

looking through distraction cards/Flippits® and kaleidoscope to reduce procedural pain during blood draw in children between the ages of 7–11. Our secondary aim is to evaluate venipuncture success during the procedure.

**Methods** This is a prospective randomized clinical trial. The study was conducted at the phlebotomy station of Karaman Maternity and Children Hospital, Karaman Turkey. Inclusion criteria were 7–11 year-old patients who required blood tests. The data was obtained by interviewing the children, their parents and the observer. Procedural pain levels of children was assessed by parent and observer reports using Visual Analog Scale (VAS) and Wong Baker pain scale. Data that were analyzed with SPSS 15.00.  $p < 0.05$  was considered as significant. Parametric data such as pain level of children were compared with the t test. Non-parametric data such as gender and success of blood drawing procedure were compared with percentage of frequency and  $\chi^2$  comparisons.

**Results** Both groups have significantly lower pain levels than the control group ( $p < 0.05$ ).

**Conclusion** The result of the study suggests that the both distraction methods effectively decreased pain and anxiety levels of children compared to control group according to self-reports, parent' and observer' reports.

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## THE RELATION BETWEEN HOSPITAL DESIGN AND HOSPITAL INFECTION

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**Objectives** The present study was done at Damanhour Teaching Hospital to identify the following aims:

To estimate the prevalence rate % of NI among different dept. in the hospital.

To determine the influence of the number of sinks on the NI rate %.

To assess the knowledge of the medical staff regarding the importance and the proper way of hand washing.

To focus on the importance of hospital design in developing countries.

**Patients and Methods** The target population for this study consisted of 217 patients admitted at the hospital  $\leq 48$  hours. A questionnaire was developed by the researchers after reviewing literature. This questionnaire composed of two parts, the first part elicited the clinical examination supported by the laboratory and x-rays investigations to assure the exactly number of the nosocomial infected patients among 217 patients the, second part included questions covering the number of sinks, number of occupied beds, number of medical staff in the chosen hospital departments. Samples were taken from the wounds aerobically and nonaerobically.

**Results and discussion** The sinks are completely insufficient for hand washing (about one sink for every 40 medical staff). The data showed that E.coli is the microorganism most commonly isolated from nosocomial infected patients which improve the improper hand washing and the poor personal hygiene.

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## RACIAL/ETHNIC DISPARITIES IN CENTER FOR DISEASE CONTROL AND PREVENTION (CDC) PEDIATRIC VACCINATION SCHEDULE AND RECOMMENDATION IN UNITED STATES

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**Background and aim** Children require age-specific vaccination in order to prevent against childhood morbidities and mortality. The CDC provides the guidelines for immunization schedule. This study aimed to assess the prevalence of age-specific vaccination schedule, and to determine whether or not Asians demonstrate better compliance relative to other racial/ethnic groups.

**Methods** We retrospectively assessed a prospectively collected data on vaccination received in our institution during 2010. To test the study specific hypothesis on racial/ethnic disparities in compliance with the CDC recommendation, we used chi squared and multivariable logistic regression model.

**Results** There were 5867 children who received vaccines during this period. The racial distribution indicated: Whites/Caucasians, 1,917(32.7%), Blacks/African Americans (AA), 2904(49.5%), Asian, 134(2.3%), Hawaiian native/Pacific Islander, 4 (0.1%), American Indian/Alaskan Native(AI/AN), 9(0.2%), and some other race, 727(12.4%). Asians (97.0%) relative to AA (93.1%) and Caucasian (91%) demonstrated the highest compliance in the age-specific vaccines combined,  $\chi^2(7)=24.5$ ,  $p=0.001$ . With crude analysis, AA and Caucasians, relative to Asians were 58% (Odds ratio [OR]=0.42, 95% CI, 0.15–1.14), and 69%, (OR=0.31, 95%CI, 0.11–0.85) less likely to adhere to the CDC schedule respectively. However, after controlling for insurance status, the significant racial disparities did not persist between Asians and Caucasians, adjusted OR, 0.45, 99%CI, 0.08–1.11.

**Conclusion** In a large pediatric cohort, Asians demonstrated highest compliance in vaccine schedule, indicative of racial disparities. Therefore, knowledge of predisposing factors to impaired compliance among racial/ethnic groups in vaccines schedule may assist in narrowing health disparities in this direction as well as facilitate our efforts in addressing preventable childhood diseases.

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## MOBILE CARDIORESPIRATORY EVENT MONITORING FOR VACCINATION IN FORMER EXTREMELY PRETERM INFANTS

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**Background and aims** Recommendations concerning the assessment of cardiorespiratory events during the first immunization with diphtheria-tetanus-pertussis-inactivated polio-Haemophilus influenzae type B (DTP-IPV-Hib) and Pneumococcal conjugate vaccine (PCV) of extremely preterm infants are discussed controversially. We examined the relationship between the immunization and cardiorespiratory events in preterm infants by using a mobile event monitor.

**Methods** We enrolled 84 extremely preterm infants [39 girls, 45 boys; gestational age (GA) < 28.0 weeks (range 23.5–27.6)]. Immunization took place in the last week before discharge (mean GA: 38 weeks). Recording monitors were used continuously 12 hours before and during 48 hours after immunization to document prolonged apnea and bradycardia.

**Results** The incidence of adverse cardiorespiratory events post-immunization (PI) was higher in the whole group with 40% of the infants having apneas >3 seconds longer than before immunization (BI), and more prolonged events of bradycardia. The longest apnea observed PI was 20 seconds. Mean PI desaturations were more pronounced (76% PI vs. 67% BI;  $p < 0.05$ ). Furthermore, during the first 24 hours PI the mean oxygen saturation was lower, and the mean heart rate was significantly higher. In 40% of the children the second