing group was occurred in 25 patients (45%), and in negative testing group was in 4 (3%). Cardiac event was occurred in no patients with nondiagnostic exercise testing. The negative predictive value (NPV) of the exercise test for non-traumatic low risk cardiac chest pain was 96.6% and positive predictive value (PPV) was 47.2%.

Discussion: Our results emphasizes that the immediate exercise testing in the studied group of the patients is a safe, non-invasive and useful test with a high NPV and moderate PPV that could help us in prognostic risk stratification of this group of patients.

Keywords: Chest pain; exercise testing; emergency department

Old Disease...New Location...Surgeons Be Alerted

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ABSTRACT

Echinococcus granulosus causes a zoonotic infection called Cystic Echinococcosis (CE). Surgeons meet with hydatid cysts of the liver and lungs with reasonable frequency. However hydatid cyst may appear in other parts of the body too.

A 30 yrs old lady presented with a smooth slow-growing subcutaneous nodule on the anteromedial side of the right thigh with no detectable primary site in the liver or lung. The case subsequently diagnosed as hydatid cyst of muscle and radical surgery was done under coverage of anihelminthic drug.

The common practice in this type of case is to do FNAC taking the lesion to be a soft tissue neoplasm. The aim of this case presentation is to make aware of the fact that in a case of diffuse non-tender swelling with history of gradual increase in size hydatid cyst also has to be considered in the differential diagnosis.

Keywords: Hydatid Cyst, Thigh Muscle, Cystic echinococcosis, Muscular echinococcosis