

# Abstract Book

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## Teaching and training in medical ethics and professionalism: Sudan Medical Council experience

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Teaching and training in medical ethics and the broader aspects of professionalism is now a mandatory requirement of accreditation of medical schools globally

Sudan Medical Council addressed the issue by having a baseline survey and situation analysis, formulation of an expert task force to set a vision, strategy and plans to address the issues

The presentation will outline the vision and strategy of Sudan Medical Council in teaching and training in medical ethics and professionalism in medical schools, graduate residency programs and CPD activities of medical professional associations and the activities implemented in each domain

It will highlight the importance of partnerships in the health and higher education sectors and its importance in successful implementation of the vision and goals

Issues of sustainability and continuous quality improvements will be addressed.





## REDIRECTION OF PATIENTS PRESENTING WITH NON-URGENT CONDITIONS FROM EMERGENCY DEPARTMENT TO PRIMARY HEALTH CARE CENTERS

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### Introduction:

Emergency departments (EDs) Crowding is a major problem facing many emergency departments worldwide. The care of genuine emergencies may be compromised if physicians, nursing staff and other resources are occupied with the care of non-urgent patients. The Annual ED visits at King Fahad Medical City( KFMC) has increased considerably, in 2006 and 2007. We have adopted a system in which patients with non-urgent medical conditions, following a screening medical examination, are referred to community resources for further assessment and treatment.

### Objective:

1. To describe the characteristics of individuals who were redirected to the Primary Health Care Centers (PHCC) from KFMC paediatric ED.
2. To validated the safety of patient's redirection to the Primary Health Care Centers.
3. To evaluate patients' satisfaction.

### Methods:

We conducted a prospective cohort study of all patients presenting to KFMC paediatric ED with non urgent conditions during August to November 2010. All patients presenting to the ED are seen and evaluated by a trained triage Nurse. Patients demographic, ED arrival information, main complaints, past medical history and vital signs are recorded. The nurse will identify the triage category of the patient, according to the Canadian Triage and Acuity Scale. Patients who are assigned Category 4 & 5 receive screening physical examination by the triage physician and are redirected to their local PHCC All These patients will receive a follow up telephone interview, 7 days after the ED visit, to determine the outcome of their visit to the PHCC.

### Results:

Of the 1543 enrolled patients, 50.88% are males, while 48. % are females. The mean age is 4.9 years. The most common symptoms are fever and upper respiratory tract symptoms present in 58.5%. Follow up phone contacts were successful in 73.54% of patients. The majority (72.16) have used the community health resources. They have mostly visited a PHCC(62.39%) . The majority of patients (75.68%) reported complete resolution of their symptoms. No death was recorded . The majority of patients seen in the community were given treatment and discharged home. Only 12 patients required hospital admission . Only half (52.75%) of the Patients/ parents are Satisfied with KFMC services, while 70.82% are satisfied by the services provided by PHCCs. Most patient ( 82.37%) accepted the redirection advice.

### Conclusion:

Most patients accepted easily the redirection advice, and are satisfied by the services received at community health facilities. Redirection of non-urgent patients is safe and may help to reduce ED crowding

## The 20th Conference of Sudan Association of pediatricians (S.A.P) The 2nd Conference of Sudan Society of Neonatologist

### Wound management and common fractures seen in pediatric emergency.

#### **Dr. Maha Abdalla**

Assistant Professor; KSAU, Consultant, Pediatric Emergency  
King Abdulaziz Medical City, Riyadh, KSA

Prompt and yet correct decisions in the management of patients in the emergency department is very important.

The golden hour is vital in many cases management but golden period is also applied in many other conditions presenting to the emergency department.

Wound management ( including animal bites) and latest literature in recommendations regarding closure time, immunizations and prophylaxis antibiotics are very important.

Common fractures , their diagnosis and immediate management in the ED is also very important,

I will be presenting these topics with case presentations, discussion and provision of latest recommendations of prophylaxis and management.



## Thrombocytopenia in children With Falciparum malaria: Pediatric Department, Alami National Hospital, Sudan

**Dr. Satti Abdelrahim Satti MD, Dr. Omer Saeed Magzoub**

Malaria is a major public health problem in Sudan. Thrombocytopenia has been reported to be associated with malaria with incidence between 24-94% in some studies. Usually it runs a benign course and causes no bleeding. It responds usually to anti-malarial treatment. Case reports: A total of 28 children diagnosed as having malaria due to plasmodium falciparum infection were managed in our pediatric department from September 2012 to March 2013 . Their ages ranged from 10 months to 15 years. 15 (53.5%) of these children had associated thrombocytopenia . Only 2 (13.33%) had severe thrombocytopenia (7,000 and 19,000/ cumm). The rest 13 (86.66%) had mild to moderate thrombocytopenia ( 20,000/ cumm).10 (66.66%) were treated with quinine and 5 (33.33%) with IM Artemether. All patients recovered from malaria and thrombocytopenia and discharged home. None of them had bleeding from any site. Conclusion: Mild and moderate thrombocytopenia is very common in falciparum malaria with a benign course that improves with treatment. Severe thrombocytopenia is uncommon and is not associated with bleeding. Malaria should be considered in any febrile child presenting with low platelets count.

Key words: falciparum malaria, children, thrombocytopenia, Sudan.

## **Transient tachypnea of the newborn, what is new?**

**Dr. Abdelmoneim Elamin M. Kheir**

Transient tachypnea of the newborn which is also referred to as retained foetal lung liquid syndrome or wet lung disease, is believed to result from incomplete resorption of fluid from the lungs of the newborn, presents an important diagnostic and therapeutic dilemma in the newborn nursery. TTN occurs in mature newborns with mature surfactant pathways and poorly developed respiratory epithelial Na<sup>+</sup> transport.

Epidemiological data are few but studies show that it occurs in 3.6 to 5.7 per 1000 term infants. Risk factors for TTN include birth by caesarian section with or without labour, male sex, late preterm babies, macrosomia and maternal diabetes. Other risk factors include precipitous delivery, excessive maternal sedation, perinatal asphyxia and prolonged rupture of membranes. Familial clustering of some TTN cases shows a genetic predisposition in the developing of this disorder. Babies born to mothers who have asthma are at higher risk of TTN. The diagnosis of TTN is based on clinical and radiological findings. Echocardiogram is warranted in an infant with persistent tachypnea for more than 5-6 days to rule out congenital cardiac anomalies and cardiac function.

Treatment for transient tachypnea of the newborn is supportive because the condition is usually self-limiting. Oral furosemide has not been shown to significantly improve status and should not be given. The use of racemic epinephrine for the treatment of TTN is safe however there was no difference in the rates of resolution of tachypnea in the treatment and the control groups. Limited fluid administered to newborns with TTN is safe and resulted in shorter duration of respiratory support. Recently studies showed that Inhalational salbutamol therapy reduced the duration of supplemental oxygen therapy and the duration of empiric antibiotic treatment, with no adverse effects. Recent studies suggest that routine use of empirical antibiotics may not be warranted in late preterm and full-term infants with TTN in the absence of specific infectious risk factors. Infants who received antibiotics stayed longer in the hospital.

Several reports suggest that TTN is a risk factor for future wheezing syndromes in childhood.

Prevention of TTN is mainly by reducing the incidence of caesarian section, antenatal dexamethasone administered prior to an elective caesarian section reduces the incidence of respiratory morbidity in neonates.

In conclusion TTN is usually a benign, self-limiting respiratory disease observed in the immediate postnatal period. Additional risk factors that have been identified include maternal asthma and genetic predisposition.



## CONGENITAL ADRENAL HYPERPLASIA: UPDATE

**Dr. Abdulaziz Al Twaim, MD, FRCPC, FAAP, FRCPC**

Congenital Adrenal Hyperplasia (CAH) is a very common genetic disorder, inherited as autosomal recessive disorders. The classic form has an incidence of 1 in 9,000 to 1 in 20,000 in different populations. The non-classic form is more common with an incidence of 1 in 1000 live births Caucasian population.

In Saudi Arabia there are few limited reports indicating the prevalence of the disease.

CAH is mainly due to 21-Hydroxylase deficiency in more than 90% of cases. Other forms of CAH are rare and include 3-Hydroxylase deficiency, 11-Hydroxylase deficiency & 17-Hydroxylase deficiency.

Girls with CAH present with genital ambiguity while boys are asymptomatic at birth.

Diagnosis is based on markedly elevated 17-Hydroxy Progesterone in the neonatal period or the first few years of life.

Neonatal screening programs now permit early life saving diagnosis of most affected infants and it is done in many countries as part of their neonatal screening programs.

Therapy for patients with classic CAH consists of glucocorticoid and mineralocorticoid replacement. Steroid supplement is required life-long in these patients. Therefore steroid dose need to be adjusted carefully to optimize androgen levels without causing glucocorticoid excess. The risk of over-treatment or under-treatment has to be avoided.

Recent Endocrine society guidelines recommend genital surgical management in female with severe virilized genitalia during infancy at centers with expertise.

Perinatal treatment to prevent severe virilization in female are controversial & the risk of treatment has to be weighed against the benefits.

Learning Objectives: To identify issues related to the Diagnosis & update management of CAH in children and adolescents.



## **Bartter Syndrome Associated with Nephropathic Cystinosis**

**Dr. Nader M Osman**

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**Dr. Ali Al Sanosi**

Consultant Paediatrician and Neonatologist King Salman Hospital Riyadh KSA

Bartter syndrome is a rare inherited defect in the thick ascending limb of the loop of Henle. It is characterized by low potassium levels (hypokalemia), increased blood pH (alkalosis), and normal to low blood pressure. There are three types of Bartter syndrome neonatal, the classic type and Gitelman syndrome<sup>1</sup>.

Nephropathic cystinosis is an autosomal recessive disorder characterized by accumulation of free cystine in lysosomes due to disorder of lysosomal transport that can lead to end stage renal failure within 10 years and multiorgan impairment<sup>2</sup>.

We report a 9 year and nine month old child with Bartter syndrome associated with nephropathic cystinosis, hypothyroidism and rickets with only five cases reported in the literature before.

Failure to thrive, Nephropathic Cystinosis

Key words: Bartter, Hypokalemia ,



## An Approach to Severe pneumonia Management in Under Five Khartoum-Sudan

**Dr. Kareem Eldeen Mohamed Salih**

This presentation regarding summaries of researches all ready published done in Sudan (Gaafar Ibn Aoaf Hospital) during the period 2010-2012 covering the following areas

### 1- Radiology in pneumonia :

Still radiology in severe pneumonia is useful and can help in diagnosis of pneumonia and since it is useful and cheap should not be ignored.

### 2- Blood culture in pneumonia and predictors of blood positivity in severe pneumonia:

This tool is difficult for many reasons (facilities, priors antibiotics, difficult technique) therefore clinical predators like fever and laboratory like WBC, C reactive protein CXR must be determined before resorting to blood culture.

### 3- Pattern of antibiotics treatment and comparison between WHO recommendation (e.g. penicillin and 3rd generation cephalosporin)

Our study shows no agreement on our pediatric hospital in Khartoum regarding antibiotic treatment, no adherence to WHO recommendation and no differences in response between first or third cephalosporin.

### 4- Prognostic factors in severe pneumonia :

Finally we studied the dangers signs for severe pneumonia and others factors related to the disease and we conclude that some of them are good prognostic factors

### Spectrum of Attention Deficit Hyperactivity Disorders (ADHD) among Sudanese children with Epilepsy

Inaam N Mohamed, Elwaleed E Ahmed

**Background:** Epilepsy is commonly encountered in children with attention deficit hyperactivity disorder (ADHD). This study aims to determine the spectrum of ADHD among Sudanese children with epilepsy.

**Methods:** The study was conducted at the Epilepsy and Neurodisabilities Outpatient Clinic for Children at Saad Abu Elila University Hospital, Khartoum, Sudan during the period January - July 2013. All patients with epilepsy who presented to the clinic during the study period were assessed for ADHD using psychometric questionnaire. According to the interpretation guide, the degree of probability of ADHD was identified.

**Results:** Out of 720 patients with epilepsy 77(10.6%) were identified as having ADHD. Of these 50 (19.50%) patients had a high probability of having ADHD, 29 (37.70%) above average, 29 (37.70%) average and 4 (5.20%) had low ADHD spectrum.

**Conclusion:** Children with epilepsy have more chances to have ADHD. All children with epilepsy should be assessed for ADHD and early involvement of psychologist together with medical treatment is needed.





## Monozygotic Sudanese Twins with Severe Combined Immune Deficiency

**Dr. Yahia RM1,Salih S2,Dr. Erwa NH3 Abdalmajeed**

Background: Severe combined immune deficiency (SCID) is the most severe of PID, with inherited absence of T and B cell function (and variable NK activity). SCID is a heterogeneous group of disorders that present with a distinct immunologic phenotype, and are caused by mutations of different genes. All forms of SCID are characterized by typical clinical signs, consisting of early-onset severe infections. We report these monozygotic twins females 4th order of birth of three months of age of consanguineous parents, whose condition started with recurrent attacks of pneumonia since they were of two months of age. Their condition was associated with fever and gastroenteritis. They had family history of similar condition (two sisters). Their blood picture showed lymphopenia (1st:  $1.06 \times 10^3$ , 2nd:  $1.72 \times 10^3$ ) with normocytic normochromic anaemia. Immunophenotyping revealed (1st; CD3 : 0.48%, CD19:75.10%, NK:0.94% 2nd; CD3:0.41%,CD19:58.80%,NK:1.87%). Pending immunoglobulin profile to decide if they were to receive IVIG. They had also raised inflammatory markers (ESR; 160mm/hr, 113mm/hr). They had normal renal functions and electrolytes. Their liver function revealed hypoalbuminemia (1st 2.6g/dl, 2nd 2.6g/dl). Since diagnosis patients were on bronchodilators, oxygen on and off, antibiotics with partial improvement. Then antifungal and antiviral agents were added. They developed severe anaemia and after transfusion with washed RBCs one of them developed graft versus host disease in form of jaundice, erythrodermic skin rash, hepatomegaly and elevated liver enzymes. The 2nd developed convulsions with deranged liver functions. Unfortunately we lost both of them on their waiting list for stem cell transplantation.

So our cases were an example of SCID in monozygotic twins with positive family history. Still genetic testing is required to identify underlying genetic defect.

## **GROWTH HORMONE AND BEYOND TO ENHANCE THE HEIGHTchallenges**

### **Dr. Basim Alzubi**

Short stature is the most common problem seen in the pediatric endocrinology clinics although endocrine causes are rare. Chronic diseases, some syndromes, familial and constitutional short stature are the main causes.

Growth hormone has been given in nearly all of these causes and the response is variable with the best is in growth hormone deficiency.

The most important point in evaluating the response is the final adult height.

FDA and EMA have approved giving GH in several cases in children and adults.

GH is safe and side effects are rare.

IGF1 is approved in sever IGF1 deficiency.

Aromatase Inhibitors increased predicted adult height by delaying bone age and has promising results but still experimental.

GNRh agonist with or without GH to increase final height is not routinely used except in precocious puberty.



## Psychological impact on child soldiers in Sudan

### Dr. Abdelghani Elshiekh, MRCPsych

A child soldier is any person under 18 years of age who is part of any kind of regular or irregular armed force or armed group in any capacity, including but not limited to cooks, porters, and messengers. The definition includes girls recruited for sexual purposes and for forced marriage. It does not, therefore, only refer to a child who is carrying or has carried arms. More than 500,000 children under-18 have been recruited into state and non-state armed groups in over 85 countries worldwide. At any one time, more than 300,000 of these children are actively fighting as soldiers with government armed forces or armed opposition groups' worldwide. Up to half of the world's child soldiers are in Africa. Since 1998 there have been armed conflicts involving child soldiers in at least 36 countries, two million children have been killed in conflicts, over one million have been orphaned, over six million have been seriously injured or permanently disabled, and over ten million have been left with serious psychological trauma. We interviewed 103 child soldiers who had been abducted by the justice & Equality movement (JEM), a Darfuri ethnic minority rebel group fighting the Sudanese government. These children accompanied the rebel group during the 2008 attack on Omdurman when the rebels approached the city in a convoy of 130 military vehicles. The attack which failed; took place in a single day, on 10/5/2008 & all these children were arrested but the government granted amnesty to them and they were moved to the "The Psychosocial rehabilitation center" 10 days later. The study took place in the center during the period from 20/5/2008 to 14/8/2008 & involved interviews with all children. These children were all males, aged between 10 and 18 years, about 67.7% were between 14 and 16 years. Most children were forcibly abducted (75.8%), or threatened (18.2%). Abduction period ranged from 7 to 240 days. The majority of the children was subjected to punishment rituals, hard labour & torture, e.g., tied for about a week in the military cars (95%), or sexually abused (3%). Some of these children experienced psycho-social disturbances like nightmares, nocturnal enuresis, & thumb sucking (11.1%), angry aggression that is difficult to control (3%), anxiety & phobia (5.1%), depression (6%) & PTSD (10%). Our findings shed light on the nature of severe trauma experienced by this group of children. Supportive counseling, cognitive behavior therapy, brief trauma/grief-focused psychotherapy, and play therapy were the commonly utilized methods of psychological intervention during their period of stay in the center. All children were ultimately re-united with their families. CONCLUSION: systematic screening for psychological problems in such children is suggested. An integrated approach using psycho-socio-educational and clinical interventions is expected to be effective

## **Cauterization and scarification in Sudanese children: Indications, types, pattern and complications**

**Prof. Swar M O, Atika M O, Prof, Alfarouq M**

Cauterization and scarifications as natural remedies in treatment of different diseases are deeply rooted procedures in the Sudanese culture. Albaseer (native healer) is a well known figure in most of the Sudanese towns. He/she is the one who treats bone fractures, dislocations, joint swelling, back pain, headache and other unexplained aches and pains. His/her experience is usually acquired through apprenticeship or descends down in generations of the same family. Most of these Baseers are illiterate and have very poor medical background. In this prospective hospital-based study we document the indications, types, pattern and complications of these procedures among children admitted to hospital with relevant complains or for other indications and showed evidence of previous cauterization or scarification. Total number of patients seen was 164, 93 males (56.7%), and 71 females (43.3%). Age group was 13 days to 9 years. Total number of scars seen ranged from 4 to 183. Indications included chronic diarrhea, recurrent or persistent vomiting, abdominal swelling, jaundice, bone and joint disease, poor weight gain, hypotonia, large head, teething, conjunctivitis, chronic cough, breast swelling, Taenia capitis and ear discharge. Variable scars were seen including streaks, spots, T-shaped and mixed types .Pattern seen included horizontal, longitudinal, circular and mixed arrangement over the affected part of the body and complete amputation of the uvula. Tools used were completely septic and included razors, scalpels, heated metallic rods and palm leaves. Complications seen included local infection in 129 patients (78.7%), septicemia in 6 patients (3.6%) and hemorrhage in 2 patients (1.2%). Spontaneous healing was seen in 35 patients (21.3%). Two children died with septicemia and hemorrhage. Almost all mothers of the affected children believe that these procedures are carried out for the best interest of their children and none of them was interested to claim against the traditional healer even after the occurrence of serious complications. In conclusion, we believe that cauterization and scarification are harmful procedures that should be incriminated and included in the list of child abuse practice that is dealt with in the Child Protection Act 2010. Health education and literacy may have a significant role in eradicating this practice.



## Bioethics: A Pediatric Perspective

**Prof. Swar M O**

Professor of Pediatrics and Child Health  
Ahfad University for Women, Sudan

The earliest ethical code known to the medical profession is the Hippocrates's Oath (400 BC). Generations after generation of medical professionals were bound to its verses except for a few codes that were restructures or some amendments introduced or added to it. With the invention and innovation of modern medical modalities of treatment, new ethical issues and terminology appeared and consequently the cutoff point between what is ethical and what is not is becoming more blurred. In this communication we intend to explain the meaning and significance of the key ethical terms and concepts in order to increase the awareness towards the ethical issues and dimensions involved in every day practice. Ethical issues are included within a conceptual frame work that enables pediatricians to study and solve problems within the context of the professional practice. Notes on professionalism and good practice are added to define the manner in which child assessment and treatment should be conducted. Principles highlighted within this scope included providing benefit and avoiding harm, non-discriminatory care, communication, confidentiality and respect of patients autonomy .



## The 20th Conference of Sudan Association of pediatricians (S.A.P) The 2nd Conference of Sudan Society of Neonatologist

### Hypothermia as a standard of care for Moderate and Severe Hypoxic- Ischemic Encephalopathy

**Prof. Abdalla Bukhari**

Term infants with moderate or severe Encephalopathy caused by acute in childhood.

perinatal asphyxia are at risk of Death and Disabilities

Hypothermia either Whole Body Cooling (WBC), or Selective Head Cooling (SHC), has been found to provide neuroprotection.

Whole body cooling reduced the frequency of death and disabilities in neonates with hypoxic-ischemic encephalopathy.

Whole body cooling is safe and associated with consistent trend for decreasing death and disabilities.

Multicentre Randomized Control Trials support Hypothermia as standard of care for neonates with hypoxic-ischemic encephalopathy

.Hypothermia is safe and effective standard of care for infants with moderate or severe hypoxic-ischemic encephalopathy.



## Update on Pathogenesis & Management of Kawasaki Syndrome (disease)

### Dr. Ali M El-Halabi

Professor Kawasaki from Japan first described Kawasaki disease around fifty years ago, and though much research has been done in this field, and many pathogenetic theories have been postulated, still no definite causative agents have been defined. Recently, there has been much research about the genetic predisposition for Kawasaki disease.

The classic clinical presentation of Kawasaki syndrome has been more or less the same since it was first described, but, more recently, the description of atypical or incomplete cases has changed the approach to diagnosing this disease.

Managing Kawasaki syndrome has passed through few developments, and the main aim of management is preventing long term complications, mainly development of coronary artery aneurysms. Recently, the use of steroids for cases not responding to human IgG has been investigated and suggest.

**Prevalence, Risk Factors and Short term Outcome of Neural  
Tube Defects in Soba University and Omdurman Maternity Hospitals**

**Dr. ilham Mohammed Omer, Dr. Osman Mohammed Abdalla**Sapienza 'University' of Rome – IT

Neural tube defects (NTDs) are a group of birth defects presumed to have a common origin in failure of the neural tube to develop properly during the embryonic stage.

**Objective:** To study the neural tube defects in the newborns admitted to NICU in Soba University and Omdurman Maternity hospitals.

**Methods:** This a prospective cross sectional hospital based study, conducted in one year during the period 1st August 2014 – 31st July 2015. All newborns with any type of neural tube defect admitted to NICU in study area during the study period were selected. Data was collected using a questionnaire on medical, social history and clinical examination.

**Results:** Out of the 36,785 delivered newborns during the study period, the prevalence of NTDs was 2.8: 1000. Females 56(54.4%) predominated males 47(45.6%). History of neural tube defects was found in 11(10.7%) of the affected newborns siblings. Sixty eight (66%) of the studied mothers received folic acid during pregnancy with current child, of those who received folic acid 66(97.1%) started folic acid after conception, 36(54.5%) in first trimester and 39(57.4%) had no regular intake of the folic acid. Other risk factors include two (1.9%) of the mothers exposed to irradiation, the same percentage exposed to hyperthermia and 7(6.8%) exposed to anti epileptic drugs, Diabetic mothers in this study were 12(11.7%). The types of NTDs include myelomeningocele 47(45.7%), anencephaly 18(17.5%), encephalocele 14(13.6%), myelomeningocele + hydrocephalus 11(10.7%) and meningocele 8(7.8%).

The majority of the children 76(73.8%) were referred to surgery and 27(26.2%) died.



## Neonatal Hearing Screening at Soba Teaching Hospital NICU Prevalence and Risk Factors

**Dr. Ilham Mohammed Omer**

One or two babies in every 1,000 are born with permanent hearing loss in one or both ears.

This increases to 1 in every 100 babies who have spent more than 48 hours in an intensive care. Most of these babies are born into families with no history of permanent hearing loss .

Permanent hearing loss can significantly affect baby's development. Finding out early can give these babies a better chance of developing language , speech and communication skills. It will also help babies make the most of relations with their families from an early age. The newborn hearing screening test helps to identify those with permanent hearing loss as early as possible, and hence parents can get the support and advice that they need right from the start.

This is a prospective hospital based study. It was conducted in the Neonatal care unit at Soba University Hospital , during the period January 2014- June 2015.

The objectives of this study is to screen all newborns for hearing loss and to determine the prevalence among them, and to determine the associated risk factors.

Seven hundred fifty newborns were screened using the automated emission device. Positive results were found in 22 babies, all of them with no family history of hearing loss. Most of the positive results from babies admitted to the neonatal care unit , while few from the postnatal ward.

The risk factors were prematurity, congenital anomalies and consanguinity. Further confirmatory tests were recommended. Screening and management programs should be introduced in all NICUs.

## The 20th Conference of Sudan Association of pediatricians (S.A.P) The 2nd Conference of Sudan Society of Neonatologist

One or two babies in every 1,000 are born with permanent hearing loss in one or both ears.

Dr. Widad Elshieck Mostaffa, Dr. Bahja AbdElraheem Ahmed

**Background:** In many countries, in all regions, the female prison population has increased dramatically over the last ten years. Internationally it is not uncommon for a child to spend some of his or her childhood in prison during the parent's prison punishment. Objective: To determine the clinical and social status of Sudanese children with mothers in person.

**Methods:** This a cross sectional descriptive, community based study. The sample for this study was a total coverage of all children admitted with their mothers in Omdurman prison during the period (1st November 2014 – 30th May 2015) and consisted of 85 children. Personal, social, health and nutritional data was collected using a questionnaire. The data was organized in to a master sheet and then entered using the SPSS version 17.0.

**Results:** The majority of mothers 66(77.6%) were in the age group (20-30) years. Most of mothers 43(50.6%) from southern Sudan (Nawir, Denka and Shuluk). The majority of mothers 30(35.3%) residence in Mayo. Most of mothers 73(85.9%) not educated. The majority of mothers in this study 61(71.8%) admitted to prison because of wine selling. most of them stay 70(82.4%) for less than one year. Fifty two (61.2%) of the mothers admitted in prison more than once, most of them 42(80.8%) because of selling alcohol. Majority of the children with mothers in prison 49(57.6%) males and 36(42.4%) females, out of them 47(55.3%) currently aged between 1-2 years and 38(44.7%) aged less than one year. A children whose aged less than 6 months 6(7.1%), 36(42.4) of children between 6-24 months and 17(20%) rest. Majority of them were fully vaccinated. Majority of children 63(74.1%) their weight for height was median (normal), some of them were 18(21.1%) < -1 SD (mild malnutrition) and, 2(2.4%) < -2 SD (moderate malnutrition) and few of them were 2(2.4%) < -3 SD (severe malnutrition).

**Conclusion:** The social profile of majority of children with mothers in prison is poor( according to WHO definition). Majority of children within normal range of weight for height, some mild malnutrition, and severe and moderate malnutrition. The majority of mothers in the age group (20-30 years), resident from Mayo area and most of them not educated. Most of babies their ages between (1 to 2 years), males were more than females. Most of children now on breastfeeding and they were them were fully vaccinated. The majority of imprisoned mothers in this study from South Sudan and Kordofan State. Wine selling was the main cause of women prison in this study. Most of them admitted for more than once Clinical profile of the children in this study showed no reports of chronic disease. Recommendations

- The Prison Authority in conjunction with the Ministry of Health should carry out monthly growth monitoring to detect early onset of malnutrition among children 6-24 months of age for timely intervention to reduce cases of malnutrition.
- The Ministry of Health should categorize children in prisons among children under difficult circumstances and they should provided paediatrician and nutritionist..ect.



## Antenatal Diagnosis of Congenital Heart Diseases by Fetal Echocardiography: Does it differ with the Different Indications for Referral?

•Magda Abdelmoneim, MD, MRCPCH\*, Sunbula A. Kinani, MD\*, Fahad Alhabshan, MD, FESC

### Introduction

Fetal echocardiography (FE) offers great clinical benefits in antenatal detection of congenital heart diseases (CHD), especially in critical cases that may require prostaglandin infusion immediately after birth. High risk pregnant women are referred for FE due to known indications. Limited studies were done in Saudi Arabia that determined the common indications for referral and the commonly detected CHD, but no study was done to assess the significant association of specific indication for referral with antenatal detection and pattern of CHD.

### •Objectives:

To determine the common indications for referral (IFR) for fetal echocardiography and to assess its association with the antenatal detection and pattern of congenital heart diseases.

### Methods:

Retrospective cohort study with chart review for all consecutive pregnant women that were referred for fetal echocardiography at children hospital-King Saud Medical City- Riyadh-Saudi Arabia between May 2008 and April 2013. The data collected included patient's demographic information, indication for referral, and the fetal echocardiography findings. The post-delivery plan for fetuses with CHD was used to categorize them into Critical CHD (if they were planned for delivery in a cardiac center or if they required to be started on prostaglandin immediately after birth), and non-critical CHD if they were planned for follow up after delivery. Logistic regression analysis was performed to identify the indications for referral associated with antenatal detection of CHD.

### Results

During the study period 228 high risk pregnant women had been referred for FE. Mean maternal age and gestational age at time of FE was  $31 \pm 7$  years and  $29 \pm 5$  weeks respectively. CHD had been detected in 87(34%) cases. The commonest IFR was Extracardiac fetal anomaly (ECFA) 68(30%) cases, 15(22%) of them had CHD ( $P=0.08$ ). Abnormal fetal heart anatomy was the third commonest IFR 38(17%) but it had the highest frequency for detection of CHD 30(79%) cases ( $P<0.001$ ). 29(13%) pregnant women were referred for more than one IFR, they had significant antenatal detection of CHD in 18(62%) cases ( $P=0.001$ ), this has increased to 90% when abnormal fetal heart anatomy was one of the indication ( $P=0.001$ ). 51(22%) cases had been referred for family history of CHD, only 6(12%) cases had CHD ( $P=0.002$ ). The remaining IFR (18%) included maternal diabetes and hydropes fetalis but no significant association with antenatal detection of CHD was found.

Critical CHD (CCHD) was detected in 8(10%) of CHD cases, 4(50% of CCHD) cases had been referred for more than one indication which include abnormal fetal heart anatomy. 3 (37.5%) of the cases were referred due to abnormal fetal heart anatomy only, and one case (12.5%) was referred for abnormal fetal heart rhythm.

There was difference in the type of the cardiac lesions with different IFR. For cases referred for more than one indication which include abnormal fetal heart anatomy the cardiac lesions included atrioventricular septal defect (AVSD) in 28%, ventricular septal defect (VSD) in 11%. In the cases referred due to abnormal fetal heart anatomy only, the cardiac lesions detected included AVSD in 17%, VSD in 13%. For ECFA indication, the common cardiac lesions were VSD 33%, AVSD 27%. The diagnosis of critical CHD were less common for all indications, but mainly detected in more than one IFR which include abnormal fetal heart anatomy. There was no major CHD detected when the IFR was family history of CHD, maternal diabetes or hydropes fetalis.

### • Conclusion:

Abnormal fetal heart anatomy detected by the obstetric ultrasound as IFR for fetal echocardiography is significantly associated with antenatal detection of CHD. Addition of another IFR to it increases the rate detection of CHD with significant increase in CCHD detection. ECFA indication is associated with some major CHD while family history of CHD and maternal diabetes are associated with mild form of CHD.

**Coronary Artery Diseases in Children, Why Frequently Missed by Paediatrician?  
Interested Paediatric Cases (Two Cases)**

**Dr. Magda Abdelmoneim**

King Saud Medical City, Riyadh, Saudi Arabia (Case 1)

**Dr. Gada Shekeldin**

King Fahad Medical City, Riyadh, Saudi Arabia (Case 2)

**Topic Outlines**

Two case presentation on coronary artery diseases in children

The topic cover congenital and acquired coronary artery diseases in children

Highlight the important points in coronary artery diseases that should be recognized by general Paediatrician at initial presentation.

Focus on the importance of early referral to pediatric cardiologist and the serious complication if coronary artery diseases is missed by pediatrician in the initial presentation.

Brief outline of management



## Fever in infants and young children

**Dr. MOHAMED MUBARAK ELTAHIR**  
King Saud Medical City, Riyadh, Saudi Arabia

Introduction  
Epidemiology  
Definitions of Terms  
Benefits and Harms of Fever  
Fever Without Source (FWS)  
Serious Bacterial Infection  
Viral Infections and FWS  
Evaluation  
Existing Protocols  
Laboratory Markers and Serious Bacterial Infection  
Guidelines



## **Platelets Refractoriness**

**Dr. Arafat Abdelrahman**

King Khalid University Hospital, Riyadh, Saudi Arabia

The platelet is a fascinating nucleated cell, critically important for homeostasis'

The maximum life span of platelets is approximately 5-10 d and a fixed requirement of approximately  $7.1 \times 10^9$  platelets/l per day is necessary to support vascular integrity. This requirement leads to lower average platelet survival with lower platelet counts as a consequence of the larger proportion of the platelet pool used to support baseline vascular integrity for patients thrombocytopenic. Platelet transfusions have greatly reduced the incidence of major haemorrhagic complications associated with the management of haematological and oncological disorders.

However, some patients fail to receive the full benefit of platelet transfusions because they do not achieve the appropriate platelet count increment following transfusion

Objectives:

Definition of platelet refractoriness

Aetiology

Diagnosis

Management

Refractoriness to platelet transfusion is a complex process and poses a great challenge in the treatment of thrombocytopenic patients.

Although we have come far in diagnosing, preventing, and managing immune-mediated

Refractoriness to platelet transfusion, much work still needs to be done to improve the care of these patients



## Helping Babies Breathe (HBB) Program

Dr. Ali Arabi MD, Prof. Salah Ibrahim

**Background:** The village midwife (VM) in rural Sudan could be the only health care provider. Upgrading her skills and equipping her with life-saving tools could help to promote maternal and newborn survival.

**Objective:** This is a community based prospective and intervention study using a modified format of the Helping Babies Breathe (HBB) program which is an evidence-based curriculum in Newborn Resuscitation advocated by the American Academy of Pediatrics for use in resource-limited areas. The objective is to upgrade the skills of the VMs, train and equip them to be able to deal with asphyxiated newborns. **Material and methods:** The area was East Nile Province in Khartoum and the research team consisted of 82 village midwives living and practicing in the area, six rural health visitors (RHV), a senior health visitor (as a field inspector) and two medical doctors (as field supervisors). An adapted and Arabic-translated HBB material was used together with questionnaires and data collection sheets. The latter were collected during the biweekly visits to the field. In situ training of the VMs on resuscitation was performed using Neo-Natalie simulators kit. Assessment of the VMs newborn resuscitation skills using scenario-assessed video recording with structured OSCE chart was done prior to HBB training as well as three months and 18 months after training.

**Results:** About 60% (n=50) of the 82 VMs enrolled were below 50 years of age, were illiterates and having between 11 and 55 years of experience; Only 55% (n=45) of them received refreshing courses in midwifery, maternal, neonatal or child care post graduation. Almost half (49%) of the VMs stimulated the non-breathing manikin by picking it up by the legs head down and slapping its bottom and 40% of them used mouth-to-mouth for ventilation. After HBB training there was significant improvement ( $p < 0.000$ ) in all aspects: a) suctioning of nose before mouth, squeezing and discharging the suction bulb, b) use of Bag and Mask and c) correct ventilation technique; three quarters of VMs achieved the objective of manikin chest rise and fall but the rate of ventilation was generally faster than the 40 breaths per minute recommended by HBB guide.

**Conclusion:** This study showed that although majority of VMs are illiterate but they performed well in the HBB program. The need for continued and persistent upgrading of the skills of the VMs cannot be overemphasized. It will discourage unsafe practice, keep them up-to-date with the current guidelines and promote maternal and newborn survival

**Pattern of hepatic encephalopathy in children admitted to Gaffar Ibn Auf Hospital**

**Dr. Salwa musa , Dr. Ali Arabi**

**Background:** Hepatic Encephalopathy (HE) is an extra-hepatic complication of liver dysfunction manifested by neuropsychiatric features that associated with acute or chronic liver disease. In children, HE is a serious but potentially reversible condition that differs from that observed in adults in both the etiologic spectrum and the clinical picture. Etiologies vary by age with metabolic and infectious diseases prominent in the first years of life while Wilson's disease predominant in adolescents. Major differences exist in etiology of HE between western & eastern countries. Management requires a multidisciplinary approach and is directed at establishing the etiology where possible and monitoring, anticipating, and managing the multisystem complications that occur in children with HE.

**Objectives:** The aim of this study is to evaluate the etiology, risk factors, predictors of mortality and outcome in children with hepatic encephalopathy admitted to JIA hospital.

**Patients and Methods:** A hospital-based retrospective and prospective surveillance study was conducted on 64 patients (<18 years) admitted to Jafar Ibn Auf pediatric hospital during period from January 2012 to December 2014 with clinical diagnosis of hepatic encephalopathy.

**Conclusion:** Since HE is a potentially fatal condition, identifying the etiology and risk factors is essential to predict the mortality. Viral hepatitis was the most common known etiological agent, while biliary atresia is the most common etiology among cirrhotic group. The indeterminate group offers a real opportunity for study.

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Millennium Developments Goals (MDG) 4 and 5 Beyond 2015 –Where Are We?

Dr Omer B Abdelbasit, Consultant Neonatologist

Security Forces Hospital, Riyadh, Saudi Arabia

MDGs emerged from the United Nations Millennium Declaration in September 2000, which was set to achieve global progress in social and economic development and environmental sustainability.

MDGs 4 and 5 are concerned with improving child survival and maternal health respectively. MDG 4 targeted a two-thirds reduction in the global under-five mortality rate with additional progress indicators of infant mortality rate and proportion of one-year-old infants immunized against measles. Neonatal mortality forms 40 per cent of under-five mortality.

The achievements of the MDGs 4 and 5 have varied between different countries with the poorest countries failing to achieve the set goals.

Our country is lagging behind in achieving these goals. The reasons behind this will be addressed and comparison will be made with countries that have made significant strides to achieve the MDGs.

What are the measures needed to improve maternal and child health in Sudan to bring it to the MDG target and how to sustain that will be discussed.



## Reducing neonatal infections in Limited-Resources Countries

**Dr. Isam Saad**

Consultant Neonatologist and Head of Neonatal Division . Prince Sultan Military Medical City, Riyadh, KSA

Between 30% and 50% of all deaths in children under the age of 5 years occur in the first month of life. Neonatal sepsis, the third most common cause of death in this age group, results in half a million deaths each year, the vast majority of which are in developing countries. As well, neonatal infections prolong hospital stay and worsen neurodevelopmental outcomes.

Infection control programmes should integrate two fundamental strategies in order to reduce health associated infections (HAIs), reducing transmission of pathogens between patients and reducing the emergence and spread of antibiotic resistance.

Studies have shown that a quick decline in neonatal mortality in hospitals setting with limited resources is achievable .

Despite financial constraints in such settings , simple infection control measures, principally, hand hygiene and the more rational use of antibiotics, are feasible and effective.

In addition ,resource-limited countries should develop national infection-control and neonatal sepsis guidelines to reduce the rate of nosocomial infections and drug-resistant

microorganisms. They should implement practical, evidence-based, low-cost, and simple preventive strategies first.

Studies of antimicrobial stewardship programmes and other interventions to reduce the development and transmission of drug-resistant microorganisms are also helpful.

## **Epidemiology of Epilepsy among School Children in Khartoum State**

**Dr. Inaam N, Dr. Mohamed, Dr. Ahlam Hamed. Maha Elseed, Dr. Sara Mesbah, Dr. Ilham M Omer, Dr. Amar Eltaher**

### **Background:**

The prevalence of epilepsy is high in tropical countries, particularly in Africa where it varies between 10 and 55 per 1000, with an estimated mean prevalence of 15 per 1000(3). There is no data regarding the prevalence of epilepsy in Sudan. The main aim of this study is to determine the prevalence of epilepsy among school children in Khartoum State.

**Patients and methods:** This is an analytical- population based, cross sectional study conducted at Khartoum state- the capital of Sudan. The study included Students in the basic schools in Khartoum State. The age range from 6- 14 years.

**Sampling:** This is a multistage sampling; Out of the seven localities four were selected using random sampling. The four localities include Khartoum, Karary, Bahri and Jabal Awlya. The sample of schools was selected by Simple Random Sample using Random digit table. The sample size was estimated as to cover 10% of the total schools in Khartoum State, which is equal to 250 schools.

**Ethical approval:** Ethical clearance was obtained from the University of Khartoum Research and Ethical Committee and Ministry of Health - School Health Sector.

**Results:** The total number of students enrolled in the study was 74.949 of whom 303 students were proved to have epileptic seizures .The Total prevalence of epilepsy in Khartoum State was calculated as 4/1000 . The most common types of epilepsy are Childhood and Juvenile Absence, Benign childhood epilepsy with centrottemporal spikes(BCECTS) and occipital lobe epilepsy. The majority have had learning difficulties. Further assessment to identify learning difficulties and neuropsychology problems is needed to improve the school performance.



## Paediatric Stroke: An overview

**Dr. Maha Elseed**

Assistant professor, University of Khartoum

Paediatric stroke is an increasingly recognized cause of morbidity and mortality that has a myriad of causes and hence has different pathways of management. The heterogeneity of the causes & the lack of randomized controlled trials in acute childhood stroke makes our management based upon clinical expertise & consensus guidelines.

The lack of established paediatric stroke units in our settings leads to further non unified approaches and scattered individual efforts. The absence of local guidelines regarding investigations and acute management pathways is another major problem. The low socioeconomic status of our patients and the lack of specialized investigations outside the capital makes the situation more critical. This paper highlights the clinical presentation, the investigations and the initial management outlines for children presenting with stroke and a suggestion of a Stroke Management pathway to be standardized for use in Accident & Emergency departments in Sudan.

**Cardiac neurons firing precedes cortical neurons firing by variable time equivalent to RP or Lipet`s latency period in goal directed behavior or action in conscious state**

**Dr. A. AlFaki**

Department of Pediatrics . Omdruman Islamic amna1952@hotmail.com  
University Khartoum, Sudan

The signals, and the neuronal mechanisms that underlying the behavior, actions and action–directed goals in man and animals during conscious state is not fully understood, as well as the neuro–dynamic mechanisms and the source of these neuronal signals are not authenticated.

Temporal judgment alone can neither account for neural signaling necessary for emergence of conscious act nor can explain the readiness potential RP (the accepted neural correlate time needed for the neurons to fire) that precede the onset of action or the latency time of 0.5 ms that precede the conscious act found by Lipet. Neuronal feedback mechanisms between the heart and the brain seem feasible and logical suggestions to be considered, so clearly I would suggest that the onset of a conscious directed goal, conscious action, freewill, and intension, the neural signals and mechanisms that control them may depend upon the interaction between two sources: 1) Brain, 2)Heart. The- temporal –cardiac (neural system ) interaction has been well established in the heart-brain interaction studies by many workers who found that the work of the heart precede that of the brain in EEG findings in conscious stimulation, which may explain and account for RP time and the 0.5 ms latency period of Lipet`s important findings. According to my hypothesis(AlFaki,2009) and views the temporal neurons in the somato-sensory cortex will respond to conscious stimulation only after receiving neuronal signals from the cardiac neurons in the neural plexus of the heart, after variable millisecond equivalent (RP) or Lipet`s latency period prior to temporal neuronal fringing in response to conscious act, this time is the time needed by cardiac neurons to process and signal information to the brain through feedback mechanism and heart-brain interaction.

Key words: Feedback mechanisms, Latency period, RP, freewill, intension, consciousness cognition, neural plexus, heart –brain interaction



## Childhood Epilepsy Syndromes

**Dr. Ahmed Salah Eldeen Ahmed Hassan**

Epilepsy syndromes denote specific constellations of clinical seizure types, EEG findings & other characteristics clinical features. Most syndromes recognized in epilepsy are genetic & developmental disorders that begin in the pediatric years. Epilepsy syndromes are divided into idiopathic versus symptomatic.



### **Iron deficiency anaemia (IDA)**

**Dr. Mona awad MD, Dr. Ali Arabi MD**

Iron deficiency anaemia (IDA) constitutes the world's nutritional problem of the greater magnitude, and children under 2 years old represent one of the highest risk population groups. IDA is a global public health problem, affecting an estimated 51% of children below 4 years of age in developing countries and 12% in developed countries. Methods: A cross-sectional comparative study in children (n=239) from 6 to 24 months of age who attended health centers in Khartoum state. Children were evaluated using structured questionnaire, clinical examination including anthropometric indicators (weight and height) and investigations including CBC, serum ferritin, serum iron and TIBC.

Results: a high prevalence 54.4% of ID was found, with IDA contributing 40.6% of cases. Analysis of associated background factors revealed, most of children in the ID group 67.4% were in the age range 12-18months. Birth was significantly lower than in the control, 85.4% vs 14.6% with pvalue.000. Growth status of the studied children had been significantly affected in the ID group, the mean for weight and height was  $8.7 \pm 1.6$ kg,  $68.3 \pm 6.2$ cm respectively. Socioeconomic variables such as educational level of the parents, monthly income and residing rural area (77.7%) had significant effect on iron status. In the analysis of feeding habits, we found that 80% of the children who were not exclusively breastfed were in the ID group; early introduction of complementary feeds was significantly associated with ID pvalue.000. Nearly every second child, (81 of the 130) of the ID group was fed with cow's milk and, almost 80% of children were given tea, which was significantly associated with ID, pvalue.000. Maternal anaemia during pregnancy was present in 77.8% of children in the ID group, 74.5% of mothers in the ID group use to drink coffee during pregnancy.

Conclusion: high prevalence of ID among children under 2 years in Khartoum, which was associated with significant weight and height deficit. Social and economic conditions, demographics characteristics of the child, faulty weaning, poor feeding practice, cow's milk and tea consumption and maternal anaemia and coffee consumption were among the main contributing factors.



## Assessment of Adherence To Benzathine Penicillin Among Children with Rheumatic Heart Disease In Jafar Ibn Ouf Specialized Pediatrics Hospital

Dr. Shaza Alamin Yuosif Hamednala MSC, Pharmacy, U of Khartoum, Dr. Baashir Ibrahim Osman, PHD, Pharmacy, Prof. Sulafa Khalid Mohamed Ali

### Introduction:

Rheumatic heart disease (RHD) is the most prevalent acquired heart disease in children resulting from acute rheumatic fever (ARF). Benzathine penicillin G (BPG) is the most effective method for secondary prophylaxis against ARF, its efficacy largely depends on adherence to treatment. The study aims to assess adherence and identify the causes of non-adherence to secondary prophylaxis with BPG in patients with RHD.

### Method:

A cross-sectional study carried at Jafar Ibn Ouf Hospital in Khartoum, the major pediatric referral hospitals, in the period February to April 2015. The study included all patients with RHD below 18 years of age who were prescribed BPG prophylaxis for more than a year. The data was collected using the Morisky questionnaire.

### Result:

During the study period, 81 patients with RHD were seen representing 55% of patients with heart disease. Of these, 61 patients fulfilled the inclusion criteria. The study revealed that 52.4% of patient had a low adherence, 11% showed medium adherence and 36% had a high adherence to secondary prophylaxis. The causes of non-adherence were financial and forgetting both representing 65%, pain of the injection in 52%, availability in 17%, feeling better in 42% and the occurrence of side effects in 10% of patients.

### Conclusion:

The study highlighted significantly low adherence rate to secondary prophylaxis with BPG for RHD, mainly due to financial reasons, lack of awareness and the pain of the injection. Efforts to provide free treatment and increase the awareness are needed. The pharmacist must become an integral member of RHD team in order to improve the awareness level, help in the management of pain and the drug side effects.





## Reduction of Perinatal- Neonatal Mortalities in Egypt Evidence-based, cost-effective interventions

### Dr. Abla Elalfy

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RCPCD Regional Adviser for Middle East,  
President of EMA-RCPCD  
Consultant of Neonatology and CME program  
Al Galaa Military Children and Women Specialty Hospital

The Newborn Health Research Priorities Beyond 2015 published at Lancet May, 2014 showed that 2.9 million neonatal deaths versus 2.6 IUD happen yearly worldwide, and that long term morbidity is higher due to infectious insult, preterm birth, IUGR, intrapartum insults and congenital anomalies

Egypt has achieved 30.7 % decline in under- five mortality rate and a 26.3 % decline in Neonatal mortality in 14 years, DHS 2014. The neonatal mortality rate still constitutes 51.8 % of under-five mortality, so, all efforts to reduce under – five mortalities should be subsequently directed towards reduction of Neonatal Deaths.

The neonatal Survival Series, published in The Lancet (March,2005) described 16 interventions with proven efficacy for improving neonatal survival, these strategic interventions are evidence-based, as well as cost –effective. These interventions if implemented at 90% coverage, they could avert an estimated 41-72% reduction of neonatal deaths worldwide. They are combined into packages for scaling up in health systems according to three service delivery modes: Outreach and family-community and facility-based clinical care. These data in addition to the outcome of local surveillance for causes of perinatal deaths are taken in consideration to plan local strategy for reduction of Perinatal –Neonatal Mortality.

In addition, 91 experts in neonatal care has published the scored ranking of research priorities for improving newborn health and birth outcome by 2025 (score0-100) and has divided them in three domains, antenatal, natal and postnatal, lancet in May 2014.

These 16 interventions, in addition to the ranking of future research for perinatal morbidity and mortality and its impact on Egypt plan for improving perinatal-Neonatal Mortality are discussed in this presentation.

Key words: perinatal, mortality, morbidity, antenatal, natal, postnatal, perinatal death, community-outreach.





## The management of retinoblastoma in Sudan, and the need for a national program

### Dr. Mohammed Awad Mohammed Abdalla Alkhatib

Retinoblastoma is highly curable disease. Early diagnosis and multidisciplinary approach is essential to achieve high cure rate. This paper will through some light on the difference between the developed and low income countries like Sudan. Our experience and result will be discussed. A total of 53 pt were evaluated between January 2006 and January 2011. 80 % had unilateral disease .66 % were of undetermined stage while the rest were advanced stage (3 or 4). 32/53(60 %)were alive and well during the follow-up period. Like many low income countries the incidence of advanced stage is high. It is clear that the management of retinoblastoma in Sudan sub-optimal .and multidisciplinary approach is lacking. An important message from this paper to the pediatricians is to have a high incidence of suspicion since in many areas of Sudan they are the front line doctors.

## **CONGENITAL RICKETS**

**Dr. Ahmed Abdelhadi Elsayed**

AL KHARJ MILITARY INDUSTRIES CORPORATION HOSPITAL, K.S.A

Congenital Rickets is a rare entity in the spectrum of metabolic bone disease in children. Adequate Vitamin D during pregnancy is crucial to assure normal foetal skeletal growth. Calcium, phosphorus represent building materials, the supplier of these substances is Vitamin D which is mainly supplied by the effect of sunshine in human skin. Requirements of bone minerals are highest during the periods of rapid growth and maximum growth of the human is during foetal life and infancy, making them vulnerable to deficiencies of Vitamin D and calcium resulting in congenital, infantile rickets and hypocalcaemic convulsions early in life. Congenital rickets develops when maternal bone minerals and Vitamin D stores had been completely exhausted (foetal priority). Congenital rickets can present with respiratory distress, fractures, wide sutures, tetany or convulsions. It can be suspected from antenatal x-rays. Abundant sunlight is not sufficient to prevent hypovitaminosis D as most of the people are not exposed to sunlight. Pregnant women should have their Vitamin D checked and adequate supplementation should be given. Foetus and infants have human right to be protected and Vitamin D supplementation has the same public health priority as vaccination.



## Pattern and out come OF FEBRILE NEUTROPENIA CAUSED BY aerobic BACTERIAL INFECTION (DECEMBER 2011 - June 2012)

**Dr. Emtithal Awad Abdalla, Dr. Mohammed Awad Elkhateeb**

**Background:** Febrile neutropenia is a serious common problem among children with malignancy on chemotherapy. Prevalence was 4.03%  
**Methods:** Prospective cross sectional hospital base study done in Gafar Ibn Ouf specialized hospital and Alamel tower hospital oncology centre. Demographic and history taken as well as examination were taken from patient and informant.

**Results:** Over a 6 month study period, 50 confirmed cases were identified, of which 32 ( 64% (were male, and ) 18 36%(were female The mean age was 8.12 years, 27 (54%) had hematological malignancy, 23(46%) had solid tumors. Eight males (25%) had gram positive, 7 (21.9%) had gram negative and 17 (53.3%) had no growth. Six female (33.3%) had gram- positive, three (16.7) had gram- negative and 9(50%) had no growth. All patients developed fever within two weeks from last chemotherapy sessions 29 cases received high dose chemotherapy and 21 patients received standard chemotherapy. The diagnostic methods used included clinical and laboratory method. All patients received ceftriaxone as empirical treatment, Resolution of fever was identified in 42 cases with variable duration up to two weeks.

**Conclusions:** This is the first study to estimate pattern and outcome of FN caused by aerobic bacterial infection in Sudanese children with cancer on chemotherapy. Occurrence of infection was directly proportionate to degree of neutropenia. Most common bacterial infection was caused by gram positive bacteria most sensitive to vancomycin, amoxicillin-clavulenic acid. Use of ceftriaxone as empirical treatment had effective role in management.







## Anatomical patterns of ventricular septal defects in Sudanese patients: an echocardiographic study

**Dr. Niema Mohamed Hamid Aalim\*, Dr. Abdelmoneim Adam Abbaker Abdellah\*\*, Dr. Sulafa KM Ali**

**Background:** Ventricular septal defect (VSD) is one of the most frequently encountered congenital heart defects (CHD). Anatomical locations of VSD have important implications on the management. Echocardiography is the gold standard for anatomical diagnosis.

**Study design:** A retrospective descriptive hospital based study.

**Objective:** To study the anatomical patterns of isolated VSD and describe the associated defects and complications in Sudanese patients.

**Methods:** The study was done in tow pediatric cardiology centers in Khartoum from January 2008-2013. All patients with VSD as the primary diagnosis (including those associated with atrial septal defect, patent ductus arteriosus (PDA) and mitral valve cleft (MVC) were included. Echo was done using standard segmental approach.

**Results:** In the 543 cases studied, the most common type of VSD was the perimembranous (PM) (68%) followed by muscular (13%), malaligned (8%), subarterial infundibular (7%) and multiple VSD (5%). The most common associations were PDA in 9.6% and MVC in 4% of the PM type. The most common anatomical complication was aortic valve prolapse in 6.2% and right ventricle outflow tract muscle bundles (RVOTMB) seen in 2.5%.

**Conclusion:** The anatomical patterns, associations and complications of VSD in Sudanese patients are generally comparable to the literature but the frequency of MVC and RVOTMB is higher than reported.

### **OHTAHARA syndrome,; A CASE REPORT**

**Dr. Sofia Mohammed M Hassan**

Ohtahara syndrome is a progressive epileptic encephalopathy characterized by tonic spasms, partial seizures, intractable debilitating neurological disorder with burst suppression .the condition is known as infantile spasms in older infants ,with severe mental retardation.

We report 3 cases admitted to NICU ,GAFFER BIN AUFF HOSPITAL, 2 female and one male within first 1 month age,with same clinical presentation as recurrent attacks of tonic spasms with loud vocalizing sounds. no facial dysmorphic features ,no neurocutaneous manifestations ,normotensive ,all were term , their had negative family history of similar conditions except the first as will be presented, their diagnosis and managements.



## ANTIBIOTICS CHEMOTHERAPY IN NEONATAL UNIT POLICY AND GUIDELINES:

**Dr. Sofia Mohammed M Hassan**

### Abstract and background

Drugs used to inhibit infecting microorganisms with minimal effect on the host tissues, Controlling antibiotics usage involves a mixture of restrictive methods, Educational programs, surveillance, and collaboration with various departments as well as individual working in the health service, pharmacy and microbiology departments,

Over use of antibiotics leads to the selection of resistant microorganism

For example *Pseudomonas aeruginosa* is not susceptible to Ampicillin and 3rd generation cephalosporin.

Empirical use of antibiotics in our NICU emerge multi antibiotic resistance, most of blood c/s results were *Klebsella*, *E. coli*, recent *Pseudomonas* and methicillin resistant staphylococci were isolated resistant to first line antibiotics used in most NICUs in Khartoum hospitals. Guide lines for antibiotics were exist for treatments of neonatal sepsis, these have devolved to more expert opinion.

### methodology

A descriptive retrospective hospital base study done to all neonates were admitted to Gaffer bin off neonatal intensive care unit with a final diagnosis of neonatal sepsis were blood c/s results were collected and studied from 2009 up September 2015.

### Results:

A 2645 neonates were admitted during study period. only 377 had a final diagnosis of neonatal sepsis after full septic workup specially blood c/s, Their age was between first day and 28 days. And male to female ratio was 2:1. The majority of patients were from Khartoum state; however there are considerable numbers of patients coming from all over Sudan. 39% were premature with other problems include sepsis, Sepsis and other infectious conditions accounted 21% of all admissions, birth asphyxia and birth trauma 28%, pneumonia 7%, Congenital anomalies and others 5%. The major bacteria distributed among the study sample was *Staphylococcus aureus* and *E. coli*.

At the time of this study was conducted, the major empiric antibiotic therapy prescribed in the majority of cases in management of neonatal sepsis in Dr. Gaffer Ibn Oaf Hospital is cefotaxime + vancomycin.





## The role of $\beta$ blocker in the management of infantile hemangioma

**Prof Ali Babiker Ali Haboor**

Hemangioma is birth mark often appearing as a rubbery, birth red nodule of extra broad vessel it is a proliferative lesion usually distinct from vascular malformations which are usually present as birth and are less common. Over 80% of infantile hemangioma occur on the head and neck area. We present our experience in treating several cases of infantile hemangioma with  $\beta$  blockers in Wad Medani paediatric children hospital

# The 20th Conference of Sudan Association of pediatricians (S.A.P) The 2nd Conference of Sudan Society of Neonatologist

## The epidemiological pattern of breath holding attack among children presenting to Wad Medani Peadiatric Teaching Hospital`

**Prof. Ali Babiker Ali Haboor**

Breath holding attack are brief period when young child stop breathing for upto one minute

This spells often cause a child to bass out.

The usually occur when a young child is angry. Frustrated, in pain or afraid

We will present the epidemiological pattern of breath holding attack among children presented to Wad Medani Peadiatric Teaching Hospital

Organized by



The Sudan Association of Pediatricians



Sudan Society of Neonatologist

**Malaria in children where are we ?**

**Prof. Ali Babiker Ali Haboor**







## Paediatric Pain assessment and Management: A study of Attitude, Knowledge, and Practice among Paediatric Registrars in Sudanese Hospitals.

**Dr. Mohamed Abdelrahman**

- Objective: to assess the knowledge, attitude and practice of registrars in paediatrics and child health working in Sudanese hospitals regarding issues related to pain assessment and management in children, namely: pain assessment scales/tools, peri-procedural pain control, opioids prescription, and attitude towards paediatric pain perception and the importance of proper pain management in children.
- Design: a prospective, descriptive, questionnaire based study conducted in 9 major paediatric hospitals accredited for training of registrars in Sudan. The questionnaire, a semi-structured one consisting of 26 main questions including 2 open questions, was distributed to 174 registrars working in the studied hospitals.
- Results: 120 registrars responded by filling the questionnaire, with a response rate of 68%. Seventy percent of them said they have never received any kind of training, education, or learning sessions (e.g. lectures, tutorials, workshops, seminars, etc) in paediatric pain assessment and management during their rotations as registrars, the vast majorities are not aware of any pain assessment scale. Knowledge and practices of opioids revealed severe defects and deficiencies. While attitude towards importance of pain control in children is generally good among surveyed registrars, there is marked lag in practices regarding peri-procedural pain management.
- Conclusion: urgent introduction and implementation of policies and protocols are needed to improve the situation of pain management in children in Sudanese paediatric hospitals.





## Multidisciplinary approach can make a difference A case report

**Dr. Haytham.F.Salih, Dr. Salma.M.M.Elhag**  
Dream specialized hospital

**INTRODUCTION:** Choanal atresia is a congenital disorder where the back of the nasal passage is blocked, usually by abnormal bony or soft tissue due to failed recanalisation of nasal fossa during fetal development. We present a case of bilateral Choanal atresia with stormy events in his first 48hrs of life

A case report:

A term baby boy was delivered by elective cesarean section was noticed blue with difficulty in breathing which improves with crying, he required an airway resuscitation soon after birth, a nasal catheter was difficult to pass through his both nostrils; a clinical diagnosis of bilateral choanal atresia was made. Airway was kept in his mouth while an urgent transfer was arranged for surgical intervention at Khartoum ENT hospital where a nasal stent was put in his first 4hrs of life. Soon after surgery he developed an acute pulmonary oedema and received massive diuretics therapy which rendered him with a prerenal shutdown. The baby was referred back to us for further management. A paediatric Nephrologist from Soba university hospital joined the team and with full supportive and Conservative measures the baby improved dramatically within 48hrs and went home happily in his day 7 of life.**CONCLUSION:** Team work divides the task and multiplies the success.

## Acute Urinary Tract Infections in Children in Khartoum State: Pathogens, Antimicrobial Susceptibility and Associated Risk Factors

Dr. E Ali, A Osman

**Introduction:** Adequate treatment of acute urinary tract infections (UTIs) in children depends on knowledge of the local pattern of causative pathogens and associated risk factors. We explored these patterns and risk factors in a group of Sudanese children who attended the emergency department of Gaafar Ibn Auf Pediatric Hospital in Khartoum, Sudan, with symptoms of acute UTI.

**Methods:** Urine culture and sensitivity testing was performed for symptomatic children who had positive urine dipstick tests for nitrates and leucocyte esterase.

**Results:** Acute UTI was confirmed in 100 children, 74% of them were below 5-years of age and 35% were infants. The male-female ratio of affected children was 2.1:1 among infants, and 1:1.2 among older children. Uncircumcision and infancy were significantly more prevalent among children confirmed to have UTI compared to children with non-significant bacteruria. *E. coli* was the most commonly isolated pathogen (60%). Mean susceptibility of all isolates was high to gentamicin (96%), ciprofloxacin (94%), ceftriaxone (90%), and cefixime (85%). Mean susceptibility was moderate to cefuroxime (75%), nalidixic acid (74%), and nitrofurantoin (70%), and low to cephelexin (51%), cotrimoxazole (26%), amoxicillin-clavulanate (19%) and ampicillin (14%). Ultrasound scan was feasible in 89 children with confirmed UTI, revealing renal stones in six children (6.7%). Micturating cysto-urethrogram (MCUG) was indicated for 28 children but was feasible for only 15 children, revealing low-grade vesico-ureteric reflux (VUR) in five of them.

**Conclusion:** *E. coli* was the commonest causative organism of acute UTI in our setting. Isolated pathogens were highly resistant to conventional empiric therapy. Male uncircumcision was significantly associated with UTI among the study patients.

**Keywords:** Acute Urinary Tract Infections, Children, Pathogens, Antimicrobial susceptibility, Sudan



## Approach to the critically ill child. Case scenarios

### Dr. Osama Elgibali

Children can get critically ill or seriously injured following variable underline pathologies or events. There is systemic approach that provide the required support and management during the initial, consolidation and long term outcome phases. The treatment usually depend on the frame of assessment , intervention, and reassessment through all stages, while the needed non- invasive, invasive, and laboratory monitoring is going on.

Whenever the underline etiology of the critically ill child is recognized, all the efforts towards overcome, reverse , or control its pathophysiology should be taken. Always the supportive therapeutic measures are on board.

The aim of this, case scenarios of real patients, presentation try to show some of the evidence based medicine guidelines in the management and approach towards such sick children.

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## Medical Ethics

### Dr. Ihab B Abdalrahman Tarawa

Consultant of Acute Care Medicine- Soba University Hospital Associate Professor of Medicine, Department of Medicine, University of Khartoum

#### Abstract

Ethics is the branch of study dealing with the proper course of action. Medical ethics refers to those guidelines and behaviors, we expect a medical professional with moral integrity to exhibit. The practice of medicine & ethics are inseparable. Medicine is about what we can do, while ethics is about what we should do in specific context. The practice of medical ethics is an integral part of every medical decision. This is based on implementation of the ethical principles. These principles are:

- o Beneficence; do good.
  - o To act on the best interest of our patient.
  - o To help our patient
- o Non-maleficence; do no harm.
  - o We must refrain from providing ineffective treatments
  - o We shouldn't acting with negligence and malice toward patients.
- o Autonomy; refers to patient's independence and confidentiality.
  - o A competent informed patient has the right to make decisions. He/she may refuse recommended interventions and choose among reasonable alternatives.
  - o Patient's privacy is always maintained and we should observe the confidentiality of his information. Disclosure of medical information can occurs in specific situations
- o Justice
  - o A concept of moral rightness.
  - o It means giving others what is due to them.
  - o It is fair distribution of benefits, risks and costs.

To select a proper course of action we need to weigh and balance beneficial intervention against their risk-non-maleficence. Usually, we give our patient the information necessary to understand the scope, nature, potential risks and benefits, then he chooses among the available options. When we deal with many patients then the principle of justice will act as a filter and a valve for fairness. Autonomy should prime all the time.



## Vesicoureteral reflux in children

**Dr. Yousuf**

Vesicoureteral reflux is a common problem in children especially in infant and neonates age group and often pass unnoticed leading to progressive renal function deterioration and eventually renal failure . Early identification of different categories of vesicoureteric reflux is important to prevent kidney impairment. Radionuclide VU reflux studies are able to detect vesicoureteric reflux and reflux nephropathy. it provides both sensitive and safe tool for diagnosis that can be used even in a very young neonates, and and can be repeated afterwards for post management assessment and followup.



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## Nebulized steroids for standard therapy of acute moderate-to-severe exacerbation of asthma in children

**Prof Salah Ahmed Ibrahim**

Dean, Graduate College, University of Khartoum

Asthma is a chronic obstructive inflammatory airway disease, recurrent, reversible with a genetic predisposition. In children acute exacerbations are among the leading causes of frequent hospitalization and school absence. They could even lead to life-threatening attacks.

Treatment of acute moderate-to-severe exacerbation includes O<sub>2</sub> supplementation, nebulized B<sub>2</sub> agonist, ipratropium bromide as well as steroids as major anti-inflammatory agents. Compared to oral and parenteral, nebulized corticosteroids (NCS) has been increasingly used especially in young children. NCS has shown greater clinical improvement, better improvement in lung function, most favourable tolerance, least side effects, reduction in hospital stay and decreased overall cost of treatment. It is, therefore, recommended to be adopted as an emergency paediatric practice.



## Poliomyelitis in Sudan and End Game Strategies

Prof Alsadig Mahgoob

### Forward:

Sudan had reached the status of polio-free since 2001, the year that witnessed the last indigenous wild poliovirus case. Since then, the country was exposed to several wild poliovirus importations from Chad and South Sudan. The first importation in 2004 caused a large polio epidemic, but was contained successfully in almost one year. The subsequent importations in 2007, 2008 and 2009 caused limited outbreaks in Sudan. In 2008 Sudan detected two polio cases due to P3 wild poliovirus imported from Chad. An imported virus from South Sudan, in February 2009, caused 5 polio cases during that year; one in Khartoum State and four in Red Sea State. The last polio case reported in the country was from Port Sudan, Red Sea State in the 15th of March 2009 and since then the country remained polio free up to date.

Final National Documentation for Regional Certification of polio eradication was presented to the Regional Certification Commission in April 2015. It was well prepared with all the required information on Sudan, on the eradication process including history of polio in the country, performance of surveillance, laboratory services, containment of possible polio viruses containing materials in labs, preparedness plans and immunization achievements. The document was accepted with high appreciation.

### Endgame Strategy:

On 26 May 2012, the World Health Assembly (WHA) declared ending polio a "programmatic emergency for global public health.

The WHA called on the WHO Director-General to develop and finalize a comprehensive polio endgame strategy.

The Polio Eradication and Endgame Strategic Plan 2013 - 2018 was developed to capitalize on a new opportunity to end all polio disease. It accounts for the parallel pursuit of wild poliovirus eradication at the same time as cVDPVs, while planning for the backbone of the polio network to be used for delivery of other health services to the world's most vulnerable children. The objectives of the plan are;

Objective 1: Poliovirus detection and interruption.

Objective 2: immunization system strengthening and OPV withdrawal.

Objective 3: Certify the eradication and containment of wild poliovirus and cVDPVs, and enhance long term global security from poliomyelitis.

Objective 4: Legacy planning ensuring polio-investments contribute to future health goals.

### Switch from tOPV to bOPV:

- Although wild polio virus type 2 appears to have been eradicated globally in 1999, vaccine-related type 2 viruses continue to cause the majority of cVDPV outbreaks and many VAPP cases.
- Therefore, OPV2 now carries more risk than benefit and undermines global polio eradication efforts.
- This is why it will be replaced with bivalent OPV (bOPV) vaccine, which will continue to target the remaining polio types, WPV1 and WPV3.

Countries should introduce IPV prior to the tOPV-bOPV switch, why?

- The withdrawal of OPV2 would leave a gap in population immunity against type 2 poliovirus.
- increased risk of outbreaks in the case of reintroduction of a type 2 virus. if
  - cVDPV2 emerged during OPV2 withdrawal or shortly thereafter,
  - breaks in the bio-containment processes in laboratories
  - immunodeficiency in a chronically infected patient or bioterrorism

Situation of endgame activities in Sudan:

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## Poliomyelitis in Sudan and End Game Strategies

Prof. Alsadig Mahgoob

### Background:

- EPI Routine coverage's and challenges and constrain to reach the target
- EPI Sudan follow Measles Elimination Strategies in immunity, strengthens surveillance and optimal case management
- EPI Sudan implemented catch-up targeting 9m- 15yrs, during 2004 -2005
- Follow up campaigns in phases in 2007- 2008 and in 2010-2011, targeting 9 m -5 yrs, all campaigns report < 95% coverage, lead to reduction of measles cases
- In 2011, 2012 and 2013 all states develop outbreaks
- Weakness toward achieving measles elimination:
- Delayed Implementation of the FU campaigns with Implementation in phases
- Age group selection is not guided by Susceptibility profile
- Some of the quality indicators not optimal and Suboptimal coverage for in some states with Pocket of low coverage within overall high coverage
- Weak social mobilization and Resistant among special population
- Low Measles Routine coverage and late introduction of the routine 2nd dose (2012)
- Way foreword
- Strengthening routine immunization services in areas with <95% coverage for MCV1 and MCV2. (implementing appropriate strategies) per districts
- Implementation of Measles risk assessment recommendations
- Focused monitoring and supervision, especially in high -risk areas
- Strengthen measles and rubella surveillance
- MR Campaign according to Susceptibility profile

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Switch from tOPV to bOPV:

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Situation of endgame activities in Sudan:

- High vaccination coverage and high quality AFP surveillance indicators are maintained.
- IPV already introduced in the routine since first of June 2015.
- Containment of polioviruses in laboratories is done and review of situation is currently going on.
- Arrangements for switch from tOPV to bOPV on the 25th of April 2016 is going on as scheduled.



## EPI Overview and Measles Situation in Sudan

Dr. omymma abdalla

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## **Neurological Complications of Critical Illness**

**Prof Mohamed A hadi alzubair Al malik**

Neurologic complications of the critical illness occur as the direct result of the illness itself, intensive care therapies and procedures, medical or surgical conditions; peri-operatively; or because of underlying primary neurologic disease. These complications occur at greater frequency and are often unrecognized because critically ill patients are often intubated, sedated, and/or receiving neuromuscular blocking agents. Encephalopathy is the most common neurologic complication in the ICU and is usually multifactorial in origin. Sepsis is associated with the highest incidence of neurologic complications. Neurologic complications are associated with increased disability, longer hospital stay, and increased mortality. This review focuses on neurologic complications that are the result of critical illnesses and intensive care management.



## **The Child with Sudden Inability to Walk**

**Prof. Mohamed A hadi alzubair Al malik**

Infants and children are commonly brought to the emergency department (ED) with a complaint of Sudden inability to walk. A good history and physical examination are paramount in determining etiology. Once a diagnosis is suspected, tests such as a lumbar puncture, neuroimaging and other relevant tests will help to further define the etiology and guide therapy. Many causes of acute conditions could be due to weakness and have the potential for respiratory compromise, and the emergency department Paediatrician must continually and closely evaluate patients and may choose to electively admit the child to ITU.

This workshop/review explores the most common neurological diagnoses made in children presenting with Sudden inability to walk. The common two or three conditions will be discussed and briefly the other less common etiologies as well. Effective treatment of these disorders is not possible without prompt recognition of the clinical patterns of these conditions and initiation of diagnostic testing in the emergency department.







## Neonatal sepsis at National Ribat University Teaching Hospital, prevalence, clinical presentation, risk factors and outcome

Dr. Anas Elbashir Ahmed, Dr. Mohammed Adel Abdallah, Dr. Adil Abu Elmaali Elsiddig, Dr. Mounkaila Noma,  
Dr. Babiker Elmubasher Mustafa

**Introduction:** Sepsis is a major cause of neonatal mortality in developing countries and globally. This study determined prevalence, clinical presentations, risk factors and outcomes of neonatal sepsis at National Ribat University Teaching Hospital.

**Method:** A hospital based retrospective cross sectional study was carried out in the Neonates unit of National Ribat university teaching hospital. The data collection (June-July 2014) used as primary source of information the medical records of neonates diagnosed as neonatal sepsis patients during the period of June 2013-June 2014. The data extraction used a standardized tool to collect information on both neonates and their respective mothers.

**Results:** Sepsis was found in 91 of 131 (69.5%) neonates; 52 of these cases were males (57.1%) and 39 were females (42.9%). Fever and refusal of feeding were the commonest presenting symptoms (33% and 27.5%, respectively) followed by Non-specific symptoms (20.9%), yellowish discoloration (9.9%) and diarrhea associated with vomiting (8.8%). The risk factors: pregnancy coinfection were found in 34%, preterm delivery in 5.5%, low birth weight in 4%, and premature rupture of membrane were found in 1%. Regarding outcome (89%) fully recovered and (11%) with complications; three were admitted in the renal unit and the remaining 7 cases were admitted in the NICU).

**Discussion:** The prevalence of neonatal sepsis in National Ribat University Teaching Hospital was 69.5%. Fever and refusal of feeding were the commonest presenting symptoms. No Mortality due to neonatal sepsis was recorded.

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## Infective endocarditis: an update and experience in Sudanese children

**Prof. Abdelmoneim Elseed**

Dept. of Pediatrics & Child health, Faculty of Medicine, University of Khartoum

Infective endocarditis is an important cause of childhood morbidity & mortality world wide.

In Sudan, children with congenital & rheumatic heart disease are the main substrate for the disease. However infective endocarditis is being increasingly diagnosed in patients with structurally normal hearts without valvular or other intra-cardiac pathology. This occurs in newly born babies & older children with elaborate intra vascular & intra cardiac catheters. This has significantly impacted the etiology , epidemiology, clinical presentation & management of the disease. Gram positive cocci ( Strept viridans & Staphylococci) are the commonest causes for Infective endocarditis. Transthoracic echocardiography is an important tool in the initial diagnosis & further follow up of children with the disease. However the modified Duke's criteria remain the basis for making the diagnosis & the microbiology lab is extremely essential both for the diagnosis & choice of appropriate antimicrobial therapy. In Sudan, like in many developing countries, sub-standard diagnostic services adversely affect both morbidity & mortality. Genuine & serious efforts should be made to improve these services, particularly microbiology & Transthoracic echocardiography labs.



## Follow up of NICU graduates

### Dr. Yousif Al Hag

Consultant – Pediatrician, MBBS, DCH, CABP, MRCP (U.K)

Advance in perinatal medicine, reproduction technology, NICU care, and infant support has led to more preterm babies surviving. Neonatal services ranges from managing the acutely ill preterm or term babies on ventilation to the other end of chronically ill babies with medical conditions who need long term care and follow up. The aim of this presentation is to support the importance of neonatal services, advertise for the culture of team work, and ensure the role of the general pediatrician in putting road maps and fine tuning of these services for the best care of the NICU graduates. Their follow up necessitates multidisciplinary team work for their physical, mental, and the psychosocial wellbeing. Good communication skills, sense of responsibility, application of the current literature, and ensuring a healthy working environment for the hospital staff, are vital for the good outcome of these babies.

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## Patient Safety

### Dr. Thomas Ngwiri

Gertrude's Children's Hospital & Kenya Paediatric Association

In its landmark 1999 paper titled "To Err Is Human – Building A Safer Healthcare System " the Institute of Medicine (IOM) stated that up to 98,000 people die in the USA each year due to medical errors. This is in a country with a large health budget and an annual per capita health expenditure of over \$ 8,000.

Although statistics are not available for most African countries, it is generally accepted that medical errors could contribute to many more deaths in these countries than in the developed world. According to the World Health Organisation (WHO), 1.7 billion injections are administered in the healthcare institutions in developing countries, 90% of which are unnecessary and avoidable

There are proven interventions that can be applied to bring meaningful change to the healthcare systems of African countries to reduce dangerous practices and improve health outcomes including standardization of care, vigilance, improved communication, increase in hand washing and avoidance of non-essential procedures.

To achieve this healthcare institutions must strive to deliver care that is safe, timely, effective, efficient equitable and patient centred. The 'quality journey' is long and, many believe, unending. In order to improve our institutions we will need to undertake many small but progressive improvement projects. To stay focused and make the most of quality improvement projects, one must be clear on Aim – what are we trying to achieve?; Measures – how will we know a change is an improvement?; Changes – what changes can we make that will result in improvement?