

## Abstract from Current Literatures

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### Nutritional Risk Assessment in Children with Cancer: A Longitudinal Study in North East of Iran

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**Background:** Children with cancer are in risk of malnutrition. Nutritional risk assessment is more importance in developing countries. The aim of present study was to investigate the nutritional risk in admitted children with cancer.

**Materials and Methods:** One hundred admitted children newly diagnosed with cancer were studied at the time of admission, after 3 and 6 months. Demographic characteristics and anthropometrics indexes were recorded via standard and calibrated tools. Nutritional risk assessed according to modified Screening Tool for Assessment of Malnutrition in Pediatrics (STAMP). Statistical analysis was performed using SPSS software (version 16.0).

**Results:** Of the 100 children 55 patients (55%) were female. The average age was  $3.46 \pm 3.3$  years. Hematologic tumors constituted 73.5% of patient. All patients were in nutritional risk. There was no patient with low nutritional risk during study; 17 patients (17%), 53 patients (56.4%), and 41 patients (43.6%) diagnosed with medium nutritional risk at the time of admission, after 3 and 6 months, respectively; 83 patients (83%), 41 patients (43.6%), and 40 patients (43%) diagnosed with high nutritional risk at the time of admission, after 3 and 6 months, respectively. Difference was significant ( $p < 0.001$ ). After 6 months, weight, height, mid-upper arm circumference (MUAC), and body mass index (BMI) increased compared with the time of admission ( $p < 0.05$ ).

**Conclusion:** According to modified STAMP results, all studied patients were in the nutritional risk. Nutritional risk decreased during study. The nutritional risk decreased after 6 months in children newly diagnosed with cancer compared with the time of admission.

### Complications following Bacille Calmette-Guérin Vaccination in Children under the Age of 18 Months: A Multi-center Study.

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**Background:** The BCG vaccine, used since 1921 to prevent tuberculosis (TB), considered the world's most widely used vaccine. This study aimed to investigate the frequency and the type of complications associated with Bacillus Calmette-Guérin (BCG) vaccination in Iranian children.

**Materials and Methods:** This cross-sectional study conducted for 6 months among children aged up to 18 months who presented to primary health care centers in Tehran (under supervision of all three Medical Universities of Tehran) for their routine vaccinations. All children had received BCG vaccination at birth. We investigated the occurrence of BCG complications through history taking from the parents and physical examination by the study physician. Complications categorized into four major groups: local, regional, remote, and generalized and the rate of occurrence compared between the two genders.

**Results:** Finally, 14,095 children enrolled during the study period; 574 patients (4%) had experienced at least one complication following BCG vaccination. The most common complications were local side effects observed in 304 children (2.1%); followed by lymph node involvement detected in 270 children (1.9%). Lymph node involvement was more common in males ( $P < 0.001$ ) and axillary lymph nodes were the most common site of involvement. There was a significant increase in the frequency of lymph node involvement at age 18 months in comparison to 2 month old infants (odds ratio=7.76,  $P < 0.001$ ).

**Conclusion:** We found local adverse reactions as the most common complication following BCG vaccination and age was an independent predictor for the time of presentation of post vaccination lymph node involvement. Disseminated BCG and Osteitis not observed among vaccinated children.

**Prematurity alters skin conductance and behavioural scoring after acute stress in term equivalent age infants.**

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**Aim:** The primary objective was to assess the effect of prematurity at term equivalent age on skin conductance and behavioural responses to acute stress. The secondary objective was to explore the reliability of skin conductance in detecting neonatal discomfort in preterm and full term populations.

**Methods:** Very preterm infants at term equivalent age and healthy full term neonates, 34 infants in each group, underwent the hip dysplasia screening test. The acute pain in newborn infants (APN) scale was scored before and 15, 45 and 90 seconds after stimulus. Skin conductance was measured in the 30 second time lap before and after stimulus.

**Results:** The APN score was lower in preterm infants after intervention (term:  $5.4 \pm 2.8$  versus preterm:  $3.9 \pm 2.2$ ;  $p = 0.03$ ). Peaks per second, a skin conductance parameter, exhibited lower basal values in preterm infants than in term infants, with similar rise induced by stressful challenge. Peaks per second values were correlated to the 15 second APN score in both groups (term:  $r = 0.55$ ,  $p < 0.001$ ; preterm:  $r = 0.43$ ,  $p = 0.01$ ).

**Conclusion:** Preterm birth changed skin conductance signal and behavioural response to stress at term equivalent age. The skin conductance device may be an objective tool for a continuous monitoring of acute neonatal stress.

**Glycemic Control and Long-term Complications in Pediatric Onset Type 1 Diabetes Mellitus: A Single-center Experience from Northern India.**

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**Objective:** To study glycemic control, mortality and long-term complications in children with type 1 diabetes (T1D).

**Design:** Cross-sectional study.

**Setting:** Referral centre at a government teaching hospital. Participants: Patients with T1D with age  $\geq 18$  years at onset.

**Methods:** We retrospectively collected demographic data from computer records from 1991 to 2015. Prospective study for outcomes was conducted between 2012 and 2016.

**Main outcome measures:** Mortality rate, glycosylated hemoglobin (HbA1c), and microvascular complication rate.

**Results:** The proportion of T1D patients ( $n=512$ )  $< 5$  years of age at onset was 18.6% between 1995 and 2004, and 24.2% in 2005-2014 ( $P < 0.001$ ). Twenty eight patients had died out of 334 whose living status was known (mortality 1.1 per 100 patientyears over 2549 patient-years follow up). Median (range) HbA1c ( $n=257$ ) was 8.3% (5.1-15.0%). At least one episode of severe hypoglycemia (coma/seizure/inability to assist self) had occurred in 22.8% patients over two years. Hypertension was present in 11.7% patients. Microvascular complications screen in 164 eligible patients [median (range) age 20 (8-45) y and duration of diabetes 9.1 (5-30) y] showed diabetic nephropathy in 3.0%, proliferative retinopathy in 3.6% and LDL cholesterol  $> 100$  mg/dL in 34% patients.

**Conclusion:** The mortality rate and prevalence of hypertension were high, given the short duration of diabetes of the patients. The proportion of patients with age  $\geq 5$  years at onset of diabetes has increased at our center.