

Proceedings of Congress

Joint Annual Scientific Meeting 2026

The Hong Kong Paediatric Society, Hong Kong Paediatric Nurses Association, Hong Kong College of Paediatricians,
and Hong Kong Children's Hospital

31 January, 2026

Oral Presentation	109
Poster Presentation	118

Oral Presentation

Genetic Landscape of Paediatric Channelopathy and Cardiomyopathy in Hong Kong

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Introduction: Cardiac channelopathy and cardiomyopathy are important causes of sudden cardiac death. Genetic background in Asian paediatric population is scarcely reported. We aim to report the genetic underpinnings of these patients in the single paediatric tertiary cardiac centre in Hong Kong.

Methods: All patients with the diagnosis of cardiac channelopathy or cardiomyopathy, who had genetic testing performed in our centre from 2007 to 2022, were included in this cohort study. The phenotype classification, methodology of genetic testing and results were reviewed. Genetic yields were assessed.

Results: A total of 167 probands were identified. Ninety-seven probands were found to carry at least one pathogenic or likely pathogenic (P/LP) variants (58.1%), while 34 probands (20.4%) were found to have variants of uncertain clinical significance (VUS) only. P/LP variants were identified in 60 channelopathy (65.2%) and 37 cardiomyopathy (49.3%) patients. The yield of P/LP variants was the highest among catecholaminergic polymorphic ventricular tachycardia (83.3%), and lowest for Brugada syndrome (BrS) (40%) probands. Probands with arrhythmogenic cardiomyopathy, BrS and dilated cardiomyopathy had the highest rate of VUS, up to 66.7%. Clinical features of selected probands with significant mortality or morbidity were described in correlation with the variant details. The yield of subsequent cascade genetic screening of first-degree relatives was 27.3%.

Conclusion: The genetic landscape of paediatric cardiac channelopathy and cardiomyopathy in the single tertiary paediatric cardiology centre in Hong Kong was described. It facilitated the genotype-guided management and identification of affected family members for sudden cardiac death prevention.

Nasal Extracellular Vesicle Proteomics Uncovers Promising Biomarkers for Atopic Asthma Diagnosis in School-Age Children

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Background: Wheezing affects many preschool children; most episodes are transient, but ~25% progress to persistent asthma. Diagnosing asthma in children <6 years is challenging, with 25-35% lacking clear evidence, leading to over- and under-diagnosis. Stage-specific biomarkers are needed to predict asthma progression. Extracellular vesicles (EVs; 30-200 nm) from nasal fluid are promising for early detection, outperforming free proteins. Paediatric EV profiles in atopic asthma remain underexplored. This proof-of-concept study examines school-age children with confirmed diagnoses.

Methods: We recruited 8 atopic asthmatic, 8 non-atopic non-asthmatic, and 4 atopic non-asthmatic children (6-12 years). Nasal EVs were isolated by size-exclusion chromatography and ultrafiltration. Proteomics used LC-MS (nanoElute UHPLC-timsTOF Pro 2, DIA mode). Biomarkers were identified by [og₂ fold change] >1, adjusted p<0.05, or high ROC AUC. Logistic regression built an optimal model. PPI, GSEA, Pearson correlation, and ANOVA ensured biological specificity.

Findings:* EV Protein D improved asthma alignment beyond symptoms/family history (likelihood ratio test). Proteins A-C combined yielded AUC =0.938. Protein E correlated with FEV1% across groups. Proteins B and E differed significantly between SABA users and non-users in asthmatics.

Conclusions:* Nasal EV proteins A-D robustly reflect current asthma status and are promising for progression prediction.

Future Plans: Streamline EV isolation procedures; validate in a larger cohort (n=50) using electrochemiluminescence; compare machine learning models for diagnostic reliability.

*Protein names concealed due to pending patent application.

Accuracy of the Oxygen Desaturation Burden Index in Diagnosing Childhood Obstructive Sleep Apnoea: A Proof-Of-Concept Study

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Background: The oxygen desaturation burden index (OBI) recently emerged as a novel severity marker of childhood obstructive sleep apnoea (OSA). Its advantages over traditional diagnostic or severity metrics, such as the obstructive apnoea-hypopnoea index (OAHI), lie in its simplicity, low cost, minimal manpower requirements, child-friendliness and automated scoring. However, to date, no studies have evaluated the accuracy of OBI in diagnosing OSA.

Purpose: To determine the accuracy of OBI in diagnosing childhood OSA, and the correlation between OBI and OAHI.

Methods: Non-obese children aged 5-11 years who fall into any of the following groups were identified from our existing polysomnography (PSG) database: Non-snoring controls with OAHI <1/hour, mild OSA (OAHI 1-5/hour), and moderate-to-severe OSA (OAHI \geq 5/hour). Subjects from the three groups were age- and gender-matched in a 1:1:1 ratio. The oximetry channel was extracted from their PSG recordings. An automated algorithm was developed to compute the OBI, defined as the total area (depth \times duration) of desaturations of \geq 3% below baseline, divided by the total recording time.

Findings: One hundred twenty-six subjects were included in the analysis. Diagnoses of OSA (OAHI \geq 1/hour) and moderate-to-severe OSA (OAHI \geq 5/hour) using OBI yielded an area under the receiver operating characteristic curve of 0.788 and 0.949, respectively. The optimal OBI cut-off for predicting moderate-to-severe OSA was 2.94% min/hour, and the corresponding positive and negative likelihood ratios were 22.7 and 0.198, respectively. The Pearson correlation coefficient between OBI and OAHI was 0.708 ($p < 0.001$).

Conclusions: This proof-of-concept study suggests that OBI has a good diagnostic performance for moderate-to-severe OSA and correlates with OAHI.

Prevalence of Sleep-Disordered Breathing and Actigraphy Findings in Paediatrics on Dialysis: A Pilot Study

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Introduction: Sleep-disordered breathing (SDB) encompasses obstructive sleep apnoea (OSA) and central sleep apnoea (CSA), which are common in adults with chronic kidney disease (CKD). However, data remains limited in the paediatric population.

Purpose: To evaluate the prevalence of SDB, sleep qualities, and sleep-wake patterns in paediatric dialysis patients.

Methods: We performed a pilot observational study at the Hong Kong Children's Hospital from May to December 2025. Children and young people aged between 3-23 years old were recruited. They wore an actigraph for 14 days continuously and completed a sleep diary. Unattended polysomnography (PSG) was performed before dialysis. SDB diagnosis was assessed based on the American Academy of Sleep Medicine age-specific guidelines.

Findings: 15 paediatric patients receiving dialysis (median age = 11 years [IQR:7.5-18.5]) completed PSG study. SDB was diagnosed in 13 (86.7%) subjects, primarily OSA (86.7%). Prevalence of mild, moderate, and severe OSA were 26.7%, 13.3%, and 46.7%, respectively. Two patients (13.3%) had comorbid CSA and OSA. Actigraphy data from 9 participants showed impaired sleep qualities with short total sleep time (348.7 minutes [315.1-393.2]), poor sleep efficiency (56.3% [55.7-63.5]), and prolonged sleep onset latency (57.8 minutes [48.6-75.1]). Nonparametric circadian rhythm analysis revealed low inter-daily stability (0.44 [0.34-0.56]), relative amplitude (0.73 [0.51-0.87]), and high intra-daily variability (0.93 [0.75-1.17]).

Conclusion: OSA is a highly prevalent comorbidity among children on chronic dialysis, accompanied by poor sleep quality and disrupted rest-activity rhythm.

A Review of Outcome and Associated Factors for Respiratory Syncytial Virus Lower Respiratory Tract Infection in a Public Tertiary Paediatric Unit in Hong Kong

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Background: Respiratory syncytial virus (RSV) infection is a major cause of lower respiratory tract infection (LRTI) in paediatric population. Understanding the risk factor of severe RSV infection is important to guide the priority of RSV prophylaxis due to its scarce availability.

Purpose: The study aimed to review the demographics and the outcome predictors in paediatric admissions for RSV LRTI in patients aged under 2 years old.

Methods: A single-centre retrospective study was conducted at Queen Elizabeth Hospital in Hong Kong. Patients aged under 2 years old, born at gestational age greater than or equal to 29 weeks, being admitted from January 1, 2020 to December 31, 2023 with diagnosis of RSV infection were included. They were classified into term and preterm infant groups. The proportion of lower respiratory tract infection and disease severity were compared. Risk factors for lower respiratory tract infection and pulmonary outcome were investigated.

Findings: Around half of all subjects were suffering from LRTI secondary to RSV infection. No significant differences in the proportion of LRTI and disease severity were noted between the preterm and term group. Higher respiratory rate (OR 1.10, p value <0.001) and higher C-reactive protein level (OR 1.02, p value 0.04) on admission were associated with higher risk of LRTI, while the presence of fever on initial presentation (OR 2.97, p value 0.007) and the need of oxygen at Emergency Department (OR 13.4, p value 0.002) were associated with higher risk of requiring ventilatory support during hospitalisation.

Conclusions: The high incidence of LRTI reflected the heavy disease burden of RSV infection in paediatric population. The disease outcomes of both preterm and term infants did not show significant difference. Future prospective multicenter study can be beneficial to identify risk factors for stratification of priority in receiving RSV prophylaxis, which is scarce and expensive.

Correlations Between Selected Photogrammetric Parameters and the Obstructive Apnoea-Hypopnea Index (OAH) in Chinese Prepubertal Children with Obstructive Sleep Apnoea (OSA)

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Study Objective: This study aimed to evaluate correlations between selected photogrammetric parameters and the obstructive apnoea-hypopnea index (OAH) in Chinese prepubertal children with obstructive sleep apnoea (OSA).

Methods: A cohort of children aged 6-11 years underwent overnight polysomnography (PSG) to determine OAH and standardised 2D facial photogrammetry. Subjects were classified by OAH into three groups: Non-OSA (OAH <1 event/h), Mild OSA (OAH 1-<5 events/h) and Moderate-to-severe (MS) OSA (OAH ≥5 events/h). Fifteen photogrammetric variables (angles, linear measurements, and ratios) were analysed. Pearson correlation coefficients were calculated between log-transformed OAH and photogrammetric variables.

Results: The analysis encompassed 124 children (mean age: 8.7±1.7 years; 83 males). There were 51 non-OSA, 40 mild OSA and 33 moderate-to-severe OSA subjects. Log-transformed OAH exhibited a notable inverse association with the anterior mandibular height to whole face height ratio (sto-gn/n-gn; $r=-0.411$, $p<0.001$), alongside positive associations with the maxillary-mandibular relationship angle (sn-n-sl; $r=0.229$, $p=0.010$), cervicomental angle (np-cer-me; $r=0.208$, $p=0.033$), and mandibular width-length ratio (gol-gor/go-me; $r=0.207$, $p=0.021$). For detecting moderate-to-severe OSA (OAH ≥5), the anterior mandibular height to whole face height ratio (≤ 0.618) yielded the highest AUC of 0.68 (95% CI 0.58-0.79), with sensitivity 64%, specificity 67%, positive predictive value 41%, and negative predictive value 84%. The maxillary-mandibular relationship angle ($\geq 8.26^\circ$) achieved the highest sensitivity (79%) and NPV (85%).

Conclusions: Specific 2D photogrammetric parameters—particularly a lower anterior mandibular height to whole face height ratio and a larger maxillary-mandibular relationship angle—were significantly and independently associated with increasing OSA severity. These findings highlight the potential of simple photographic analysis as an adjunctive, non-invasive tool for identifying OSA risk in children.

Safety of Therapeutic Plasmapheresis in Paediatric Patients

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Introduction: Plasmapheresis is an extracorporeal procedure that removes undesirable macromolecules, such as pathogenic autoantibodies and toxins, from a patient's plasma. It has been increasingly applied in the paediatric population. Current local data on the use of plasmapheresis in children are limited.

Objective: The objective is to evaluate the safety and outcome of plasmapheresis in children at a major tertiary centre in Hong Kong.

Methodology: This is a 22-year retrospective review of therapeutic plasmapheresis performed at the paediatric intensive care unit (PICU) of Queen Elizabeth Hospital, Hong Kong, from January 1, 2003, to December 31, 2024. A total of 40 patients with 229 sessions of plasmapheresis were included. Information on patient characteristics, indications of plasmapheresis, plasmapheresis regimes, complications, and outcomes were retrieved and further analysed.

Results: From 2003 to 2024, 23 male and 17 female patients, with a median age of 10.3 years (IQR 7.9, 15.4), received therapeutic plasmapheresis in our PICU. The smallest patient was 19 months old with body weight of 11 kg. The application in PICU has significantly increased in the last decade. Neurological diseases (65.0%) were the leading indications of plasmapheresis in this study. Minor complications occurred in 43.2% of plasmapheresis sessions, with the most frequent complications being hypokalaemia (14.0%), hypocalcaemia (13.1%), and hypotension (12.7%), which were readily corrected. Patients with a lower body weight were at a higher risk of developing complications, in particular hypokalaemia ($p=0.017$), hypotension ($p=0.009$), hypothermia ($p=0.021$), and hypersensitivity ($p=0.02$) during plasmapheresis. A higher proportion of fresh frozen plasma used in replacement fluid was associated with a lower bleeding diathesis ($p<0.01$), yet there was a higher incidence of hypersensitivity ($p=0.009$). No patients suffered long-term sequelae or died as a result of the plasmapheresis procedure. Around three-quarters of the cases experienced clinical improvement following the treatment, while two patients died from the progression of the primary disease.

Conclusions: Therapeutic plasmapheresis has been increasingly recognised as an alternative treatment for

children with various immune-mediated diseases. It is overall a safe procedure, even for small children. Despite patients with a lower body weight were more likely to suffer from complications. These complications are generally short-lived and reversible.

Haemorrhagic Cystitis After HSCT: What is The Long Term Bladder Function Outcome?

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Background: Haemorrhagic cystitis (HC) is a known complication of hematopoietic stem cell transplant (HSCT). While acute morbidity is significant, no study has evaluated long-term bladder function in this cohort. We aimed to characterise the long-term urological outcomes of paediatric HSCT survivors who developed HC.

Methods: A retrospective cohort study (January 2018-December 2023) was conducted on patients under 18 who underwent HSCT at a tertiary oncology centre. Inclusion criteria were all patients with HSCT done identified from a prospective regional database. Data such as age, gender, diagnosis, types of HSCT, conditioning regime and presence of concurrent graft versus host disease (GVHD) and veno-occlusive disease (VOD) were collected. Bladder function of patients who had haemorrhagic cystitis were objectively assessed by International Consultation on Incontinence Questionnaire (ICIQ) and uroflowmetry. Parent and patient score, uroflowmetry parameters were analysed. Continuous and categorical data were analysed using Mann Whitney-U test and Chi square test with SPSS version 29.0.2.0.

Results: HSCT was performed on 108 patients (Male=64) with a median age of 9.5 (IQR 4.6-12.9). HC was diagnosed in 21 patients (Group A=19.4%). Significant risk factors for development of HC included older age (12.9 yKs[IQR 7.7-15.2] vs. 8.1 yEs[IQR 4.1-12.5], $p<0.05$), GVHD (81%[17/21] vs. 36%[31/87], $p<0.05$), and VOD (67%[14/21] vs. 12%[10/87], $p<0.05$). At a median follow-up of 34 months (IQR 29.5-52), 13 HC survivors underwent assessment. The median ICIQ score was 12 (IQR 11-14), indicating moderate-severe symptoms. Uroflowmetry abnormalities were present in 84.6%, with reduced bladder capacity being the most common finding.

Conclusion: Haemorrhagic cystitis after paediatric HSCT is associated with older age, GHD, and VOD. Standardised questionnaires revealed a significant burden of moderate subjective incontinence. This, combined with a high prevalence of objective uroflowmetry abnormalities, underscores the necessity for structured long-term urological follow-up.

Acute Kidney Injury and Renal Trajectories in Severe Paediatric Pneumococcal Pneumonia Requiring Critical Care

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Introduction: This study aimed to determine the incidence of acute kidney injury (AKI) in children with severe pneumococcal pneumonia and evaluate the progression of renal injury.

Methods: We retrospectively reviewed children admitted to PICU due to pneumococcal pneumoniae between 2013 and 2024. The primary outcome was AKI within the first 7 days. Acute kidney disease (AKD) was defined as persistent renal dysfunction lasting 7-90 days following AKI onset, defined by KDIGO creatinine criteria.

Findings: Sixty-nine children (32 boys, 46%) with a median age of 5.3 years were included. AKI occurred in 25 patients (36%): stage 1 in 11 (16%), stage 2 in 6 (9%), and stage 3 in 8 (12%). Five children with stage 3 AKI required dialysis. During the first week, stage 3 AKI was associated with a lower haemoglobin nadir (5.3 vs 8.6 g/dL, $p=0.024$), lower platelet nadir (13 vs $223 \times 10^9/L$, $p<0.001$), and higher peak bilirubin (84 vs 9 $\mu\text{mol/L}$, $p=0.001$), findings consistent with haemolytic uraemic syndrome. ALT levels did not differ significantly. Of the children who developed AKI ($n=25$), 11 (44%) developed AKD. Most (23/25) recovered kidney function during their admission, with longer recovery times observed in those with more severe AKI. Over a median follow-up period of 5.7 years (IQR 2.0-8.4), two children (25%) with stage 3 AKI developed chronic kidney disease (CKD) with persistent proteinuria.

Conclusions: Approximately one-third of children with severe *Streptococcus pneumoniae* pneumonia developed AKI, and 20% of those required dialysis. One-quarter of stage 3 AKI patients progressed to CKD during follow-up.

Effectiveness of Family Approach Intervention for Improvement of Resilience of Children from Families with Maternal Mood Disorder: A Pilot Study

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Introduction: Maternal psychological distress, often rooted in trauma, can impair parenting, threaten infant safety and hinder children's cognitive, behavioural and emotional development, while disrupting family functioning. Given intergenerational mental health risk, strengthening children's protective factors – especially resilience supported by character strengths – is essential for long-term well-being. This study evaluates the effectiveness of a comprehensive family intervention, addressing parental trauma while building child resilience and positive behaviour.

Methods: Twenty families with maternal psychiatric or mood disorders and children under 16 were recruited. Parents received psychological interventions, including 6-8 sessions of trauma-focused therapy when indicated and counselling/CBT for psychiatric symptoms. Children joined a positive-education mentorship programme. Parental outcomes (C-PSS, C-EPDS, WHOQOL-BREF-HK, ADEXI) and child outcomes (CHEXI, ANASS, CBCL, RS-10) were assessed pre- and post-intervention using validated Chinese measures.

Results: Among the 20 families, 8 parents received trauma intervention, and 9 joined intensive parenting groups. Sixteen children (mean age 9) received extensive mentorship. Parents demonstrated large, statistically significant reductions in trauma symptoms, with symptoms shifting from moderate-severe to mild-moderate levels. Environmental quality of life also improved significantly. Children showed medium improvements in parent-rated planning/regulation, moderate reductions in inhibition difficulties, large reductions in behavioural/emotional problems and medium improvements in resilience. Self-efficacy changed minimally.

Conclusion: A multifaceted intervention combining tailored parental trauma therapy with a child-focused positive mentorship program effectively improved maternal psychological status and significantly enhanced children's emotional control and behaviour. The findings support a family-systems approach.

Portrait of Adolescent Gender Dysphoria: Basic Demographics and Hidden Concerns - A Local Center Experience

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Introduction: Although gender dysphoria (GD) remains uncommon in the general population, referrals and related admissions have risen in recent decades. This review outlines key demographic characteristics and significant health risks observed in adolescents with GD under our care.

Methods: We retrospectively reviewed demographic characteristics, behavioural patterns, and high-risk behaviours in adolescent patients with gender dysphoria managed at the Adolescent Medical Centre (AMC) from January 2016 to October 2025, using descriptive statistics with limited subgroup comparisons.

Findings: Between 1/2016 and 10/2025, AMC received 32 confirmed cases (11 natal females, 21 natal males). The natal sex ratio reversed over time: 2016-2020 had 14 cases (F:M ratio 1.8:1), while 2020-Oct 2025 had 18 cases (F:M ratio 1:8). Reported onset was earlier in natal females (3-12 years, mean 6.23) than natal males (7-21 years, mean 12). 75% (n=24) had psychiatric comorbidities, mainly ASD (n=12) and depression (n=8). Half the cohort (n=16) used self-purchased gender-affirming hormones (2 transmasculine, 13 transfeminine, 1 non-binary), 2 were on puberty blockers and 14 on cross-sex hormones (predominantly oral estradiol +/- cyproterone acetate). Adverse effects were common: 61.5% transfeminine patients developed hyperprolactinaemia (one symptomatic with galactorrhoea). Two transfeminine adolescents self-administered intramuscular estrogen, resulting in supra-physiological serum estradiol levels; one presented with advanced bone age and final short stature. One transmasculine patient who self-medicated with testosterone injections underwent top surgery in Thailand at age 18 and later developed polycythaemia requiring repeated venesections. Other high-risk behaviours observed included drug overdose, suicidal attempts, and self-initiation of psychiatric medications including lithium.

Conclusions: GD in adolescence is an emerging clinical phenomenon that, without appropriate support and management, may carry substantial health risks. Further research and multidisciplinary services development are essential to optimise outcomes for this vulnerable population.

Parent-Reported Health-Related Quality of Life in Children with Repaired Cleft Palate and Its Association with Speech Outcomes

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Introduction: Cleft palate ± lip (CP±L) is the most common craniofacial anomaly and may affect speech, appearance, and psychosocial well-being. Despite advances in multidisciplinary care, health-related quality of life (HRQoL) in affected children remains understudied in Hong Kong.

Purpose: To compare generic HRQoL in children with non-syndromic CP±L with local normative data and to examine its association with speech outcomes.

Methods: Cross-sectional study of 25 children aged 5-12 years with non-syndromic CP±L treated at Hong Kong Children's Hospital. Parent-reported PedsQL 4.0 Generic Core Scales were collected and compared with published Hong Kong normative data from 25,427 typically developing children using unpaired t-tests. Perceptual speech impairment was measured by percentage consonants correct (PCC) using the Cantonese-Cleft Speech Assessment Tool, and perceived intelligibility by the parent-reported Intelligibility-in-Context Scale (ICS). Associations between PedsQL scores and speech measures were assessed with Spearman's correlation.

Findings: Parent-reported PedsQL total score in children with CP±L was higher than Hong Kong norms (84.93 vs 80.65) but did not reach statistical significance (p=0.095). Physical (89.75 vs 82.63, p=0.008) and social functioning (86.2 vs 80.14, p=0.047) were significantly higher; emotional functioning showed no difference. School functioning was not compared due to normative data collection during COVID-19 school suspension. PedsQL total score strongly correlated with ICS intelligibility (r=0.641, p<0.001) but not with PCC (r=0.069, p=0.745).

Conclusion: Children with repaired non-syndromic CP±L exhibit comparable or even superior parent-reported HRQoL compared with healthy peers, affirming the effectiveness of current multidisciplinary care in preserving quality of life. The strong association between HRQoL and everyday speech intelligibility but not articulation accuracy underscores the importance of functional communication for psychosocial well-being.

We Meet Again! Use of AI and VR for Grieving Teens to Reconnect with Late Family Members and for Preparing the Anticipatory Grief of a Patient with Duchenne Muscular Dystrophy

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Background: Ten years after the first Dreams Together Project, the Adolescent Medical Centre (AMC) at Queen Elizabeth Hospital, Hong Kong, restarted the initiative in 2022 in response to overwhelming patient demand and with the support of charitable donations. A series of activities was launched to fulfill patients' dreams.

Introduction: Among these dreams were wishes to reconnect with late family members. To address this profound need, the AMC explored the use of artificial intelligence (AI) and virtual reality (VR) to achieve what was once considered an impossible mission.

Results: In 2024, the project supported two teenagers grieving the loss of family members by enabling reconnection through immersive virtual experiences. As one participant expressed, "I've missed him a lot," and another shared, "I'm so moved to see her again." These highly personalised encounters provided corrective emotional experiences, representing a novel application of AI and VR in addressing children's grief in Hong Kong. In 2025, the project expanded to anticipatory grief work, introducing the creation of a personalised virtual human for a patient with Duchenne Muscular Dystrophy. This innovation enables the patient to continue shaping dreams and life stories that may inspire others and contribute meaningfully to society.

Discussion: This presentation will outline the preparation process of personalised virtual content and explore the hypothetical therapeutic applications of AI and VR in mourning and anticipatory grief. By integrating cutting-edge technology with psychosocial care, the project demonstrates new possibilities for supporting adolescents and patients facing profound emotional challenges.

Trends and Social Patterns in Low Birth Weight in Hong Kong, 1988-2022

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Background: Low birth weight (LBW) is a key indicator of infant health with long-term implications for development and well-being. Despite substantial social and medical changes in Hong Kong over recent decades, little is known about how LBW patterns have evolved across different maternal populations.

Purpose: To document trends in LBW from 1988-2022 and assess whether changes differ between native-born and immigrant mothers, and to evaluate the degree to which demographic and socioeconomic shifts account for these patterns.

Methods: Using population-level data from the Hong Kong Birth Registry, I measured trends in overall LBW and trends in moderate LBW (1.5-2.5 kg) and very LBW (<1.5 kg). For births to native-born mothers, I applied decomposition analysis to quantify how much of the LBW trend is attributable to changes in maternal age structure and parental education and occupation.

Findings: Overall LBW prevalence remained stable across the period, but this masks pronounced divergence by maternal nativity. Among immigrant mothers, LBW increased only modestly (4.07%→4.73%). Among native-born mothers, LBW rose substantially (4.97%→7.35%), largely driven by moderate LBW. Decomposition results show that demographic and socioeconomic compositional changes explain little of this trend. The increase occurred across all socioeconomic strata, including among more advantaged mothers.

Conclusions: Rising LBW among native-born mothers appears not to reflect worsening maternal health but shifting cultural norms around pregnancy weight gain—particularly among higher-SES mothers—leading to a greater prevalence of moderate LBW. These findings highlight the need to consider social and behavioral influences when addressing infant health patterns in Hong Kong.

Enhancing Medication Experience in Children with Kidney Diseases: The Medseasy Programme

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Background/Introduction/Purpose: The MedsEasy Programme was initiated in August 2024 at the Paediatric Nephrology Centre of the Hong Kong Children's Hospital to address challenges with liquid medications, which often have unpleasant tastes that can hinder acceptance and adherence. The Programme aims to empower children with pill-swallowing skills, enhancing the medication experience for both patients and the family.

Methods: Patients aged five years and above, taking liquid or crushed medications, participated in individual swallowing trials conducted by a clinical pharmacist and nurse. The process utilised candies and dummy capsules of increasing sizes, combined with positive encouragement, assistive tools, demonstration videos, and pamphlets. Successful participants transitioned to tablets or capsules with clinician approval.

Findings: Between August 2024 and February 2025, thirty-eight sessions were conducted for 29 children. At least one medication was converted for 26 out of 29 patients (89.7%), while five needed additional sessions. The initiative is projected to save approximately 0.5 million Hong Kong dollars within one year for the 71 medications converted. Feedback revealed that 100% of parents rated the Programme as "Very satisfactory," and 97% agreed it effectively educated their children to swallow tablets.

Conclusions: The MedsEasy Programme has successfully empowered children with kidney disease, and helps to improve medication adherence and a more positive treatment experience.

Enhancing Nursing Care for Neonates on Nasal Continuous Positive Airway Pressure (nCPAP) to Prevent Skin Injury in Neonatal Intensive Care Unit

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Introduction: Nasal continuous positive airway pressure (nCPAP) provides ventilatory support for neonates with respiratory problems in Neonatal Intensive Care Unit (NICU). However, complication such as nCPAP-related skin injury is common. Immature skin with a longer duration of nCPAP use exacerbates the skin injuries. Therefore, implementation of preventive measures and provision of in-service education are recommended.

Objectives:

1. Enhance nurses' knowledge regarding nCPAP-related skin injuries through an educational video.
2. Review the compliance of the preventive measures through documentation analysis.
3. Evaluate the effectiveness of the preventive measures by comparing the incidence rates of nCPAP-induced skin injury before and after the intervention.

Methods: A quality improvement project was conducted from April to October 2025, enrolling 43 NICU nurses and 46 neonates newly admitted who required nCPAP for more than 24 hours and had gestational age below 38 weeks. Interventions included a nurse educational video, and implementation of a 6-to-8-hourly prong-mask rotation practice.

Findings:

1. Mean score in nurses' knowledge tests increased from 5.09 to 7.72 out of 8 (51.6% improvement), and 96.22% overall compliance with the rotation practice was achieved.
2. The incidence of nCPAP-related skin injury decreased from 64% to 33.33%, with a 30.67% absolute and 47.90% relative risk reduction, and median time to injury onset was delayed from 4 to 7 days.

Conclusion: Nurse education with evidenced-based nursing strategies, including regular skin assessments, proper interface application techniques, and systematic interface alternation can improve nursing care quality and significantly reduced nCPAP-related skin injuries in NICU.

A Multifaceted Support Group for Parents of Preterm Infants: Strengthening Family and Clinical Team Resilience

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Background: Transition from the Neonatal Intensive Care Unit (NICU) to home is accompanied by anxiety for parents. Ongoing peer-informed support is essential for enhancing family well-being.

Purpose: This study aims to evaluate the effectiveness of a structured support program for families of "Preterm Graduate".

Methods: Parents of preterm infants discharged from the NICU were recruited in the "Preterm Parent Support Group" from 2014. These activities were transitioned to an online platform in response to the COVID-19 pandemic. Then restarted Preterm Parent Support Group on-site activity from 2024. It provided support to families and enhanced the empowerment of clinical teams. It included:

1. Biannual Group Activities
Organised gatherings for families of graduates were implemented to foster peer connections and alleviate loneliness.
2. Clinical Confidence Building
These events provided an opportunity for NICU staff to assess infant development in a relaxed environment, thereby enhancing their confidence in the care of preterm infants and improving communication with families.
3. Volunteer Recruitment
Over 60 parents of graduates were trained as peer volunteers, offering support to parents currently navigating the NICU experience.

Finding: The program established sustainable community for families. Feedback from 2024 to 2025 participants total 80 parents indicated high satisfaction, NICU staff reported increased awareness regarding the long-term implications on preterm infants and families. The peer volunteer provided relatable support, helping to alleviate emotional distress for parents currently in NICU.

Conclusion: This support group serves as a dual intervention, strengthening family resilience and confidence among staff while fostering a continuous cycle of support for preterm infants from hospitalisation through childhood.