values <0.05 were considered significant. Due to between group baseline differences, a post-hoc subgroup analysis of neonates born at ≥ 35 weeks gestation was performed.

Results The MST group had significantly lower birth weights and gestational ages at birth than the SNT group. Baseline characteristics were similar between the ≥ 35 weeks gestation MST and SNT sub-groups.

MST had a higher successful insertion rate (72% vs 40%; 95% CI for difference 10–50%; $p=0.0046$) and first pass success rate (53% vs 26%; 95% CI for difference 6–46%; $p=0.014$) than SNT. MST required significantly fewer skin breaks on average for every successful PICC than SNT (2.5 vs 5.6; 95% CI for difference 1.15–4.90; $p=0.002$). The logrank test (figure 1) demonstrated a significantly higher successful insertion rates with MST than SNT as the numbers of skin breaks increased (Logrank test $p=0.003$).

Whilst there was a higher successful insertion and first pass success rate with MST in the ≥ 35 weeks gestation sub-group, these did not reach statistical significance. However, the log-ranks test reached statistical significance in favour of MST ($p=0.015$).

The cost of the disposables for one MST attempt was £86.50 for 1Fr ($n=10$) and £103.90 for 2Fr ($n=33$) PICCs and for SNT was £38.50 for 1Fr ($n=4$) and £55.90 for 2Fr ($n=31$) PICCs. The total cost per successful PICC (or cost of all attempts divided by the number of successful attempts) in the study period were therefore £138.51 for MST and £134.78 for SNT.

Conclusions MST is likely superior to SNT for PICC insertion regardless of weight and gestational age at birth. The costs per successful PICC for MST and SNT in this study were similar.

57 EPIDEMIOLOGICAL AND CLINICAL PROFILE OF CONGENITAL MALFORMATIONS IN BENGHAZI PEDIATRIC HOSPITAL

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Background According to WHO, the term congenital malformations can be defined as structural or functional anomalies that occur during intrauterine life and can be identified prenatally, at birth, or sometimes may only be detected later in infancy, such as hearing defects (WHO, 2016). Congenital malformations may be minor or major. The minor malformation is defined as structural abnormality present at birth, which has minimal effect on clinical function but has a cosmetic effect e.g. preauricular tag. Major malformation has significant effects on function or social acceptability e.g. CHD, CNS anomalies (NTD, hydrocephalus), digestive anomalies (abdominal wall defect and diaphragmatic hernia), (American College of Medical Genetics, 2013). The pattern and prevalence of congenital malformations vary over time and geographical location. This could be related to different detection and recording methods. The true difference in frequency may be caused by a complex interaction of known and unknown genetic and environmental factors including sociocultural, racial variables (Singh et al., 2009, Sekhobo, 2001). European Surveillance of Congenital Anomalies (EUROCAT, 2014) is a WHO collaborating center for the surveillance of congenital malformations.

Objectives The objectives were to assess the nature and the frequency of congenital malformations among infants and children who were admitted to Benghazi pediatric hospital and to study the associated maternal and neonatal risk factors.

Methods A cross-sectional study design was used for this study. It included infants and children aged (0–16 yrs.) who were admitted to Benghazi Children Hospital and who were following the genetic clinic, during the period of March 2016 to March 2017. These cases had dysmorphic features and multiple congenital malformations. A record sheet was used to collect the required data from cases.

Results The total number of patients was 81 children, 51.85% were females, 48.15% were males and infants represented 62%. Cases with a history of consanguineous marriage represented 28.40%. Equal proportions of mothers (1.23%) had a history of diabetes, epilepsy and cardiomyopathy. Nearly a quarter of cases, (24.69%) were low birth weight. Prevalence of congenital malformations (CMs) according to organs were; CVS (50.62%), musculoskeletal (44.44%), eye (24.7%), limb defect (17.3%), GIT (14.8%), ear (14.8%), CNS (11.11%), urogenital (external & internal)(11%), cleft lip & palate (9.9%) and Trisomy 21 syndrome (48.1%). Trisomy 21 syndrome have a high frequency of CHD compared to other syndromes; 67.9% had CHD, $P=0.01$. Most cases (90%) died within the first year of life, $p=0.002$. Twenty-six percent of the studied population died during the study period.

Conclusions Most children with CMs and chromosomal abnormalities died within the first year of life. There is a limitation of screening tools, which could lead to imprecise genetic counseling. CM is a significant cause of morbidity and admission. The highest prevalence of CMs was CVS. Trisomy 21 syndrome was the most prevalent chromosomal abnormalities; these cases were at more risk to have CHD compared to other syndromes. There is a shortage of medical services, which applied as segmental services.

58 DO MEDICAL APPLICATIONS HELP MEDICAL STUDENT DEVELOPMENT AND ENHANCE THEIR LEARNING DURING A PAEDIATRIC PLACEMENT?

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Background Medical apps are being increasingly used by students and doctors as an education and reference tool during their medical placements. However, it is unclear whether these apps are successful in helping student learning and development on a Paediatric placement.

Objectives To evaluate the success of medical apps currently used during Paediatric rotations and identify from the literature whether they are successful in helping student learning. Recommendations can then be made for what a future Paediatric medical app should include to be successfully implemented for medical student attachments.

Methods PubMed, Medline and Cochrane were searched using Major MeSH terms to identify papers relevant to the question. Inclusion of studies was based on whether papers included evidence of medical app usage by participants whilst on a medical placement. A survey was produced to gain insight into what medical apps were used by students and what would be expected on any future Paediatric app. These