Young Researchers Abstracts

Evaluation of preventive behaviors of UTI based on Health Belief Model (HBM) in mothers with girls younger than 6 years old

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Background: Urinary tract infection is the second common infection in children. In the first year of life, UTI is more common in boys than girls, but thereafter the incidence rate becomes much more common in young girls. UTI complications in children are various, such as early hypertension, impaired glomerular function, proteinuria and finally, end stage renal failure.
Methods: The objective of this descriptive study was to illustrate the effect of mothers' preventive behaviors on the Urinary tract infection of their girls using the Health belief model(HBM) in 2011-2012. For analyzing the data SPSS, software was used.
Findings: The results indicated that the knowledge score was good only in 2/9% of cases, perceived susceptibility in 58/7% of cases, perceived severity in 66/7% of cases and perceived barriers in 65/2% of cases. There was a direct correlation among the sensitivity, interests, behavior and self-efficacy as well as intensity, threat, practice guide and self-efficacy, interests and self-efficacy, practice guide, behavior and self-efficacy, and finally behavior and self-efficacy. There was a significant inverse correlation between barriers, sensitivity, interests, practice guide and self-efficacy. And finally a significant correlation occurred between intensity and mother age, threat and intensity, between behavior and self – efficacy and number of children, behavior and mothers occupation, practice guide, self-efficacy and family income as well as practice guide, behavior, self-efficacy and history of child previous UTI.
Conclusion: In accordance with the data, using Health Belief Model as an education curriculum to improve UTI prevention behavior is effective.
Keywords: Health Belief Model, Urinary Tract Infection, Prevention, Mothers

The accuracy of tympanic temperature in children

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Background: Tympanic thermometer (TT) is convenient, non invasive and clean, but the accuracy is not still clarified. The purpose of this study was to compare the accuracy of this method with rectal method in children less than 6 years of age.
Methods: In this cross-sectional study a total of 220 pair ears and rectal sites were used to determine the body temperature in patients between 3 months to 6 years old from emergency department of Bushehr University of Medical Sciences. Rectal temperature (RT) was as gold standard in this study. Fever was defined as 38°C.
Findings: Correlation between rectal and tympanic temperature≥38°C, and TT≥RT was statistically significant.

The mean difference between RT and TT was 0.3°C. When cutoff point was considered 38°C for TT, the sensitivity was 46%, specificity was 97% and positive (PPV) and negative predictive values (NPV) were 92% and 72% respectively. Roc curve showed the best cutoff point for TT as 37°C, which increased the sensitivity (92%) and PPV (0.980) and decreased the specificity (90%) and NPV (0.57). Kappa test showed a good agreement rate between RT and TT. Age had significant effects on the TT/RT relationship.
Conclusion: Sensitivity and NPV (when cutoff point was 38°C for TT) were unacceptably low. If TT is used in a cutoff point as 37°C, the sensitivity and NPV would improve and TT can be used as a safe, easy, rapid and accurate method in pediatrics.
Keywords: Tympanic, Body Temperature, Rectal, Thermometer, Children

Evaluation of skin bilirubin measured in term neonates and compared with serum sampling method

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Background: Hyperbilirubinemia is a common neonatal period finding. To determine the intensity of the jaundice, the standard method is to measure the serum bilirubin which requires the frequent blood sampling of the neonate. Transcutaneous bilirubinometer is a noninvasive method to determine icter. In this paper, the relation between serum and transcutaneous bilirubin is studied.
Methods: The study was a cross-sectional analysis on 200 icteric full-term neonates. The neonates had at least 2500 gr weight and had not been got phototherapy or exchange transfusion. Transcutaneous bilirubin was measured three times by bilirubinometer JH20-1 that placed on neonate forehead and average of these measurements was calculated. Also, blood sample was submitted to laboratory within 30 min to measure serum bilirubin. Results of these two measurement methods were compared. In this study, specificity and sensitivity of skin bilirubin measurement according to age and bilirubin levels were also calculated.
Findings: The mean serum bilirubin of 18.75% and mean transcutaneous bilirubin of 17.85% were calculated. There is a strong correlation (r=89%) between skin and serum bilirubin levels. For bilirubin below 8 mg/dl, the specificity and sensitivity was 25% and 100% respectively and for bilirubin of 8-12 mg/dl, the specificity was 25% and the sensitivity was 95%. Also, for bilirubin of 12-15 mg/dl, the specificity and sensitivity was 100% and 96.1% respectively and for bilirubin above 15 mg/dl, the specificity was 80% and sensitivity was 96%. The sensitivity and specificity of transcutaneous bilirubin was totally 95.1% and 68%.
Conclusion: There is a strong correlation between transcutaneous and serum bilirubin measure. Transcutaneous bilirubinometer has good accuracy for bilirubin above 12mg/dl, but for bilirubin lower than 12mg/dl the accuracy decreases. Also for bilirubin more than 17mg/dl, the sensitivity decrease. Transcutaneous

bilirubin should not replace serum bilirubin due to the relatively low accuracy.

Keywords: Hyperbilirubinemia, Neonate, Bilirubinometer, Transcutaneous, Serum

Adaptation of school-based interventions guideline to prevent smoking

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Background: Tobacco use has a serious impact on health and socioeconomics situation of general population. Majority of people has started it in teen age and the most of them will probably be addicted. Meanwhile, school-based interventions can play an essential role in prevention or delay tobacco consumption, but there is no structured program for such interventions in Iran. Current study has been designed to provide a national evidence based guideline for school- based interventions.

Methods: We conducted wide search main databases and websites considering Pub Med, NICE, GIN, NGC, SIGN and other related websites for defined keywords. Related guidelines were selected and appraised by two independent experts using AGREE-2 tool. The highest record was translated to Persian and discussed in panel of guideline for adopting with Iranian culture and condition. The preview was sent to experts and stockholders for final edition and then was published for pilot application.

Findings: Eleven related guidelines retrieved in which only two were about school-based interventions recommended. The main recommendations for prevention of smoking was as following: Pay attention and take the organizational wide approaches in schools, plan and do interventions by adults, plan and do interventions by peers, train, retrain and develop, and pay attention and take the coordinated approach.

Conclusion: Iranian school based guideline is a well adopted tool to prevent tobacco consumption in teen ages.

Keywords: Guideline, Prevention, School-Based Intervention, Smoking

The clinical manifestations, treatment efficacy and adverse drug reactions in 62 Iranian children with wilson disease in the years 2012-2003

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Background: The Wilson disease is an autosomal recessive disease in which the liver, central nervous system, eyes, blood and other parts of the body involved. Timely diagnosis and appropriate treatment of the disease requires awareness of the clinical presentations of this disease in children.

Methods: This case series study included 62 patients with Wilson disease who admitted to children's Medical Center in the years 2012-2003.

Findings: 56% of patients were male. The average age of diagnosis was 9.73 years old (5-17 years) and this was higher in patients with early neurologic symptoms. 64.5% of the patients had the hepatic symptoms at the time of diagnosis and the most common type of hepatic involvement was cirrhosis (39.3%) and hepatitis (17.5%) respectively. 17.7% of the patients also had early neurological symptoms. A positive family history for the Wilson Disease were found in 27.4% of patients. 74.2% of patients had KF ring and the frequency of these symptom was higher in patients with early neurological involvement. 83.9% of patients were treated successfully with D-penicillamine and in 30% of patients, adverse drug reactions were seen.

Conclusion: Children with unknown liver disease should be evaluated for Wilson disease and the first-degree relatives of patients should be screened. D-penicillamine have important side effects, but due to the low cost and the availability is an appropriate drug to treat the Wilson disease.

Keywords: Wilson Disease, Hepatic Involvement, Neurologic Involvement, KF ring, D-Penicillamine

Survey on laboratory tests findings of sepsis in neonatal ward of Madani hospital in Khorramabad 2011

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Background: Sepsis is one of most serious diseases in neonatal group, which sometimes its mortality rate has been reported more than 50 %. Main diagnostic criteria is culture of body fluids such as blood, urine, cerebrospinal fluid and the aim of this study was to determine laboratory tests findings of sepsis in neonatal ward of Madani hospital in Khorramabad 2011.

Methods: This descriptive cross-sectional and hospital information based study was done on 40 hospitalized neonates by sepsis diagnosis in neonatal ward of Madani hospital in Khorramabad. Medical records were studied for laboratory tests and information was recorded in specified sheet and analyzed by descriptive statistics.

Findings: 32(80%) of newborns were male, 27(67.5%) were first child, 18(45%) had less than 2800 grams weight and 18(45%) had less than 38 weeks gestational age. 19(47.5%)of newborns had positive CRP, 24(60%) had more than 10 ESR, leukocytosis more than 11000/mm3 in 6(%)cases, positive blood culture in 9(22.5%), positive urine culture in 8(20%), positive umbilical discharge 6(15%), positive stool culture 2(5%), and positive eye discharge were present in 1(2.5%) case. The most prevalent factors were Klebsiella 8(20%), staphylococcus Epidermidis 5(12.5%), Pseudomonas 3 (7.5%), Candidiasis 3 (7.5%), Ecoli 2(5%), and gram positive cocci in 4 (10) cases.

Conclusion: Gram negative bacteria were the most pathogens in neonatal sepsis. Current laboratory tests aren't effective for correct and quick diagnosis of neonatal sepsis; so it is needed to do more studies to find precise diagnostic tests for correct and quick diagnosis of neonatal sepsis.

Keywords: Sepsis, Newborn, Lab Test

The relationship between exposure to pesticides and the occurrence of acute leukemia

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Background: The causes of acute leukemia can be exposure to certain chemicals such as: benzene, dioxins, polycyclic aromatic hydrocarbons, and especially pesticides. This study determines the relationship between exposure to pesticides and the occurrence of acute leukemia in Fars province, south of Iran.
Methods: Between 2011 and 2013, in a case- control study conducted in Namazee Hospital in Shiraz, Southern Iran, 314 subjects diagnosed with acute leukemia (94 pediatric cases and 220 adults) were enrolled. Controls (n=314) were frequency matched to the cases by sex, age, and center.
Findings: 85% of pediatric cases and 69% of their controls and 83% of adult cases and 75% of their controls were exposed to pesticides. 87.5% of pediatric cases and 90% of adult cases were exposed to intermediate and high doses, in the controls 70.5% and 65% were exposed to low doses of pesticides respectively. Most of the cases and controls were exposed to indoor pesticides. Farmers and their children were at a significantly increased risk of developing acute leukemia in compare to people with other Jobs (p<0.001).
Conclusion: Risk of acute leukemia was high (OR=16.6-17.2, p<0.001) for exposure to higher doses of pesticides.
Keywords: Acute Leukemia, Pesticides, Chemicals

Measurement of health belief model constructs in preventive behavior about risk factors in the mothers of the children less than five year old in Arak city in 2014

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Background: Nowadays, the use of educational models to determine the causes of rejection behaviors related to health has increased. Health belief model is one of the models during the past years has been considered. Therefore, this study measured health belief model construct in preventive behavior about risk factors in children less than five year old in Arak city.
Methods: This was a cross-sectional and analytical study that carried out on 350 women with children under 5 year old in Arak city in 2014. Data collecting based on the Health Belief Model and the checklist of practiced women about preventive risk factors in the children. The data collected from structured interviews and finally using descriptive statistical and Pearson correlation analyses.
Findings: Average scores of behavior were 51.53±42.03, perceived susceptibility 78.17±6.86, severity 81.56±7, benefit 81.62±6.9, perceived barriers 69.42±8.28 and self efficacy was 73.62±7 respectively. There was a significant relationship between maternal age and perceived benefits, self-efficacy and performance (p<0.05). Pearson correlation was significant between the mothers' sensitivity, intensity and perceived benefits, manuals and self-efficacy (p<0.05). Perceived severity, benefits and efficacy were related to performance (p<0.05).
Conclusion: It was reported that constructs of HBM in the mothers who have attempted to prevent the child of having

risk factors were due to the high sensitivity of the mother as the primary caregiver of the child. However, further studies on the prevalence of symptoms of disease and its complications among children are needed.
Keywords: Health Belief Model, risk factor, child, mother

Assessment of stress sources in the Quran and usual kindergarten's children

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Background: Kindergarten is a new environment and full of incentives that affects the psyche of children and differs from experiences in family. Since in recent years, a new type of kindergarten is developed in Iran, that a different process happens in it compared to the usual kindergartens. The question arises for the researchers whether these differences play any role in creating stress on children or not?
Methods: This research was based on descriptive and cluster sampling that 15 children have been selected from usual kindergartens and 15 children have been selected from Quran kindergartens. Since up to now, no questionnaire has been developed to measure children's stress sources, the research instrument used in this study was a questionnaire already made by other researcher in a similar topic to our investigated one. This questionnaire was completed by the researcher by interviewing with children, and data was analyzed by SPSS software and T testing.
Findings: Findings showed that frequency of some stress sources in the two types of usual and Quran kindergartens differs from each other. Some of them have more frequency in usual kindergartens, contrary to Quran kindergartens. But in general, in children 4 to 6 year old, regardless of gender variable, the most frequency was argument of parents.
Conclusion: Results showed that there is no significant relationship between these types of kindergartens and stress sources.
Keywords: Stress Source, Kindergarten, Quran Kindergarten, Usual Kindergarten

A survey of Neonatal Mortality Rate and its influential factors in Maraveh Tapeh county in 2011-13

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Background: Neonatal Mortality Rate is one of the most important criteria for health, so understanding the major Neonatal Mortality causes will help the society to plan better prenatal and neonatal care systems. This study was conducted to determine Neonatal Mortality Rate and effective factors on it in Maraveh Tapeh county.
Methods: In this case-control study, according to being death or alive in 28th day after birth, 52 and 201 neonates were included in the case and control groups, respectively.

Data collection form were adjusted and completed for all selected neonates. Data were analyzed with SPSS software and results presented with descriptive statistics and chi-squire test, so odds ratio were determined using multinomial logistic regression.

Findings: Neonatal Mortality Rate was 11.76, 13.36, 6.46 per thousand alive birth in 2011-2013 respectively. Generally five main causes of death were prematurity, congenital disease, respiratory distress syndrome, accidents and sepsis respectively. Data analysis indicated significant relationship between death and prematurity, birth weight and gender (P<0.001). Prematurity has higher relationship with Neonatal Mortality (Odds ratio= 146.88).

Conclusion: Promotion of pregnancy period care and prevention of preterm labor is recommended to reduce premature births and Neonatal Mortality Rate.

Keywords: Neonate, Neonatal Mortality Rate, Case-Control, Maraveh Tapeh County

Hemostatic effect of ferric sulphate in external bleeding

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Background: The control of external bleeding, despite progresses in surgical science, is still one of the challenges surgeons face in saving patients' lives. There is a research contest among the researchers in this field to introduce a more effective method. This study attempted to determine the hemostatic effect of ferric sulfate in controlling external bleeding.

Methods: In this clinical trial 40 male Wistar rats were used. A 2-centimeter incision was made on each mouse's skin and the hemostasis time was measured using ferric sulfate with different concentrations (5.0%, 25%, and 50%) and the control method (i.e. control of bleeding by suturing). Finally, the obtained data were entered into SPSS software and were analyzed by using Kruskal-Wallis test, Mann-Whitney, Kolmogorov–Smirnov test and also Wilcoxon signed ranks test.

Findings: The hemostasis time of ferric sulfate concentration groups was significantly less than that of the control group (p<0.001).

Conclusion: Ferric sulfate may be an effective hemostatic agent in controlling an external bleeding in mouse.

Keywords: External Bleeding, Hemostatic Effect, Ferric Sulphate

Clinical outcomes following preterm birth at school-aged children

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Background: Preterm birth and fetal growth impairment have recently been subjects for research concerning mental illness. Although much is known about the public health burden of preterm birth in childhood and adolescence, less is known about longer-term mental health outcomes. The objective of this study was to evaluate whether individuals who were preterm at birth were more likely to have adverse clinical outcomes at school-age than individuals who were full term at birth.

Methods: We compared 27 infants who were born before 37 weeks of gestational age, 16 of whom were boys and 11 of whom were girls, with 27 term counterparts matched on sex- and age. Children behavior was assessed at an average age of 8.5 years with the Child Behavioral Checklist.

Findings: Preterm birth significantly was associated with an increased risk of full-scale (anxious/depressed problems, withdrawn/depressed problems, somatic complaints, social problems, thought problems, attention problem, delinquent behavior, aggressive behavior) and preterm-born children showed increases in the levels of externalizing and internalizing behaviors.

Conclusion: We found that in comparison with control subjects, children born preterm exhibited higher levels of behavioral problems. The perinatal course of these children may shed some light on the mechanisms underlying these differences. Proposed mechanisms for the effect of preterm birth on neuropsychiatric disorders include a disturbance of the programmed corticogenesis of the developing brain.

Keywords: Preterm Birth, Behavioral Problems, Externalizing Behavior, Internalizing Behavior, Children

Controlled late-onset glutaric aciduria type 2 with proper diet therapy management (case report)

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Background: Multiple acyl-CoA dehydrogenase deficiency (Glutaric acidemia type 2) is a rare autosomal recessive defect due to the mutations in the electron transferring flavoprotein genes (ETFA/ETFB) and its dehydrogenase (ETFDH), that interferes with the body's ability to break down proteins and fats to produce energy, resulting in abnormal fatty acid, amino acid, and choline metabolism, leading to metabolic acidosis, vomiting, hypoglycemia, weakness, "sweaty-feet" odor as well as poor feeding. Hepatomegaly, cirrhosis and elevated level of hepatic enzymes will be occurred gradually if the treatment won't be started. Three distinct presentations have been described including fatal neonatal presentation with dysmorphology, severe neonatal onset without dysmorphology and late onset type.

Case presentation: The report presents a girl with late onset type of GA2 who experienced severe hypoglycemia, cyclic vomiting syndrome with drowsiness and signs of encephalopathy result in frequent hospitalization during last 3 years. She had hepatomegaly and abnormal liver function tests. Fatty changes were reported in ultrasonography. Her diagnose confirmed with specific Acylcarnitine profile in the age of 8.

Methods: Medical treatment accompanied by diet therapy has been started according to the abnormal acylcarnitine concentration. Riboflavin, carnitin, coenzyme Q10 has been considered as key supplements. Protein and fat have been restricted, also uncooked corn starch added to diet plan as an important source of energy.

Findings: She never has experienced any metabolic crisis, hypoglycemia or hospitalizations during the 7 months after following suitable and specific diet plan. Growth index has been improved significantly. There is not any sign of fatty liver condition. Hepatic enzymes are in normal limit now.

Conclusion: Diet therapy plays a significant role in inherited metabolic disorders such as late onset form of

GA2, in order to prevent recurrent metabolic crisis as well as hypoglycemia. Treatment should be supervised by specialty team including a professional physician, dietitian, psychologist and social workers

Keywords: Glutaric Aciduria Type 2 (GA2), Hepatic Encephalopathy, Hypoglycemia, Diet Therapy

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Prevalence of typical and atypical Enteropathogenic Escherichia coli (EPEC) obtained from children with diarrhea

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Background: Diarrhoeal diseases remain one of the leading causes of childhood morbidity and mortality in most developing countries, with enteropathogenic Escherichia coli (EPEC). Typical and atypical EPEC strains differ in several characteristics. Typical EPEC, a leading cause of infantile diarrhea in developing countries, is rare in industrialized countries, where atypical EPEC seems to be a more important cause of diarrhea. Typical and atypical EPEC also differ in genetic characteristics, serotypes, and virulence properties. The aim of study was survey of prevalence of typical and atypical Enteropathogenic Escherichia coli obtained from children with diarrhea.

Methods: In the present study, we collected 272 stool samples related to children with diarrhea that were referred to Division of Microbiology, School of Public Health, Tehran University of Medical Sciences. E.coli isolates, Enteropathogenic Escherichia coli isolates, were identified by using standard microbiological and biochemical tests. Subsequently, for identification of atypical and typical EPEC was survey of presence of eae and stx and bfp A genes by PCR method.

Findings: Out of 272 samples, 156 isolates were identified as E.coli. 10 isolates identified as EPEC each of them was atypical.

Conclusion: High prevalence EPEC in children is a threat to children in our country. The previous research has shown that atypical EPEC, a leading cause of infantile diarrhea, is more in industrialized countries but in present study, all EPEC were atypical.

Keywords: EPEC, Atypical, Typical, Children, Diarrhea

The prevalence of impaired fasting glucose and type 2 diabetes in a population-based sample of overweight/obese children in the Middle East

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Background: Type 2 diabetes mellitus (T2DM) and impaired fasting glucose (IFG) are increasing in young population who are facing an escalating trend of overweight. The aim of this study was to determine the prevalence of IFG and T2DM for the first time in a population-based sample of Iranian obese children.

Methods: This cross-sectional, population-based study was conducted in Isfahan, the second large city of Iran. Overall, 672 overweight and obese school students, selected from 7554 students, aged 6-19 yr, were screened for IFG and T2DM. Fasting plasma glucose (FPG) and lipid profile were measured in all participants. Oral glucose tolerance test and insulin level were measured in those children with IFG. Insulin resistance was defined as homeostasis model assessment for insulin resistance (HOMA-IR)>3.10.

Findings: Among the 7554 students (48.7% boys and 51.3% girls) studied, 9.34% (n=706) were overweight and 5.3% (n=403) were obese. A number of 672 overweight and obese students including 302 (44.9%) boys and 370 (55.1%) girls, with a mean age of 12.8 ± 3.10 yr underwent biochemical work up. Overall, the prevalence of IFG was 4.61% (n=31), the corresponding figure was 2% (n = 4) in the 6-10 yr age group, and 5% (n=27) in those aged 10.1-19 yr. The prevalence of T2DM was 0.1% (n=1; age: 18.00 yr). Impaired glucose tolerance and insulin resistance were detected in three and six participants with IFG, who consisted 0.4 and 0.8% of total obese and overweight students, respectively.

Conclusion: Although the prevalence of T2DM is low in Iranian obese children, IFG is not uncommon. Preventive measures and screening of FPG should be considered for these children.

Keywords: Impaired Fasting Glucose, Overweight, Children, Middle East

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Study of class 1 and class 2 integrons in Shigella spp. isolated from children with diarrhea by Duplex-PCR method

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Background: Shigella is a common cause of bacterial dysentery that is considered as a public health problem. Annually, 1.1 million people are estimated to die from Shigella infection worldwide. Treatment with effective antibiotics is recommended for shigellosis, but the choice is limited because of resistance to antibiotics. In Shigella species, antimicrobial resistance is often related to the presence of class 1 and class 2 integrons that contain resistance gene cassettes. The aim present study was survey of Study of class 1 and class 2 integrons in Shigella spp. isolated from children with diarrhea by Duplex-PCR method.

Methods: In this cross- sectional study, 320 stool samples collected from children with diarrhea from the hospitals in Tehran. Shigella isolates, were identified by using standard microbiological and biochemical tests. Subsequently, was performed serotyping with group specific antisera. Antibiotic susceptibility testing was done according to CLSI (2012) recommendations by the disk diffusion method. Duplex-PCR was used for survey of presence of class 1 and class 2 integrons in shigella spp.

Findings: 16 (5%) Shigella spp. were isolated from of 320 stool samples collected from children with diarrhea disease, that were identified as 9 S. sonnei and 7 S. flexneri. Our

results showed high prevalence of multi-drug resistance (75%) with resistance to at least 3 antibiotics. 62.5% of isolates, carried class 1 integron, 87.5% of them class 2 integron and 56.25% both.

Conclusion: The detection of integrons with a high prevalence among Shigella isolates, confirms their association with multiple antibiotic resistance and propensity of shigella spp. to acquire and disseminate resistance determinants. Duplex-PCR technique is sensitive, cost-effective and simple to identify simultaneously class 1 and class 2 integrons in Shigella isolates.

Keywords: Integron, Shigella, Duplex-PCR, Children

MLVA method as a new tool for genotyping of Salmonella enterica serovar enteritidis strains isolated from children

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Background: Salmonella enterica is the main cause of salmonellosis in humans. The epidemiology of this infection involves large geographical distances, and strains related to an episode of salmonellosis, therefore, need to be reliably discriminated. Due to the limitations of serotyping, molecular genotyping methods have been developed, including multiple loci variable number of tandem repeats (VNTR) analysis (MLVA).

Methods: In our study, 8 VNTR markers were selected from Salmonella enterica serovar Enteritidis genome to evaluate the genetic diversity of 51 S. Enterica strains collected from children with diarrhea in Tehran.

Findings: Out of 51 strains, 10 genotypes were identified. The strains were classified into two main clusters based on UPGMA analysis. Allelic variations within S. Enterica serovar Enteritidis was represented using the minimum spanning tree. We identified two clonal complexes within the population.

Conclusion: Our results demonstrate that MLVA is a promising typing technique for a local surveillance and outbreaks investigation in epidemiological studies.

Keywords: Salmonella, MLVA, Children

Prevalence of weight disorders in a nationally representative sample of Iranian children and adolescents

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Background: Childhood obesity epidemic is alarming both in developed and developing countries. Data on prevalence of anthropometric disorders based on national studies is limited in Iran. This survey was undertaken to determine the prevalence of weight disorders in a nationally sample of Iranian students.

Methods: This population-based cross-sectional study was conducted among a representative multi-stage cluster sample of 13486 children and adolescents aged 6-18 years in Iran (49.79% girls). Written informed consent and oral assent of both parents and students were required. Demographic characteristics of study participants were collected using valid questionnaire. Anthropometric indices including weight, height, waist, hip and wrist were measured according to standard protocols. Body mass index (BMI) was categorized based on World Health Organization (WHO) growth curves. Abdominal obesity was defined using the ratio of waist to height (WHtR) more than 0.5. All analysis was performed using SPSS software (version 16.0).

Findings: Mean age of students was 12.5 years. Overall mean and standard deviation (SD) for BMI was 19.42 ± 4.09 Kg/m2. The corresponding value for waist was 67.02 ± 11.96. In total, 12.2% of students were underweight, 9.7% overweight, and 11.9% were obese. The higher prevalence of overweight and obesity was reported in urban than rural areas (10.6 and 13.1% vs. 6.3 and 7.7%, respectively). Abdominal obesity was observed in 19.1% of students. Twenty-one percent of urban and 12.7% of rural participants was abdominally obese. Mean and SD for WHtR, hip and wrist were 0.45 ± 0.63, 80.78 ± 16.57 and 14.76 ± 1.87, respectively.

Conclusion: Current evidence encourages designing health promotion programs and national preventive strategies to identify and screening anthropometric disorders from early childhood.

Keywords: Weight Disorders, Children And Adolescents, Weight, Obesity, Iran

Probiotic characteristics of lactobacillus strains isolated from fecal microflora of healthy breast-fed infants

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Background: Lactobacillus species are gram positive, catalase negative, aerotolerant or anaerobic bacteria. Bifidobacteria and lactobacilli are dominante microflora in the breast-fed infants, but microflora in formula-fed infant mostly include bacteroides, clostridia and Enterobacteriaceae. m Lactobacillus species have health-promoting benefits, such as the prevention of intestinal colonization by pathogen. They are commonly used as probiotics, with effects especially against acute diarrhoea in childhood.

Methods: Faecal samples were collected from 90 healthy breast-fed infants younger than 18 months, and cultured on MRS agar plates. Identification of Lactobacillus species was performed with biochemical tests using the miniplate method. Probiotic potential of strains was evaluated in MRS broth with pH 2.5 and MRS broth with oxbile 3% respectively.

Findings: Seventy two (80%) samples were positive for lactobacillus, and 238 isolates were identified as lactobacillus. Twenty nine (12.1%) strains had probiotic potential. L.fermentum (5 strains), L.casei (4 strains) and L.plantarum (3 strains) were the most identified strains with probiotic characterestics.

Conclusion: This study suggests that these lactobacillus strains have good probiotic characterestics. These probiotic strains may have antibacterial effect against diarrheagenic bacteria, and helpful for prevention of diarrhoea in infants.

Keywords: Lactobacillus, Probiotic, Identification

Misbehavior in children with Cystic Fibrosis

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Background: Cystic fibrosis is a progressive disease with no known cure. Living with cystic fibrosis can have a strong psychological impact on the people living with the disease and their friends.

Methods: Data were collected from CF inpatient children in a cross-sectional study. 15 girls and 17 boys which the average age of participants was 7/34. Meanwhile, through an inventory researcher the demographic properties and the developmental history was recorded.

Findings: The interviewer asked about the misbehavior which the frequencies are: lack of cooperation on drugs (%33.33), pertinacity (%30.95), aggression (%9.52), depression (%7.14), anxiety (%7.14), high activity (%4.76) and other items (%7.14). Even though 11 of patients didn't report any misbehavior, 21 of them reported at least one psychological problem.

Conclusion: The output shows the misbehavior prevalence in children living with CF is significant. To reduce the misbehavior, psychological assessment and behavioral intervention besides the medical treatment are recommended.

Keywords: Misbehavior, Children, Cystic Fibrosis