

World Congress on
Neonatology, Pediatric Nursing and Nursing
&
8th World Congress on
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March 11-12, 2019 London, UK

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The patients' lived experiences of mechanical ventilation post cardiac surgeries

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The care of mechanically ventilated patients is a fundamental component of critical care nurses' clinical practice. From the clinical experience of the investigator, it has been observed that, being connected to mechanical ventilation post cardiac surgeries was expressed as the most stressful and harsh experience to those patients. Less attention has been paid to patients' subjective experience of mechanical ventilation; even though psychological factors have been proposed as important determinants of outcomes in some patients. Therefore, the aim of this study was to explore the Patients' lived experience of Mechanical Ventilation Post Cardiac Surgeries. Thus, this study was done in an attempt to answer the research question; what are Patients' lived experiences of Mechanical Ventilation Post Cardiac Surgeries? Purposeful sample was used, the data saturation occurred with fourteenth participants who were willing and able to communicate their experiences. In-depth Semi-structured interview was used to collect data using a pre-prepared interview question guide which was written in the lay Arabic language in order to capture the linguistic as well as the cultural meaning of the response and to enable the participants to move freely in their descriptions. All interviews were audio tape recorded, transcribed verbatim and analyzed using Giorgi's methods for phenomenological analysis. Three major themes were identified through analysis of the participants' speech, these three major themes are: Intrapersonal experiences, Extra personal experiences and Interpersonal experiences. And there is obvious interrelation among those major themes its subsequent themes. Intrapersonal experiences contain two subthemes: physical experiences: breathlessness, mouth dryness, pain and physical discomfort. And emotional experiences: shock, bothering, near death, inability to endure, powerlessness, knowledge deficit, safe/unsafe. extra personal experiences include sleep disturbances, suctioning, chest physiotherapy, affected daily activities, and experience of disconnection. Interpersonal experiences include the primacy of the nurse, impaired communication, reaction toward other patients, reaction toward visiting and visitors. Participants responses centered on spiritual aspect. Ethical principles were maintained throughout the study. The participants' identified experiences formed the basis for formulation of recommendation guidelines to improve nursing management of mechanically ventilated patient post cardiac surgeries.

Biography

Azza Awad Algendy is currently working as the Assistant Professor Medical Surgical & Critical Care Nursing, King Saud Bin Abdul-Aziz University for Health Sciences, Saudi Arabia. Lecturer of Critical Care & Emergency Nursing, Faculty of Nursing, Cairo University, Egypt. Have a more than 20 years of experience in clinical and education setting both in hospitals and educational institutions. Attended many national and international conferences, workshops and seminars as presenter and speaker as well. Membership of editorial board, review committee expert panel of global illuminators research journals and conferences, Participation in King Abdul Allah International Medical Research Centre (KAIMR) in KSAU as a reviewer for research projects.

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Nursing education program for asthmatic patients

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Introduction: Globally, asthma is one of the major non-communicable diseases with 235 million people currently suffering from the condition. In Saudi Arabia, there is a 4% prevalence of asthma amongst the adult population. This study aimed to develop an adult asthma patient self-management education programme that took into account the Saudi context and culture.

Systematic review: A systematic review was conducted to determine the most effective way of delivering asthma self-management education programs. It was shown in the review that asthma was more prevalent in individuals with less education, with nurses had an important role in educating patients with this disease. Following analysis of this evidence alongside the Saudi context; small group education programs delivered by nurses were selected as the most appropriate means of delivering education which considered patient individual needs and cultural values to improve their health outcomes in terms of self-management.

Methods: An explanatory sequential complementary mixed methods design was adopted. This design encompassed a quasi-experiment using a pre-post-test comparative study followed by qualitative part using face-to-face interviews with patients. The intervention was an educational program developed and included topics selected based on patients' needs in the review and following the SINA guidance. The programme was tested to determine whether it provide them with the necessary knowledge and skills to self-manage their asthma and consequently decrease their visits to emergency departments. Further, the program was also approved and co-designed with nursing staff who provide care for patients with asthma in the selected hospital and following consultation with patients. The program was delivered by nurses and other professionals who were trained to ensure the quality of delivery. Data was collected pre, post and at 3 and 6 months following the intervention and included topics related to asthma; Asthma Control Test, Asthma Self-Management Questionnaire, the Asthma Knowledge Questionnaire and the Patient Activation Measure (PAM) instrument. Prior to data collection, instruments were all translated to Arabic language, the language of participants, and validated to assure the validity of patients' responses. Patients in the control group were able to receive the intervention after six months, the last data collection point in the study.

Findings: Analysis of the responses between the pre and post-tests demonstrate that patients with higher levels of knowledge had higher Patients' Activation Measure scores. Patients' scores in all data sets in phase 2 were higher than those in phase 1 which indicated the education was effective and increased confidence in self-management of their asthma. Results to date suggest that the bespoke education is relevant and provides the necessary knowledge to increase confidence and patient activation towards disease self-management and reducing complications.

Study Progress: Longer term follow-up data and qualitative interviews will be completed in late February 2019. It is anticipated that these results will confirm the educational program is suited to the Saudi Arabian context, improves knowledge and increases confidence in the self-management of asthma.

Keywords: asthma, cultural values, patients' education, Saudi Arabia

Biography

Hamad is a third-year Ph.D. student in nursing education expecting graduate that will be the end of coming September 2019. He has done his Dip HE in nursing, B.S. in Nursing Science MSN in Nursing education, Salford university, 2019. He holds MSN in Nursing Education from Salford University, UK and B.S.N from the Curtin University in Australia. Recently he had designed a booklet of self-management education program for asthmatic patient, as a result, now he has over a decade of relevant work experience, including 5 years working as a staff nurse in Saudi Arabia with Mental Health Hospital and 2years working at King Fahd Central Hospital in Jizan as a Certified Nurse Assistant. At Mental Health Hospital he have had the privilege of working in the areas of patient bedside care, injury care, Alzheimer's care, patient foot care and skin care, palliative care, and vital signs. He is proud to support the psychological, social, spiritual, and cultural needs of both residents and their families. He has Work Experience as Nursing Education Coordinator of Nursing Development and Nursing Supervisor at the Training and Scholarship Department at Jazan Health Directorate from July 4, 2012 till present. He is working as lecturer in nursing collage at Jizan University.

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Cross sectional study to determine HIV, HBV, HCV prevalence in prison population in Tripoli, Libya

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In some settings, the Human immunodeficiency virus (HIV) prevalence in prison population is 15 times higher than in the general adult population. In some countries, sexually transmitted infections, hepatitis B and C (HBV and HCV) and tuberculosis in prisons may reach up to 10 times and even 50 times as high as in the general population. The aim of this study was to determine the prevalence of HIV, HBV and HCV among prisons inmates in Tripoli, the capital city of Libya. This Cross-sectional study was conducted in the period from 1ST November 2016 to 31ST January 2017 and included four main prisons. in Tripoli. A total of 491 participants were enrolled (430 males and 61 females). The study sample was distributed as follows; 193 individuals from Albarka prison, 175 from Tajoura B prison, 62 from South Tripoli prison and 61 females from Jadayda women prison. Trained staff from the National AIDS Programme (NAP) provided counseling and testing to all the participants who voluntarily presented themselves to the study team during the investigation period. Participants were then offered blood test for HIV, HBV and HCV using rapid test. All positive results were confirmed by Elisa and western blot at the reference laboratory of the NAP. Post-test counseling was provided to all individuals with positive test results for HIV, HBV and HCV. Proper advice and referral for management and treatment was provided and ensured. Data were entered and analyzed using Epi Info 7 program. The prevalence of HIV, HBV and HCV infections among the examined prison population in Tripoli was; 2.3%, 3.1% and 2.9% respectively. The HIV figure (2.3%) in Tripoli prisons was lower than the global estimated prevalence (3%) but much higher than the prevalence among the general population in Libya (2.3% vs. 0.13%). As expected in most prison populations, HBV was higher in prisoners then that in the community (3.1% vs. 2.2%) and HCV results were.

Biography

Nabil Abuamer is the corresponding author and principal investigator. Works as a consultant physician and project officer for UNODC project at the National Centre for Disease Control in Libya

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Effects of GM-CSF, IFN- γ and IL-4 on the function of monocytes/macrophages in a model of graft versus host disease

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Acute graft versus host disease (aGVHD) is a lethal complication which limited the success of Haematopoietic Stem Cell Transplantation (HSCT). This study develops the in-vitro model of aGVHD based on using human cells and whole blood to study functional potential of human monocytes/macrophages in allogeneic reaction. It is widely accepted that monocyte differentiate into macrophages based on the differential microenvironment the growth factor granulocyte monocyte colony stimulating factor (GM-CSF) and cytokine such as Interferon-gamma (IFN- γ) will polarise monocytes into classical M1 type that promotes inflammation, whereas Interleukin-4 (IL-4) will polarise monocytes towards the alternative M2 macrophages with tissue repair functions. This study proposes to generate inflammatory setting, which mimics patient's condition after total body irradiation, then to add mismatched blood cells to trigger allogenic response similar to aGVHD. GM-CSF and cytokines IFN- γ and IL-4 were used to allow monocytes to differentiate towards M1 or M2 macrophages. This study assessed the variation in Co-stimulatory molecules (CD80, CD86) and HLA-DR expression on the surface of responder/donor monocytes and T cells proliferation by flow cytometer. Furthermore, pro-inflammatory cytokines were measured by enzyme-linked immunosorbent assay (ELISA). The results show that GM-CSF, IFN- γ and IL-4 up-regulate the expression of CD86 on the surface of classical CD14⁺ monocytes in similar level. However, HLA-DR expression varied based on the stimulus. Unexpectedly, the effects GM-CSF and IFN- γ expression of co-stimulatory molecule CD86 on CD14⁺ monocytes are particularly weak comparing to the allogenic reaction untreated control. Indeed, T cell response in GVHD setting is confirmed by T cells proliferation measurements using crystal field stabilisation energy (CFSE) method, which shows the same level of response in the presence of IL-4, as that seen with the high dose of GM-CSF and IFN- γ . This implies that generally accepted views on distinct roles of M1 and M2 macrophages in inflammation need to be re-evaluated in the complex setting of aGVHD pathology.

Biography

Deema was awarded MSc in heamatology with distinction from the University of Westminster in 2016 and currently studies for Mphil/PhD at the same University. Princess Nourah bint Abdulrahman University, Riyadh Saudi Arabia University of Westminster, London, UK

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The effects of smoking on maternal and child health: Literature review

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Smoking before, during and after pregnancy is not an unusual behavior among the general population and can result in adverse effects on both maternal and child health. According to World Health Organization statistics in 2007, the world's largest tobacco consumption among female smokers is recorded in Greece, where 31.3% of women smoke. Surveys show that pregnant smokers are more likely to experience ectopic pregnancy, endometrial, neonatal death, precursor placenta, premature placental detachment, and premature rupture of the mast, while the odds of eliminating in the first trimester of pregnancy are 46% smokers. As reported in a related publication of the Human Reproduction Update, among about 12 million cases observed, the researchers identified nearly 174,000 malformations, which appear to be due to cigarettes. These have deformities at the extremities, rhabdomyopia, gastrointestinal, but also ocular abnormalities. An additional Dutch survey published in 2007 shows that children of smokers may have a risk of stroke or stroke as adults, while carotid stenosis is also significant. In conclusion, the best thing to do is to stop smoking before the woman attempts to conceive, otherwise if the woman smokes and pregnancy occurs, she should immediately quit smoking for a smoother pregnancy and avoid fetal birth with serious health problems.

Biography

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Scoping review on the use of socially assistive robot technology in elderly care

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Objective: With an elderly population that is set to more than double by 2050 worldwide, there will be an increased demand for elderly care. This poses several impediments in the delivery of high-quality health and social care. Socially assistive robot (SAR) technology could assume new roles in health and social care to meet this higher demand. This review qualitatively examines the literature on the use of SAR in elderly care and aims to establish the roles this technology may play in the future.

Design: Scoping review.

Data sources: Search of CINAHL, Cochrane Library, Embase, MEDLINE, Psych INFO and Scopus databases was conducted, complemented with a free search using Google Scholar and reference harvesting. All publications went through a selection process, which involved sequentially reviewing the title, abstract and full text of the publication. No limitations regarding date of publication were imposed, and only English publications were taken into account. The main search was conducted in March 2016, and the latest search was conducted in September 2017.

Eligibility criteria: The inclusion criteria consist of elderly participants, any elderly healthcare facility, humanoid and pet robots and all social interaction types with the robot. Exclusions were acceptability studies, technical reports of robots and publications surrounding physically or surgically assistive robots.

Results: In total, 61 final publications were included in the review, describing 33 studies and including 1574 participants and 11 robots. 28 of the 33 papers report positive findings. Five roles of SAR were identified: affective therapy, cognitive training, social facilitator, companionship and physiological therapy.

Conclusions: Although many positive outcomes were reported, a large proportion of the studies have methodological issues, which limit the utility of the results. Nonetheless, the reported value of SAR in elderly care does warrant further investigation. Future studies should endeavour to validate the roles demonstrated in this review.

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Knowledge, attitude and practice towards infection control measures among nurses in Bangladesh

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Introduction: Infection-related diseases are still one of the key causes of morbidity and mortality in Bangladesh. The aim of this study was to explore the existing knowledge, attitude and practice towards infection control measures among nurses in the selected hospital in Bangladesh.

Methods: During November-May 2018, we used a semi-structured questionnaire to conduct the cross-sectional survey among 305 randomly selected nurses working in Dhaka medical college hospital, Bangladesh. The bivariate and multivariate analysis was done to assess the associated factors of knowledge, attitudes and practice.

Results: Among the nurses 84% were female and the mean age was 33.9 years and the average working duration was 9.5 years. Around two-thirds (65.9%) (95%, CI: .65-.71) of them had nursing diploma, 24.9% (95%, CI: .20-.30) and rest 9.2% ((95%, CI: .06-.12) had B. Sc and higher level of education. The highest majority (97.7%) of nurses is aware with the infection control practices and guideline but 34.1% disagreed with the statement that the infection can be transmitted through the medical equipments and only 36.7% (95%, CI: .31-.42) always use a mask. Infection control training found statistically significant ($p < .002$) in practice compare to the nurses who did not get training recently. Workload and resources constraint found statistically significant ($p < .003$) for infection control practices among nurses.

Conclusion: Infection control training, standard workload and availability of logistics can ensure standard infection control practice among nurses. The government and the hospital authority should focus on the mentioned issues to enhance infection control practice among nurses in Bangladesh.

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The role of front-line nurse leadership in improving care

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Residing in a hospital or care home can sometimes mean placing oneself at risk of poor practice, neglect or abuse. This is particularly the case for vulnerable people, especially those with Learning Disabilities or older people (e.g. Rowan Ward 2003; Leas Cross 2006; Stafford Hospital 2010, 2013; Winterbourne View 2012; Glan Clwyd 2014; Gosport War Memorial Hospital 2018).

There has been considerable discussion in the nursing literature and soul-searching in the profession about this. An explanation is unlikely to be found in terms of a sudden, and unexplained, decline in the moral character of today's nurses. A more satisfactory explanation is set forth using situational variables. Salient features of a ward or care home may include 1) The quantity of work; 2) The emotional quality of that work; 3) Inappropriate rewards for non-care tasks alongside lack of reward for care tasks; 4) Social pressures, especially intergroup hostility and conformity to group norms.

One very practical way of combatting such situational factors, and one that can be put in to action immediately, is to develop the leadership abilities of every qualified nurse working on a ward or in a care home. Every nurse who has any supervisory role will necessarily exercise leadership and it is at the frontline that the effects on the patients' lived experience of this leadership will be felt most acutely.

While some nurses are 'naturals' at leadership most will have to work to develop themselves. A straightforward model for frontline leadership is described that includes 1) Professional and Organisational skills; 2) Personal Values; 3) The Appropriate Use of Authority; 4) Interpersonal skills. Examples of how frontline nurses may articulate and strengthen their personal values and then use their personal and positional power to put these values in to action will be given.

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Partnership synergy: An academic-practice model**Lee Anne Xippolitos**

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The Stony Brook University Hospital (SBUH) and the School of Nursing (SON) have solidified the foundation of an academic practice partnership, established in 2010. The SBUH-SON collaborative relationship was implemented to address issues through mutual-goal setting; sharing of risks, responsibilities, accountability; and sharing of resources. The Chief Nursing Office of SBUH and the Dean of the SON have established an organizational structure that aligned the mission and visions of the hospital with the SON. The goals of the partnership are to: 1) respond to challenges inherent in patient care delivery; 2) develop systems improvements that increase quality and safety and reduce cost; and, 3) increase the research capacity through the development of a collaborative research infrastructure. To demonstrate mutual investment and commitment, a memorandum of understanding (MOU) was established between the individual academic and practice units. This MOU formalized relationships and delineates joint accountability. This strategic alliance created opportunities for shared responsibilities, governance and decision-making. The Partnership was formalized through participation as academic and clinical partners in the jointly sponsored American Association of Colleges of Nursing (AACN)/The Dartmouth Institute Nursing Faculty and Clinical Partners Improving Health Care Together: the Dartmouth Institute Microsystem Academy. For the pilot project, improving the process of patient and family centered care (PFCC) on an inpatient, medical oncology unit was selected. The primary aims were to: 1) reduce patient falls; 2) decrease patient pressure ulcers; 3) decrease interruptions due to call lights; and, 4) improve patient satisfaction related to communication between the health care team and patients and families. A secondary aim of this partnership was to strengthen quality and safety knowledge in the undergraduate and graduate curricula of the SON. An intervention was implemented using PDSA and results indicated improvements in fall and UAPU rates, patient and staff satisfaction rates, enhanced patient and staff communication, and decreased interruptions to nursing's workflow. Additionally, the processes and outcomes of the project served to inform undergraduate and graduate curricular revisions in the SON. The partnership provides a forum for leveraging expertise from the clinical and academic arenas. First in 2012 and again in 2017, the partnership jointly prepared for accreditation of SBUH's UHC/AACN Post-Baccalaureate Residency Program (PBRP) by the Commission on Collegiate Nursing Education. Key members of the partner units have joint appointments on committees responsible for research, education, and best practice. Sustainability of the partnership's efforts is demonstrated through a model of shared resources that includes non-salaried faculty appointments of SBUH professionals to the SON and off-set for faculty serving in dual roles. To drive transformation and implement change, the partnership's commitment to lifelong learning. Additionally, continuing education opportunities are jointly developed to provide relevant knowledge that will promote educational and career advancement. These efforts foster a commitment to professional baccalaureate education, seamless academic progression, and leadership development. Originally, the partnership existed solely within Stony Brook University's Academic-Medical Center which is composed of five health professions schools and a tertiary-care hospital. The juxtaposition allows for inter-professional collaboration at the highest level. Evidence includes the formation of project teams of faculty from the SON and key drivers from medicine, managed care, pharmacy, case management, clinical informatics, finance, planning, and other clinical and support areas in the hospital to improve hospital discharge processes, reduce the readmission rate and streamline patient's transition from acute-care to home-based care. This collaboration provides a forum whereby nurses facilitate inter-professional team building, engage in collaborative problem solving, and improve care coordination. The challenge to the School of Nursing was to replicate the model in other partnership institutions where resources vary. This was successfully achieved in 2016 when the Academic-Practice Model was initiated in a nearby 256 bed community hospital. Today, the School works independently with five other institutions where the missions of both the partner hospital and academic unit are matched. Dissemination of the partnerships' activities and outcomes is accomplished through joint publications. Each year, an additional report is jointly published from the Division of Nursing at SBUH and the dean and faculty from the SON. Additionally, an article highlighting the partnerships accomplishments in improving health care quality, safety, access and value was published in the nursing literature. Annual surveys are conducted which are informative and evaluation meetings help to improve upon the model.

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User satisfaction in education information with QR code link on appointment card for patients undergoing bronchoscopy

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In 2007, appointment postponement and cancellation rate in patients undergoing bronchoscopy was high as 6.32%. Therefore, we had a conference among the bronchoscopy team to explore the related factors of this problem. Then, the work instructions were developed to and used to improve the appointment systems, including full explanation of the procedure, patients' preparation, and complications to the patients, Although the number of bronchoscopic procedure in this institute increased year by year, the appointment postponement and cancellation decreased after starting work instruction for bronchoscopy appointment. The event frequency went down to 1.12% in 2012. we develop information for bronchoscopy in compact disc and then we have QR code link with YouTube in appointment card. This research was conducted by a quasi-experimental, The purpose was to determine of the bronchoscope educational information with QR CODE by YouTube link on satisfaction patients undergoing bronchoscopy. The sample consisted of 105 patients, who first underwent bronchoscopy were randomly assigned to the control or experimental group at Outpatient Bronchoscopy Unit, Faculty of Medicine, Ramathibodi Hospital, Mahidol University. while the experimental group of 105 patients received invitation to educational information with QR code link in bronchoscope appointment card. The results of this study showed that users indicated highly satisfaction with the mean score of 3.90 (SD =.20). Therefore, the educational information with QR Code link could satisfaction of patients undergoing bronchoscopy.

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The effectiveness of buzzy, distracting cards and balloon inflating on mitigating pain and anxiety during venipuncture in a pediatric emergency department

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Background: Painful medical procedures in childhood may have long-term negative effects on development and future tolerance of pain, evidence suggests that a significant number of children receive less than optimal management of procedure-related pain.

Objective: The present study aim to investigate the efficacy of three interventions methods (Buzzy, distracting cards and balloon inflating) on mitigating pain and anxiety associated with venipuncture in a group of pediatric patients.

Methods: A prospective randomized clinical trial with children who required venipuncture and aged 7 to12 years was conducted in a pediatric ED. Data were obtained by conducting interviews with the children, their parents, and the observer. The pain levels of the children were assessed by the parent, observer as well as self-report using the Faces Pain Scale-Revised (FPS-R). The anxiety levels of children were assessed using Children Fear Scale (CFS).

Results: One hundred and eighty children (mean age, 9.3±1.9 years) were included. The pain levels of children showed statistically significant differences between the groups in the self-, observer- and parent-reported procedural pain ($p = 0.012$, $p = 0.036$, $p = 0.014$ respectively). No significant differences were observed between the groups in procedural child anxiety levels according to the parents and observer ($p = 0.42$, 0.13 respectively).

Conclusion: The results of the study suggests that the distraction method through Buzzy, distraction cards and balloon inflating are effectively decreased pain levels of children compared with the control group according to self-report, parent-report and observer-report.

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Basic metabolic disorders in children with diabetic nephropathy

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Introduction: The increased prevalence of Type I Diabetes (T1D) has also led to an increase in the number of macro- and microvascular complications of diabetes such as coronary heart disease, stroke, visual impairment, Diabetic Nephropathy (DN), and End Stage Renal Disease (ESRD). Additionally, diabetes remains the most common reason for progressing to ESRD.

Aim: to study the levels of basic metabolic disorders in children with T1D and at diabetic nephropathy.

Material and methods: 26 children 10–16 years old with T1D and diabetic nephropathy examined. An affinity of hemoglobin to oxygen and oxidation of lipids detected using the method of spectrophotometry. The levels of cellular hypoxia marker HIF-1 measured using Western Blotting method.

Results: In the group of children with the firstly diagnosed T1D high level of dissociation of hemoglobin and oxygen as compared to control group detected. In the group of children with developed diabetic nephropathy the level of marker was considerably lower than in control group and patients with T1D. High level of intracellular hypoxia evaluated in all patients comparing with the control. HIF-1 level considerably higher in patients with nephropathy than in children with T1D. An increase of lipids oxidation coefficient depending on the level of compensation of T1D.

Discussion: We have studied the key indicators of basic metabolic and hypoxic disorders in children with T1D and patients with diabetic nephropathy. Further study of these markers and its interdependence in the network of disorders caused by the deficiency of vitamin D3 and disorders in system of apoptosis control especially in aspect of diabetic nephropathy progressing is a promising direction of prophylaxis schemes creation and diabetic nephropathy treatment

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Associations between biomarkers of systemic immune activation and clinical, demographic and treatment characteristics of HIV-infected African adults

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Statement of the Problem: The importance of chronic systemic immune activation in the pathogenesis and clinical pathology of HIV has received limited attention in Africa, despite the fact that these populations likely have higher background levels of inflammation than their developed world counterparts. This study explored associations between systemic immune activation and patient characteristics, geographic location, coinfections and type of therapy. **Methodology & Theoretical Orientation:** Twelve biomarkers of immune activation (Figure 1) were measured before and during the first two years of virally-suppressive antiretroviral therapy (ART) using a multivariable model based on a doubly-repeated measures analysis of variance design, including 341 observations from HIV-1-infected participants from Nigeria, South Africa and Zambia in the analysis. **Findings:** Significant reductions in levels of all biomarkers were recorded after ART initiation, with changes in viral load (VL) and CD4 count being the most important contributors. Interesting associations were found between increasing age and $\beta 2M$, and between body mass index and IL-6, $\beta 2M$ and LBP. Women had higher levels of IP-10 than men, despite equivalent VLs. TGF- $\beta 1$ was highest in Zambian participants and associated with sub-optimal immune reconstitution on ART. After 2 years, Zambian participants had higher levels of TNF- α , MCP-1 and IL-8 when compared to South African participants. Tuberculosis co-infection at ART initiation was associated with elevated levels of sCD14, IL-6 and $\beta 2M$ at various timepoints. Hepatitis-B coinfecting participants had higher levels of MCP-1 at month 12. Participants receiving cotrimoxazole prophylaxis had reduced levels of the microbial translocation biomarker LBP, while those receiving d4T/AZT versus TDF had higher levels of TGF- $\beta 1$, IL-6 and CRP, and lower levels of sCD14. **Conclusion & Significance:** The results demonstrate the dynamic and multifactorial nature of systemic immune activation in the presence of virally-suppressive ART. The specific impact of geographic region, co-infections and type of therapy deserve further study.

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Comparison the growth pattern of neonates in breast feed versus formula feed infants

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Background: Breast milk and colostrum are the first feeding sources of infant, providing nutrients, growth factors and immunological components, which are crucial for the newborn's optimum development and health. So we conducted this study to compare the growth pattern of neonates in breast fed versus formula fed infants.

Objective: To determine the frequency of neonates on exclusive breast feeding and to compare the growth in terms of gain in length and weight of breast fed compared to formula fed infants.

Material & Methods: This present cross-sectional survey was done in the Department of Pediatrics, King Edward Medical University, Mayo Hospital, Lahore from 2015 July to 2016 July. The Non Probability, Purposive sampling technique was used in this study. An informed verbal consent was obtained from their parents. Demographic variables (name, age, gestational age at birth, contact number) were also obtained. Information on type of feeding was obtained from mothers. Then neonates were divided in two groups on the basis of type of feeding (i.e. breast feeding or formula feeding). Weight of neonate was measured by digital weight balance. Child's Length was measured using an infantometer. Then mothers were advised to visit Department of Pediatrics, King Edward Medical University, Mayo Hospital, and Lahore regularly till 4 months. The Weight and Length of infants were again measured. A predesigned questionnaire was used to collect information. Weight and length was measured as per operational definition. Both groups were compared by using t-test. $p < 0.05$ was taken as significant.

Results: In this study the mean age of the patients was 16.56 ± 6.26 years and the mean gestational age of the patients was 8.52 ± 0.97 weeks. The male to female ratio of the patients was 1.3:1. Statistically there was highly significant difference found between the weight gain in study groups at 10th, 14th week and 4th month follow up i.e. $p\text{-value} < 0.05$.

Conclusion: The prevalence of breastfeeding in infants in our study was 52.3%. Our results showed that the breast-fed infants had better weight gain than formula fed infants; however no statistically significant difference was observed in gain in length between the breast fed and formula fed infants.

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Study of oxygen saturation by pulse oximetry in healthy preterm and term neonates at birth

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Statement of the Problem: Oxygen is commonly used in newborns, especially preterm infants at birth and afterwards and to monitor the SpO₂ there is an increasing evidence of using pulse oximetry in the labour room. There is paucity of data for the reference ranges of oxygen saturation for preterm and term infants after birth and also there is a need to compare these values in these groups. A study was undertaken to describe range of saturation in healthy term and preterm infants during first 10 minutes of life and their comparison on the basis of gestational age.

Methodology & Theoretical Orientation: Two hundred healthy term and preterm neonates delivered normally or by caesarean section who did not require any intervention or support for survival were included in this study. The SpO₂ readings were recorded using Masimo pulse oximeter at 1 to 10 minutes after birth.

Findings: The median SpO₂ value at 1,3,7 and 10 minutes after birth, respectively, for newborns < 37 weeks (n=97) was 78%, 89%, 95% and 96%. The median SpO₂ values at 1,3,7 and 10 minutes for newborns born at gestation ≥ 37(n=103) weeks was 80%, 90%, 96% and 96% respectively. We present percentile charts for all infants, term infants of ≥ 37 weeks, late preterm infants of 34 to 36 +6 weeks and infants of <34 weeks. Pulse oximetry can be used during neonatal resuscitation and with knowledge about the normal changes in SpO₂ in the first minutes of life with regards to the gestation age can be useful for the resuscitation team as they can assess the infant's oxygen requirements with reference charts for SpO₂ at different gestations in the delivery room.

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