



RLKU
MEDICAL & DENTAL COLLEGE

ABSTRACT BOOK

1st Research Moot 2023

Presenting Diversity of Research Studies

12-13

**December
2023**

09:30AM - 02:00PM

**Lecture Hall # 3
RLKUMC**



Prof. Dr. Arif Siddiqui

Principal



Prof. Dr. Faheem Mahmood

Vice Principal



Prof. Jamil Ahmed

**Convener Research
Advisory Committee**

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Comparison of Slow versus Rapid Feeding Regimen in Preterm Neonates in the reduction of hospital stay.

ABSTRACT

INTRODUCTION: In preterm babies, delay in achieving full feeds causes prolonged hospital stay. This study will help in the nutritional management of preterm babies which will shorten the hospital stay and reduce the economic burdens on parents.

OBJECTIVE: To compare the mean duration of hospital stay of preterm neonates with two different feeding protocols (slow feeding regimen versus rapid feeding regimen).

MATERIALS AND METHODS: This study was conducted in the Izzat Ali Shah Hospital neonatal unit from October 2019 to March 2020 through a randomized controlled trial. A total of 102 (51 in each group) were randomized to slow feeding (Group A) and Rapid feeding (Group B). Depending on the birth weight and gestational age, a certain amount of breast milk was initiated, with increments of 15-20 mL/kg/day in the slow-feeding group & 25-30ml/kg/day in the rapid-feeding group. Feeding was stopped temporarily in case of any sign of feeding intolerance, suspected necrotizing enterocolitis, recurrent apnoeic episodes, and neonatal seizures. The total target feed was 180 ml/kg per day. Infants were continued in the study until discharged from the hospital.

RESULTS: Our study shows that the mean gestational age in Group A (Slow feeding) was 34 weeks with SD \pm 2.68 while the mean gestational age in Group B (Rapid feeding) was 35 weeks with SD \pm 1.98. In Group A (Slow feeding) 55% of neonates were male, while 45% of neonates were female. Whereas in Group B (Rapid feeding), 57% of neonates were male while 43% of neonates were female. In Group A (Slow feeding), the mean hospital stay was 22 days with SD \pm 7.02. In Group B (Rapid feeding), the mean hospital stay was 13 days with SD \pm 3.72.

CONCLUSION: Our study concludes that mean hospital stay in the rapid advancement of feeds was shorter as compared to the slow feeding of preterm neonates.

KEYWORDS: Hospital stay, rapid advancement, slow feeding, preterm neonates.

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Maternal Outcome of Primigravida Patient with Term Pregnancy with Engaged Versus Unengaged Fetal Head at Onset of Labour

ABSTRACT

INTRODUCTION:

The birth of a child is a life-changing event that only occurs once in a woman's lifetime. Once regular contractions begin, dilation and effacement occur, followed by part's descent. When the broadest diameter of the fetus's head fits into the pelvic inlet, the fetus is said to be engaged. Fetal skull biparietal diameter passing through the pelvic entrance has been classified as engagement.

Operative birth is more likely when the fetal head fails to engage in early labor. At term, a high fetal head in a first-time mother is considered a risk factor for obstructed labor and dystocia. A higher likelihood of a cesarean section is associated with non-engagement at the start of the active phase of labor.

Vaginal delivery can be achieved with the least amount of harm to both the fetus and the mother by keeping a vigilant outlook and employing suitable intervention methods.

When the fetus's head is not engaged at the start of labor, primigravida are at significant risk of experiencing obstructed labor. Labor is sometimes extended, and more care may be needed in a medical emergency.

A variety of research has shown that fetal head engagement and non-engagement have different effects on delivery methods and outcomes. Since this study aims to learn more about how pregnant women with engaged fetal heads and unengaged heads fare in our study group in terms of their APGAR scores, we've decided to conduct it.

OBJECTIVE: To assess the maternal outcome of primigravida patient with term pregnancy with engaged versus unengaged foetal head at onset of labour

MATERIAL AND METHODS: This study involved 160 primigravida at term (as per dating scan) aged between 18-35 years who were divided into cases (women with unengaged fetal head) and controls (those with engaged fetal head). Outcome variable were frequency of

cesarean delivery, poor APGAR score at 1 and 5 minutes, and NICU admission which were noted and compared between the groups.

RESULTS OF THE STUDY: The mean age of the patients was 23.9 ± 3.8 years while the mean gestational age was 39.0 ± 1.3 weeks. The frequency of poor APGAR score at 1 minute (25.0% vs. 5.0%; p-value<0.001; 95%CI RR=5.00) and cesarean delivery (38.8% vs. 16.3%; p-value=0.001; 95%CI RR=2.39) was significantly higher in women with unengaged fetal head at term. However, there was no statistically significant difference between the groups in terms of poor APGAR score at 5 minutes (5.0% vs. 2.5%; p-value=0.405; 95%CI RR=2.00), NICU admission (10.0% vs. 8.8%; p-value=0.786; 95%CI RR=1.14).

CONCLUSION: In the present study, unengaged fetal head in primigravida at term was associated with poor APGAR score at birth and increased risk of cesarean delivery which advocates that women with unengaged fetal head at term should be considered as high risk so that anticipated management may improve the fetomaternal outcome

KEYWORDS: Primigravida, Unengaged Fetal Head, Fetomaternal Outcome

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ASSOCIATION OF MATERNAL HYPERHOMOCYSTEINEMIA WITH PREECLAMPSIA; A HOSPITAL-BASED CASE-CONTROL STUDY

ABSTRACT

INTRODUCTION: Preeclampsia is among the leading causes of fetal morbidity and mortality throughout the world, especially in developing countries like Pakistan. The exact pathophysiology of preeclampsia is still unclear but recent research on homocysteine shows its important role.

AIMS & OBJECTIVES: The aim of this study was to determine the association of high serum homocysteine levels with preeclampsia among antenatal women.

PLACE AND DURATION OF STUDY: Tertiary Care Hospitals of Lahore (Services, Lahore General Hospital, and Sir Ganga Ram Hospitals) from 1st January 2019 to 30th June 2019.

MATERIAL & METHODS: A matched case-control design was employed. Sixty-six diagnosed pre-eclamptic antenatal women were selected as cases and they were age and gestational weeks matched with sixty-six normotensive antenatal women as control, with a case-to-control ratio of 1:1. Serum homocysteine level in the fasting sample was estimated by Enzyme-linked immunoassay. Data was entered and analyzed through SPSS version 20.

RESULTS: The mean plasma homocysteine was significantly higher in cases (16.05 ± 2.25) as compared to controls (9.44 ± 2.83) with a p-value < 0.001 . A highly significant statistical association was found between Hyperhomocysteinemia and Preeclampsia (p-value < 0.001 with an adjusted Odds Ratio of 4.72).

CONCLUSION: Homocysteine levels are high in preclamptic women as compared to normotensives showing that hyperhomocysteinemia is significantly associated with preeclampsia in antenatal women.

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PERSONALITY CHARACTERISTICS OF MOTHERS OF PATIENTS WITH SUBSTANCE USE DISORDERS

ABSTRACT

BACKGROUND AND AIM: Substance use is a poly-faceted problem. There are many factors that determine its ubiquitous use. Psychosocial factors are a major contributing component, parenting is one of them. Parental caregiving impairments have severe implications in the aftermath of drug misuse relapse. The present study is intended to investigate the personality characteristics of mother of patients with substance use disorders.

MATERIAL AND METHODS: A questionnaire-based study was conducted on 36 mothers of substance-dependent patients in Bahria International Hospital, Lahore from August 2022 to July 2022. Diagnostic statistical manual was used for patient's diagnosis. The non-substance dependent patient's mothers (control group) were 40. Mother's with age between 35 and 65 years with no suffering substance use disorders or significant medical disorder were enrolled. Written informed consent was provided and Minnesota Multiphasic Personality Inventory (MMPI) was used for both group's administration. The Addiction Severity Index (ASI) was used to assess the severity of substance dependence in patients (sons). ASI address seven potential problem areas were as follows: medical status, legal status, psychiatric status, employment status, alcohol use, family status, and drug use. Both group's personality profiles of mothers were compared. SPSS version 26 was used for data analysis.

RESULTS: The overall mean age was 29.6 ± 4.3 years. Mother's mean age of study and control group was 48.48 ± 2.56 years and 42.9 ± 6.4 years. Based on MMPI scales, both groups showed significant association (variations) in terms of hysteria, depression, and paranoia. Depression score (>70) was significantly higher in study group (9%) as compared to 2% in control group. The normal depressions scores (45-50) was found in 6% study group and 22.5% control group ($P=0.002$). The hysteria negative scores were found in 16% study group and 38% control group participants. The study group had 4% paranoia scale scores as compared to 2% control group. In the study population, 4% of participants scored positively on the paranoia scale ($P = 0.02$), while none of the other MMPI scales showed any significant differences.

CONCLUSION: The present study concluded that Hysteria scores, psychopathic deviation scores, and scores of hysteria were significantly correlated. The ASI substance use social introversion dimensions exhibited significant negative correlations, as well as family history dimensions. There were disturbances in the behavior traits of mothers of substance-dependent patients that could explain how substance dependency is perpetuated.

KEYWORDS: Substance user mothers, personality characteristics, drug-addiction, MMPI, ASI

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DRINKING WATER, SANITATION, AND HYGIENE (WASH) SITUATION IN PRIMARY SCHOOLS: THE IMPACT OF WASH ON CHILDREN HEALTH AND EDUCATIONAL OUTCOMES

INTRODUCTION: The United Nations' Sustainable Development Goals aim to ensure access to Water Sanitation and Hygiene (WASH) for all. However, very few studies have assessed comprehensive school WASH services in Pakistan.

OBJECTIVE: To determine the situation of WASH services in Pakistan's primary schools and to assess how recent WASH interventions and policies are associated with health and educational outcomes.

MATERIAL & METHOD: A representative cross-sectional study was conducted in primary schools in the Sindh province of Pakistan. Structured observations and interviews were done to ascertain the schools' WASH conditions. The primary exposures of interest were the implementation of previous WASH interventions. The National WASH policy in the school, and the WASH coverage. Outcomes of interest included WASH conditions and school performance. Structural Equation Modeling (SEM) used a bootstrap resampling procedure to characterize how WASH exposures were associated with WASH conditions and school performance.

RESULTS: Data were collected from 425 schools. According to WHO WASH service ladder criteria, the Basic WASH facilities coverage in the primary schools of Sindh remains overall low. Schools present varying degrees of health risks. Around half of the drinking water samples were contaminated with *Escherichia coli* (49%), *Shigella* spp. (63%), *Salmonella* spp. (53%), and *Vibrio cholerae* (49%). Southern Sindh was found to have the highest risk of infection and illness from *Campylobacter* and Rotavirus. Central and Northern Sindh had a comparatively lower risk of waterborne diseases. The children's illness and school performance were significantly associated ($P < 0.001$) with the presence of WASH interventions and/or WASH policy, while WASH policy and/or recent WASH intervention at the school were not associated with overall water quality.

CONCLUSION: Our assessment unveiled several WASH gaps that exist, including high heavy metal and fecal contamination. There is a dire need for management plans in the schools of Sindh to halt the progression of waterborne diseases in school-going children.

Adoption of national WASH policy and financing of evidence-based WASH interventions are recommended in primary schools to improve health and educational outcomes.

KEYWORDS: Waterborne Diseases, Water Quality, Primary Schools

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IS DOING A COMPLETE AUTOPSY AIDING IN REACHING THE CAUSE OF DEATH IN PAKISTAN?

ABSTRACT

INTRODUCTION: One of the primary objectives of a forensic autopsy is to establish the cause of death. Various approaches may be taken to decide the extent of the autopsy required for a particular case. In Pakistan, all bodies found under suspicious circumstances are mandated by law to undergo a complete autopsy after registration of a first information report (FIR) by the police.

OBJECTIVE: This study aimed to compare and analyze the cause of death recorded in the police FIR before the autopsy is performed and the final autopsy report after complete, 3-cavity autopsy has been done.

MATERIALS AND METHODS: This retrospective study analyzed records of postmortem examinations carried out at a single, tertiary level autopsy center between June 2009 to July 2018. The study included 769 reports of complete autopsies performed and compared the cause of death stated in the final autopsy report to the FIR recorded by the police.

RESULTS: Of the 769 autopsies included, based on comparison of cause of death between police FIR and autopsy report, five different groups were established. 504 (65.5%) cases were categorized as “similar”, 74 (9.6%) cases as “dissimilar”, 72 cases (9.4%) had no cause of death mentioned in the FIR, 65 cases (8.5%) had no cause of death mentioned in the autopsy report and in 54 cases (7%) neither the FIR nor the autopsy report stated any cause of death. The leading cause of death noted to be similar in FIR and autopsy was from firearm injuries.

CONCLUSION: A large proportion of the cases included in the study had similar cause of death recorded in the FIR, documented before autopsy is done and the autopsy report. Value of doing a complete autopsy stands questioned and it may be advisable to look into adopting alternate practices as seen in other parts of the world. Moreover, outdated, or absent guidelines for the actual carrying out of autopsies must be looked into and policies/ legislations surrounding it reviewed.

KEYWORD: Autopsy, Cause of Death

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BRACHIO-RADIAL OR HIGH ORIGINATING RADIAL ARTERY: ULTRASONOGRAPHIC & CADAVERIC STUDY

ABSTRACT

BACKGROUND: Typically, the radial artery arises as a branch from the brachial artery at the level of the neck of the radius in the distal antecubital fossa. Anatomical variations in the radial artery are relatively common. Published literature demonstrates wide variability in the prevalence of high originating radial artery (0.5-14.27%).

OBJECTIVE/ PURPOSE: This study aimed to investigate the incidence of a high-originating radial artery in vivo through the use of ultrasound, as well as on cadaveric limbs.

STUDY DESIGN: Case- Control study

SETTINGS: The study was done in three tertiary care Hospitals: 1) St. George's International School of Medicine, Northumbria University(UK) 2) Rashid Latif Medical College, Lahore Pakistan 3) Fatima Jinnah Medical University Lahore Pakistan

DURATION: Two and half years from 2019-2022

METHODOLOGY: 300 upper limbs from 150 individuals were investigated using GE LOGIQ e and SonoSite Micromax ultrasound machines with 12L-RS & A L38e 10-5MHz transducer, respectively. The radial artery was initially identified and followed proximally to its origin and then distally to the wrist, noting its course and relationships to other anatomical structures. 95 cadaveric limbs were studied for this variation, through routine dissection process.

RESULTS: High originating radial arteries were found in 23/300 upper limbs. In the participants studied, the high-originating radial arteries were found to occur unilaterally predominantly on the left side (15/23 cases).

CONCLUSION: Variations in the anatomical course and relationships of the radial artery are pertinent to surgeons, radiologists and anatomists. The presence of a high-originating radial artery has both clinical and surgical significance in procedures such as arterial grafting and cardiac catheterization. Due to its superficial course, it is more vulnerable to injury due to trauma or during cannulation and drug administration. Bedside ultrasound techniques can be

of benefit not only in identifying variations prior to such procedures but also for future anatomical studies.

KEYWORDS: Brachio-Radial Artery, Cadaveric, Ultrasonography, Radial Artery

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COMPARISON OF URINARY ACE 2 LEVELS IN INDIVIDUALS WITH HYPERTENSION AND TYPE 2 DIABETES WITH INDIVIDUALS WHO HAVE HYPERTENSION BUT NOT DIABETES

ABSTRACT

INTRODUCTION: In this investigation, the levels of urine Angiotensin Converting Enzyme (ACE2) in patients with Type 2 diabetes and high blood pressure were evaluated and their results compared in individuals having raised blood pressure but they had normal blood sugar control. Given the growing body of evidence linking ACE 2 insufficiency to the etiology of hypertension in diabetic patients, we hoped to find higher Angiotensin Converting Enzyme2 levels in the urine of hypertensive diabetic patients than in those without diabetes.

OBJECTIVE: As a result, new pathways for the development of antihypertensive medicines aimed at protecting Angiotensin Converting Enzyme2, particularly in diabetic patients, may open.

MATERIAL & METHOD: Two groups, each with 49 subjects, were created from a population of chosen subjects. Patients with diabetes and hypertension were chosen from the Services Institute of Medical Sciences diabetic clinic and medical wards in Lahore. In the clinics, anthropometric characteristics and blood sugar levels were recorded. In the Physiology Laboratory at the University of Health Sciences, blood samples were obtained and maintained to evaluate biochemical characteristics.

RESULTS: We calculated the median value in each group because the data for urine Angiotensin Converting Enzyme 2 readings was not dispersed evenly. Non-diabetic hypertension participants had a median of 26.47mg/dl, while hypertensive diabetic subjects had a median of 22.86mg/dl. This difference in ACE 2 levels in the urine was statistically significant ($p < 0.05$). Non-diabetic hypertension patients had greater urinary Angiotensin Converting Enzyme 2 levels than diabetic, hypertensive patients.

CONCLUSION: Contrary to our expectations, we were unable to confirm that urine angiotensin conversion enzyme 2 readings are higher in people with high arterial pressure and

type 2 diabetes mellitus. This is despite the fact that the current study confirmed that both type 2 diabetes mellitus and hypertension are risk factors for chronic kidney disease.

KEYWORDS: Renin Aldosterone-Angiotensin System, urinary Angiotensin Converting Enzyme 2 levels, chronic kidney disease

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Histological Effects of Ajwa on Oviduct after Nicotine-Induced Toxicity in Adult Albino Rats

ABSTRACT

INTRODUCTION: Nicotine changes the histology of the uterine tube, and Ajwa stops nicotine from causing toxicity.

OBJECTIVE: To study the damage produced by nicotine in the oviduct of adult female albino rats and its protection by Ajwa fruit extract.

MATERIAL & METHOD: Three equal groups of 30 rats were made and maintained in the animal house of Punjab Postgraduate Medical Institute, Lahore. The control group A received no treatment except distilled water, while among the two treated groups, group B received intraperitoneal nicotine injection (0.1 mg/kg body weight) for 28 days. The rats of group C were given 1000mg/kg body weight Ajwa fruit extract by gastric intubation plus 0.1mg/kg body weight intraperitoneal nicotine injection for 28 days.

RESULTS: In nicotine-treated rats of group B, mucosa of the fallopian tubes showed flattening of infoldings along with inflammatory cells and degenerated epithelial cells. Fibrosis and blood vessel congestion were present in the serosa. Near normal restoration of oviduct structure was seen with Ajwa plus nicotine-treated group C.

CONCLUSION: Nicotine can cause reversible injury to fallopian tubes, and Ajwa improves oviduct histology, so it may be beneficial to recover sterility or subfertility caused by nicotine in women.

KEYWORDS: Nicotine, Phoenix dactylifera, vascular congestion.

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STUDY OF SYNERGISTIC EFFECT OF ALLICIN WITH ANTI-BACTERIAL AGAINST MICROORGANISMS.

ABSTRACT

INTRODUCTION: The significance of bacteria and viruses cannot be ignored when accounting health stated disease. A glimpse of past brings forward the idea of man's quest of curing diseases. Although garlic has been used for its medicinal properties for thousands of years, investigations into its mode of action are relatively recent.

MATERIALS & METHODS: Allicin was extracted from garlic with ethanol and chloroform. It was isolated by filtration technique using 15 mm Hg of pressure. Antibiotic discs were taken and micro-organisms were obtained from pathology lab FJMC LHR, Antibacterial activity of allicin was observed in combination with antibiotics.

RESULTS: It was found from the study that there is strong synergistic effect of allicin in combination with ciprofloxacin and enoxacin against pseudomonas aureginosa. Allicin also showed a synergistic antibacterial effect with vancomycin and clarithromycin against staph aureus.

CONCLUSION: Due to the increasing resistance developed by microorganisms against antibiotics, it may be suggested that the use of allicin along with antibiotics may overcome this resistance.

KEYWORDS: Allicin, Ciprofloxacin, Enoxacin, Vancomycin, Clarithromycin, Antibacterial activity.

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EFFECT OF AJWA DATE SEED POWDER ON NON-ALCOHOLIC FATTY LIVER DISEASE IN HIGH FAT FED RAT.

ABSTRACT

INTRODUCTION: Non-alcoholic fatty liver disease (NAFLD) is one of the most common liver disorders worldwide. Obesity is one of the main causes of NAFLD. Non-alcoholic steatohepatitis (NASH) is characterized by excessive accumulation of triglycerides (steatosis), inflammation, injury and apoptosis in the liver cells, which in extreme cases may lead to cirrhosis and liver cancer. Hypercaloric and high-fat diets seem to increase intrahepatic fat content. When the liver capacity to use, store, and export free fatty acids as triglycerides (TGs) is surpassed, it results in hepatic lipotoxicity. Primary step in weight reduction and prevention of NAFLD is dietary modification and adoption of active lifestyle. Drugs used for obesity are currently not approved for long term use due to their severe cardio toxic effects and psycho-stimulatory adverse effects. Despite the high prevalence of NAFLD/NASH, there is currently no approved drug for its treatment even after years of intense research worldwide.

The use of herbs has been on the rise in the last few decades as these are easily available, cheap and have few side effects. However, the studies regarding the effects of herbs on metabolic syndrome and associated NAFLD are scarce.

Phoenix dactylifera L (Ajwa date) is one of the emerging medicinal plants belonging to palm family Areaceae. Ajwa date seed (ADS) is rich in micronutrient polyphenols and its subtypes. Herbal medicines containing polyphenols are effective against obesity and fatty liver disease. The objective of this study was to evaluate the effect of ADS powder on NAFLD in high fat fed rats

OBJECTIVE: To determine the effect of Ajwa date seed powder on non-alcoholic fatty liver disease (NAFLD) in high fat fed rat.

MATERIAL & METHOD: We randomly divided 36 Sprague Dawley female rats into 3 groups. Control group was given standard rat chow for period of 12 weeks. High fat diet (HFD) group received high fat diet, while experimental group (HFD + ADS) was fed with 2% Ajwa date seed powder added in high fat diet throughout the study duration. Rats were sacrificed

after 12 weeks of study and livers were resected, weighed and formalin fixed for histological examination.

RESULTS: The treated group showed reduction from grade 3 to grade 1 in steatosis, inflammation, fibrosis and necrosis of hepatocytes. ($p < 0.001$). The mean body weight also decreased significantly in comparison to the disease control group ($p < 0.05$).

CONCLUSION: Addition of Ajwa date seed powder to the diet can prevent weight gain and high fat diet induced injury to the liver. It can be used as a nutraceutical agent to prevent central obesity and related diseases

KEYWORDS: Fatty liver, NAFLD, Hepatic steatosis, Obesity, Lipogenesis.

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Cardioprotective effect of *Cydonia oblonga* against isoproterenol-induced Myocardial infarction in rats

ABSTRACT

OBJECTIVE: To assess the cardioprotective activity of *Cydonia oblonga* against isoproterenol-induced myocardial infarction in rats.

METHODS: Rats were treated with *C.oblonga* orally at doses (50 mg/kg and 100 mg/kg) for a period of 21 days. Myocardial infarction was induced in rats by intraperitoneal injection of isoproterenol (85mg/kg) for two consecutive days at an interval of 24h on the 22nd and 23rd days. At the end of the experiment, cardiac markers, oxidative stress biomarkers, inflammatory markers, and nitric oxide were measured.

RESULTS: Treatment with *C. oblonga* maintained cardiac markers, significantly increased antioxidants, and significantly decreased anti-inflammatory markers.

CONCLUSION: *Cydonia oblonga* possesses cardioprotective activity against isoproterenol-induced myocardial infarction in rats.

KEYWORDS: Cardioprotective Activity, *Cydonia Oblonga*.

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MINIMAL HEPATIC ENCEPHALOPATHY AMONG CIRRHOTICS; A CROSS-SECTIONAL, CLINICO-EPIDEMIOLOGICAL, MULTICENTER STUDY IN PATIENTS OF PAKISTAN (THE PREEMPT STUDY)

ABSTRACT

INTRODUCTION: Hepatic encephalopathy (HE) constitutes one of the principle markers of survival among cirrhotic patients. Although a part of the spectrum of HE, minimal hepatic encephalopathy (MHE) does not manifest clinically and remains under diagnosed. Early diagnosis may improve the quality of life and the prognosis of these patients. Published literature for burden of MHE in Pakistan is scarce. This study has been conducted to identify MHE patients from a cohort of stable cirrhotics who do not have overt symptoms and assess their Health-Related Quality of Life (HRQoL) using SF-36 questionnaire.

METHODOLOGY: This was a prospective, multicenter, observational, epidemiological study. Male and female patients between 18 to 65 years visiting outpatient medical units of public/private hospitals with established diagnosis of liver cirrhosis by clinical, biochemical, radiological methods or a liver biopsy were enrolled after meeting inclusion criteria. To evaluate the HRQoL in MHE patients using SF – 36 questionnaire, we assumed a standard deviation of 20 and mean difference of 5 or more points between the two groups is clinically and practically relevant. Given a standardized effect size of 0.25, using this with a two-sided 5% significance level and 80% power provided the estimated required number of subjects per group i.e. 253 MHE patients (n=500). The sample size was further inflated by 10% (n=550) to account for non-respondents.

RESULTS AND DISCUSSION: The frequency of Minimal Hepatic Encephalopathy was 56.8% in patients with established liver cirrhosis. In multivariable analysis, smoking, decreased platelets count and increased Urea were the factors associated with MHE. Patients with MHE when assessed for QoL, were found to have significantly lower scores for physical components which depicts their QoL was adversely affected.

CONCLUSION: The results suggest that MHE is frequent in Pakistan and is associated with the deterioration of HRQoL in patients with established cirrhosis.

KEYWORDS: Hepatic Encephalopathy, Cirrhotic Patients

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RELATIONSHIP BETWEEN IQ AND ACADEMIC PERFORMANCE OF MEDICAL STUDENTS

ABSTRACT

INTRODUCTION: The status of a person in a society is indicated by his or her education, which is related to his income and wellbeing. The model for the evaluation of one's level of intelligence in many societies is examination. Due to the diversity in the relationship between academic achievement and intelligence this study was planned.

OBJECTIVE: The objectives of this study were to find the correlation between the intelligence and academic achievement of MBBS students and to see if the correlation differs between boys and girls.

MATERIAL & METHOD: A total of 100 second year MBBS students volunteered to participate (46 males and 54 females). Modified Wechsler Adult Intelligence Scale (WAIS) was used to assess the IQ of students. Previous academic records of the students before their admission in medical college and written and oral test marks of second-year MBBS students during the year were used for measuring academic achievements of students.

RESULTS: A statistically significant difference ($p = 0.04$) between IQ of boys and girls was found with males having a mean IQ of 97.4 ± 22.7 as compared to females 89.3 ± 15.5 . No significant difference was observed in academic achievements of male and female students. Correlation of IQ with academic achievements was also non-significant.

CONCLUSION: Although males have higher IQ but it has no relationship with academic achievement of medical students. Hard work of the students with average or low IQ could be the reason that there was no difference in the academic achievement when they were compared with the students having higher IQ.

KEYWORDS: Academic Achievement, Gender, Intelligence

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INTELLECTUAL DISABILITY AMONG SPECIAL CHILDREN AND ITS ASSOCIATED FACTORS: A CASE CONTROL STUDY, LAHORE PAKISTAN

ABSTRACT

INTRODUCTION: Intellectual disability characterized by significant limitations in intellectual functioning and adaptive behavior is a stigmatizing condition which not only affects the sufferer but has major implications on the family, society and public health resources of a country.

OBJECTIVE: To study the association of maternal, paternal and social factors with intellectual disability in special children.

MATERIAL & METHODS: A case control study was conducted on a total of 298 cases and controls selected from four schools of Lahore, Pakistan, from September 2014 to September 2015, cases were intellectually disabled children aged 6-15 years, and controls were equal number of matching healthy subjects. Interviews were conducted with the help of a pre-tested structured questionnaire. SPSS -17 was utilized to analyze the data.

RESULTS: Of the 298 participants, 149(50%) each were cases and controls. A significant association of Intellectual Disability with consanguinity (OR 4.29, p-value 0.001), Fathers educational status (OR 1.46, p-value 0.03), paternal history of mental retardation (OR 16.0, p-value 0.01), history of delayed cry (OR 47.3, p-value 0.001) was observed. Breastfeeding (OR 0.39, p-value 0.03), depicted a protective relationship.

CONCLUSION: Parental, social, environmental and familial causes contributed to intellectual disability among the subjects. Geographical, demographic and cultural differences may play a significant role in the association of these factors with intellectual disability thus, it is imperative to conduct health education, premarital counseling and genetic screening sessions for awareness of the masses. Perinatal care, screening and early diagnosis of risk factors based on the concept of high risk approach should be carried at healthcare facilities.

KEYWORDS: Intellectual disability, Factors, Advanced maternal age, Consanguinity, Asphyxia, Trauma,

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FACULTY DEVELOPMENT: NEED ASSESSMENT SURVEY IN A NEWLY ESTABLISHED MEDICAL COLLEGE OF LAHORE.

ABSTRACT

INTRODUCTION: Faculty development has a vital impact on the quality of medical education and has proven to be beneficial leaving a significant positive effect on medical teachers' competencies and their effectiveness as professionals. This study aimed to assess the faculty's needs as it is a newly established institution.

OBJECTIVE: To assess the needs of faculty regarding teaching, assessment and research methods so as to develop a program in a newly established medical college of Lahore.

MATERIAL & METHOD: Descriptive study was conducted in RLKU Medical College within six months. Structured self-administered questionnaires were used for data collection via google forms. A total of 50 faculty members gave data after verbal consent. IRB approvals were taken. Data was analyzed via excel. Frequencies and percentages were calculated.

RESULTS: Majority faculty members (88%) preferred student centered teaching approach with the usage (94%) of different methodologies in small group teaching. Feedback was being taken regarding teaching and assessment by majority (90%). Workshops on teaching methodologies was the area of interest especially small group teaching (62%), peer assisted learning (54%), problem based learning (54%) and large group teaching (52%). Most of them expressed need of workshops on assessment especially assessment types (60%), MCQ (56%), OSPE/OSCE (54%) construction. Faculty was of the opinion that workshops on mentoring (72%), reflection (56%), portfolio development (64%), research methodology (76%), computer skills (70%), ethics (60%) and soft skills (82%) need to be conducted.

CONCLUSION: Workshops on teaching methodologies and assessments are required. In addition, research, mentoring, computer and soft skills need to be addressed with the help of a robust faculty development program.

KEYWORDS: Need Assessment, Faculty Development, Workshops

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EFFICACY OF PLATELET RICH PLASMA IN THE TREATMENT OF MELASMA: A PILOT STUDY

ABSTRACT

INTRODUCTION: Melasma is a common chronic acquired hypermelanosis that occurs on sun exposed areas mainly on face and neck and occasionally on forearms. It is common in people of Hispanic and Asian origin. Until now only few case reports are published about the efficacy of therapeutic trial of PRP in melasma. This therapeutic trial may represent the pilot study about the effect of PRP in melasma patient of Asian origin.

OBJECTIVE: To evaluate the efficacy of platelet-rich plasma (PRP) in patients with melasma attending the dermatology outpatient clinic of a tertiary care hospital.

MATERIAL & METHOD: We performed a therapeutic trial of 20 melasma patients having Fitzpatrick skin type, III, IV and V. Both male and female patients with mixed melasma were included in the study. The treatment included five fortnightly sessions of autologous PRP injections in the facial melasma. Results were assessed by percentage reduction in baseline MASI score and by digital photography. The patients with baseline reduction in MASI score between 0 to 25% were labeled as showing mild response; 25-50% reduction fair response, 50-75% reduction good response and >75% reduction as excellent responders. The treatment trial was considered effective if there was greater than 50% reduction in MASI score from the base line.

RESULTS: Of 20 enrolled patients with mixed melasma, 5 patients lost to follow-up. Mean age of the patients was 28 years. Of 15 evaluable patients, 2 (13.3%) patients showed good response, 9 (60%) patients showed fair response, and 4 (26.7%) patients poor response. None of patients showed excellent response.

CONCLUSION: Platelet-rich plasma may prove to be an effective adjuvant therapy for the treatment of melasma.

KEYWORDS: Platelet rich plasma, melasma

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**PLASMA VITAMIN D TRENDS ACROSS VARIOUS AGE GROUPS IN THE
COSMOPOLITAN CITY OF PAKISTAN
ABSTRACT**

INTRODUCTION: Lahore is a densely populated metro city with an estimated population of 13.54 million in the year 2021-22, showing a 3.41% increase from 2020-21. As the population shows a rapid upwards trend, it is utmost necessary to identify the age group(s) most vulnerable to vitamin D deficiency and consequently exposed to complications

OBJECTIVES: The current study measures plasma vitamin D levels in different age groups residing in Lahore and identifies the age group most vulnerable to vitamin D deficiency.

STUDY DESIGN: A cross-sectional, prevalence-based study

SETTING: Study included population of various age groups residing in various regions of Lahore

SUBJECTS: The participants were categorized into various age groups, from one year to above 60 years of age

METHODS: The study was conducted from June 2020 through August 2022. The blood samples were obtained from the 2661 population of various areas within Lahore. Approximately 5 ml of venous blood was obtained from the recruited individuals while adhering strictly to aseptic measures. 0.2 ml of dipotassium EDTA was added to each sample. Vitamin D levels were estimated quantitatively by utilizing a single-step immunoassay using CIMA technology called Chemiflex.

RESULTS: Seven major categories of various age groups were included in the study, and these individuals were categorized by age groups, among both males and females. Vitamin D deficiency was graded as 'normal, mild deficiency, severe deficiency, excess and toxicity. The highest percentage of vitamin D deficiency was reported in age group belonging to 21-30 years (39.3%). Among males, age group 1-10 years (24.2%) was found to be most deficient in vitamin D. In addition, most optimum plasma levels of vitamin D among females was found to be among the group above 60 years (25.7%) and group 1-10 years, (18.9%) among the males.

CONCLUSION: The most vulnerable age group with severe vitamin D deficiency was group-3 females; 21-30 years age (39.3%), whereas severe vitamin D deficiency was detected least in group-6 males; 51-60 years (13.7%).

KEYWORDS: Calcitriol, Toxicity, Chemiflex

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PROTECTIVE EFFECT OF VITAMIN E ON PHTHALATE INDUCED TOXICITY ON SPERMATOGENESIS AND TESTOSTERONE LEVEL

ABSTRACT

INTRODUCTION: Phthalates are reputed to cause toxicity on account of lipid peroxidation of cell membrane and generation of reactive oxygen species. The toxicity to spermatogenesis is manifested by decrease in Johnsen scoring, atrophy or disruption of the germinal epithelium of seminiferous tubules.

OBJECTIVE: The present experiment was designed to investigate toxic effects on spermatogenesis and serum levels of testosterone and caused by phthalates and their protection by vitamin E.

MATERIAL AND METHOD: Twenty four male albino rats were used, divided into three groups of eight animals each. Group A was given 0.4 ml of corn oil daily for 15 days. Group B was given 0.15 ml of Dioctyl phthalate (DOP) dissolved in 0.4 ml of corn oil daily for 15 days. Group C was given 0.15 ml Dioctyl phthalate and 10 mg of vitamin E, each dissolved in 0.4 ml of corn oil respectively, daily for 15 days. The mode of administration was oral gavage.

RESULTS: On histological examination the testes of animals of group B showed statistically significant decrease in Johnsen score (p -value < 0.001) with disruption of germinal epithelium and absence of mature sperms. These findings were associated with reduced levels of serum testosterone in this group. Coadministration of vitamin E and DOP to group C showed statistically improved Johnson score and testosterone levels as compared to group B.

CONCLUSION: Phthalate induced testicular toxicity and effect on testosterone level were prevented by coadministration of vitamin E and DOP.

KEY WORDS: Phthalates, Spermatogenesis, Vitamin E.

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CAUSES OF AUTOIMMUNE HEMOLYTIC ANEMIA AND ITS CLINICAL PRESENTATION

ABSTRACT:

OBJECTIVES: To evaluate various causes of autoimmune hemolytic anemia and its presenting signs and symptoms.

Material & Methods: Cross sectional study. Setting: Fatima Jinnah Medical College Lahore. Period: November 2018 to April 2019. In this study 90 cases were included having age range of 14-75 years with mean age of 46.5 year with the possibility of autoimmune hemolytic anemia (AIHA). Screening test used for evaluating AIHA in this study include Direct and Indirect Antiglobulin Tests and Cold Agglutinin Titer (CAT). All relevant data was documented properly.

RESULTS: Total 90 cases were included in the study comprising on 71% female and 29% male cases. 22.2% cases were having primary and 77.8% were having secondary autoimmune hemolytic anemia. Most common presenting complaint was generalized body weakness in 25(27.7%) cases and on examination most common finding was splenomegaly in 30(33.3%) cases. Hemoglobin was less than 8g/dl in 28(31%) cases. Direct Antiglobulin test was positive in 64(71%) cases, DAT and IAT both were found to be positive in 22(24.4%) cases and DAT and CAT both found positive in 4(4.4%) cases. Blood transfusion was done in 28% cases having severe anemia. Most common cause of autoimmune hemolytic anemia found among study group patients was connective tissue disorder in 25(27.8%) cases. P-value less than 0.05 were considered significant and more than 0.05 was non-significant.

CONCLUSION: In our study autoimmune hemolytic anemia was mostly found in female population with most common presentation of generalized body weakness, pallor of hands, hepatosplenomegaly and severe anemia. Most common cause found of AIHA was connective tissue disorders.

KEY WORDS: Autoimmune Hemolytic Anemia, Direct Antiglobulin Test, Indirect Antiglobulin Test, Cold Agglutinin Titer, Causes of Anemia.

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TO COMPARE AND CORRELATE SERUM BILIRUBIN AND TOTAL ANTIOXIDANTS IN FIRST-DEGREE RELATIVES OF ISCHEMIC HEART DISEASE PATIENTS AND NORMAL SUBJECTS

ABSTRACT

INTRODUCTION: Ischemic heart disease (IHD), is characterized by ischemia of the heart muscle, usually due to coronary artery disease. Ischemic heart diseases appear to result from an overbalance between radical-generating, compared with radical-scavenging systems, a condition called as oxidative stress. Total antioxidant status (TAS) in human plasma reflects the balance between oxidants and antioxidants in each system. Bilirubin has been considered an antioxidant, with capacity to remove reactive species of oxygen.

OBJECTIVE: Present study tried to measure the total antioxidant status of first-degree relatives of patients with IHD, further this study evaluated the prognostic role of serum bilirubin in disease prevention or progression.

MATERIAL & METHOD: Seventy-five healthy subjects in age group 20-50 years, comprising equal number of males and females, who were first degree relatives of ischemic heart disease patients, were included in the study. Family members were divided on the bases of number of their first-degree relatives affected, i.e., one family member (Group-A), 2 family members (Group-B) and more than 3 family members (Group-C). Study was cross sectional and carried out in a period of 6 months. Subjects were taken from general population. Seventy-five healthy age matched people with no history of ischemic heart disease in family were taken as control. An overnight fasting blood sample was taken. Total antioxidant status was determined using a commercially available kit.

RESULTS: Serum bilirubin showed a significant negative correlation ($p < 0.05$). But the values of TAS failed to show any significant correlation with the family history. It was observed that the value of serum bilirubin was decreased significantly ($p < 0.05$) with an increased number of family members with ischemic heart disease. Total antioxidant status failed to show any significant difference among all the three groups

CONCLUSION: Our data demonstrated that reduced serum levels of bilirubin were seen in people with a higher prevalence of coronary artery disease in the family. The levels of serum

bilirubin showed a downward trend with an increase in number of family members affected with ischemic heart disease. Present study failed to show a definite association of total antioxidant status with family history of ischemic heart disease. Additional studies are still necessary on large number of first -degree relatives to confirm and demonstrate the association of these findings with clinical outcomes.

KEYWORDS: Ischemic heart disease (IHD), first degree relative, total antioxidant status (TAS) and bilirubin

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FREQUENCY OF RAISED URIC ACID IN ACUTE CORONARY SYNDROME

ABSTRACT

INTRODUCTION: Acute coronary syndrome is a common condition presenting in emergency associated with various metabolic abnormalities.

OBJECTIVES: To determine the frequency of hyperuricemia in acute coronary syndrome.

MATERIAL AND METHODS: A Cross-sectional study was done in the Department of Cardiology, Bahria International Hospital, Lahore. The cases were included between 20-80 years of age, either gender and presenting with Acute coronary syndrome. This study was conducted from 19th March 2021 till 18th September 2021 after approval of hospital ethical committee and written informed consent of patients. Frequency of raised uric acid level was seen in patients of acute coronary syndrome. Data was entered and analyzed using SPSS 24

RESULTS: In our study total 140 patients were enrolled with mean age of 55.06 ± 12.4 years. There were 54.3% males and 45.7% females' patients. Mean duration of ACS was 3.16 ± 1.1 hours. Hyperuricemia was present in 38.6% of patients.

CONCLUSION: Hyperuricemia is common in patients with acute coronary syndrome.

KEYWORDS: Hyperuricemia, Coronary syndrome, Metabolic syndrome

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GENETIC POLYMORPHISM AND SERUM LEVELS OF INSULIN LIKE GROWTH FACTOR-1 (IGF-1) IN PATIENTS OF RHEUMATOID ARTHRITIS

ABSTRACT

INTRODUCTION: Insulin like growth factor-1(IGF-1), is a modulator of immunity and inflammation, it promotes the anabolic role of growth hormone (GH) on bone and skeletal tissue. Genetic polymorphism in IGF-1 gene is reported to affect the transcriptional efficiency affecting its serum level.

OBJECTIVES: To study the presence of 192bp polymorphism of IGF-1 gene in patients of rheumatoid arthritis (RA), 2) To study the association of 192 bp polymorphism of IGF-1 gene with serum IGF-1 levels and disease severity in patients of RA.

MATERIAL AND METHODS: A cross-sectional study was carried out at University of Health Sciences (UHS), Lahore. Diagnosed RA cases who fulfilled the American College of Rheumatology (ACR) criteria were recruited from Fatima Memorial Hospital (FMH) and Behbud Rheumatology Clinics, Lahore during 2018–2019. Serum IGF-1 levels were determined by ELISA in blood samples of 200 RA patients and 200 healthy individuals. DNA was extracted and genetic polymorphism was determined.

RESULTS: The serum IGF-1 level in RA group was significantly lower compared to healthy group. Our study shows presence of 192bp allele of IGF-1 in 77% of the studied population. Carriers of 192bp allele of IGF-1 had a significantly higher serum level of IGF-1 as compared to non-carriers in the RA patients. Rheumatoid factor (RF) positive patients had a higher number of 192bp carriers in comparison to RF negative patients. Significant difference was also seen in severity of disease between carrier and non-carriers of 192bp allele with the disease being more severe in male carriers. **Conclusions:** There is an association of IGF-1 gene polymorphism with variation in serum IGF-1 levels and severity of RA.

KEYWORDS: Insulin like growth factor-1, Genetic polymorphism, Rheumatoid arthritis, Severity of disease.

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SCREENING PROGRAMME FOR EYE CHANGES IN DIABETIC PATIENTS

ABSTRACT

INTRODUCTION: Diabetes is one of the leading cause of blindness because of changes in retina (Diabetic Retinopathy and other complications i.e; cataract and refractive errors) in the whole world especially in 3rd world countries. These eye changes can be easily prevented and treated if they are diagnosed at an early stage.

Screening programmes are working very well in 1st world countries but in 2nd and 3rd world countries, there are hardly any screening programmes or awareness regarding diabetic changes in the eye.

OBJECTIVE: To develop a screening Programme which is cost effective and creates awareness in diabetic patients.

MATERIAL AND METHOD: Though screening programme has been started under HAMEED LATIF TEACHING HOSPITAL EYE DEPARTMENT since 6 months. Current data available is very limited but useful. We are trying to develop a software through our IT department so that we can collect data for next few years and try to develop some system under minimum cost. Currently we examined all diabetic patients eyes thoroughly including the retina through dilated eyes and follow these patients. Some of these patients needed further investigations and treatment for which they were sent to specialized centres.

CONCLUSION: With such a small sample, it is difficult to draw some conclusion, but this satisfactory part of it is that we are managing all these diabetic patients according to 1st world standards. We hope with in few years, our department should be able to produce all the results according to international standards.

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Prevalence of various Eye diseases presented in outskirts of Lahore

ABSTRACT

INTRODUCTION: Eye diseases vary with socioeconomic, cultural, local, ethnic, religious and personal factors. Presentation investigations treatment and response to treatment are also different. It is important to identify the overall burden of the disease with respect to different sociodemographic population.

OBJECTIVE: To determine the burden of various eye disorder presented in outskirts of Lahore

MATERIAL & METHOD: A cross sectional study was done the data is presented from May through November 2023 for a longitudinal five years project (2023-2027). Data presented is mainly from October to November 2023. The study was done in Eye Out Patient department of Hameed Lateef Teaching Hospital, Lahore. The patients regardless of age and gender were considered relevant population. A purposive sampling technique was used to enroll the patients.

RESULTS: Mostly patient belonged to age group 15 to 40 with female being predominant gender. Most of patients presented with refractive errors with myopia predominating refractive error. Diseases presented mainly were communicable diseases with viral conjunctivitis on the lead. Non- communicable diseases included mainly cataract.

CONCLUSION: Most of Eye problems are either Preventable or Treatable. There is no reason a patient does not enjoys vision throughout life span with care available at door step. Hammed Lateef teaching hospitals is state of art hospital located in rural area of Lahore. Location is ideal to provide advanced care on economical basis to the locality. We wanted to research Presentation of various eye diseases in this set up.

KEYWORDS:

Eye diseases rural Lahore

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**TO DETERMINE THE BACTERIAL ETIOLOGY OF SLOW
RESOLUTION IN CAP. A STUDY OF 138 CASES.
ABSTRACT**

INTRODUCTION: Pulmonary physicians are often confronted with the dilemma of slow resolution in patients on empirical antibiotics for community-acquired pneumonia. Slow resolution can be due to resistant strains, unusual organism, highly virulent organisms, inadequate antibiotic therapy, impaired host defenses, co-morbidities or non-infectious etiology. This study was conducted to identify the bacteria responsible for slow resolution of CAP in adult patients.

MATERIAL AND METHODS: This descriptive cross sectional study was conducted in pulmonology department of Gulab Devi Teaching Hospital, Lahore (a tertiary care hospital in the heart of the town). After Ethical Approval from IRB, 138 adult patients with presumptive diagnosis of CAP, not showing expected clinical improvement in spite of recommended empirical treatment were included. While those having atypical pneumonia, nosocomial pneumonia, bronchiectasis, TB, ABPA, ILD and COPD were excluded. Sputum samples of all the patients were sent for gram staining and culture sensitivity in addition to chest x-ray, CT scan and complete blood count. Data was collected by convenient sampling technique and analysis done using SPSS-24 to reach the conclusion.

RESULTS: Out of 138 cases, 94(68.11%) Gram negative bacterial isolates and out of which Pseudomonas Aeruginosa (53.19%) emerged as the most common bacteria causing slow resolution in CAP. While 25(18.11%) gram positive isolates were obtained and strep. pneumonie was the commonest bacteria causing slow resolution in the presence of risk factors.

CONCLUSION: Gram negative bacteria especially Pseudomonas Aeruginosa is responsible for slow resolution in CAP while strep. Pneumonie exhibits this phenomenon in the presence of risk factors.

KEYWORDS: Bacteria, CAP, Etiology, Gram negative organisms, Slow resolution.