

Junior Members Forum & RBHSC Annual Lecture

16th March 2018 Riddell Hall, Belfast

POSTER PRESENTATIONS

TECHNOLOGY-ASSISTED CLINICAL PRACTICE: ASSESSING VIEWS AND EFFICIENCY OF MOBILE PHONES ON THE WARDS.

Dr P Mallett, APNP C Junk, Dr J Wallace, Dr P Mallett,
Dr A Thompson

Aims:

Technology-enhanced learning has transformed many aspects of clinical practice.¹ Some healthcare organisations in N.Ireland are reluctant to advocate the staff use of mobile phones due to infection control concerns or reported parental complaints.

Mobile devices provide a multitude of benefits for clinical staff including increased access to useful apps and other validated point-of care tools, which are of high educational value and have been shown to support better clinical decision making and improved patient outcomes.

Methods:

We designed a survey assessing parental and staff perception on the use of mobile phones, using a five point Likert scale. 40 staff and 40 carers participated in the questionnaire. We then created two simulated clinical scenario's assessing administrator and prescriber performance. We assessed length of time to complete task and degree of accuracy, with and without mobile phones.

Results:

38/40 (95%) parents and 39/40 (97%) staff members supported the appropriate use of mobile technology.

For the drug administration scenario (performed by nursing staff), all participants were quicker using mobile phone assistance. The average length of time was 82 seconds quicker.

For the medical prescriber scenario, again all participants were quicker using mobile phones, with an average length of 86 seconds quicker. Accuracy of 100% was maintained in both cohorts in each scenario.

Conclusion:

This survey highlights the strong carer and staff support for healthcare professionals using mobile phones in clinical areas. We have demonstrated an improvement in efficiency of performing clinical tasks with the assistance of mobile phones, ensuring accuracy was maintained.

A FOUNDATION IN ACUTE PAEDIATRICS (FAPS) - TARGETING PAEDIATRIC SPECIALITY RECRUITMENT USING HIGH FIDELITY SIMULATION

Dr P Mallett, APNP C Junk, Dr T Bourke, Dr A Thompson

Background:

Paediatrics, like many specialties in the UK, is experiencing a decline in applications for specialty training.¹ Reasons include perceptions of poor flexibility, arduous training programme and lack of adequate career guidance and support.² Transition between foundation level training and specialty training is an uncertain and stressful time.³ We believe that offering access to high-fidelity simulation course affords a unique opportunity to showcase our specialty, as encouraged by the RCPCH.

Methods:

We designed, delivered and evaluated 'A Foundation in Acute Paediatrics Simulation' (FAPS) course aimed at offering junior doctors an introduction into the management of common paediatric conditions. A highly experienced inter-professional faculty provided an insight into a career in paediatrics and an opportunity for group discussion and tailored personal career advice.

Results:

16 Foundation doctor candidates took part in the pilot FAPS course. Prior to the course 11/16 (69%) candidates were unsure whether they were going to apply for paediatrics. After the course all 11 candidates indicated that that they were more likely to apply [mean score- 2.9 before vs 4.0 after; 1-very unlikely, 3-undecided, 5-Very likely to apply]. Subsequently, 15/16 candidates (94%) felt more confident in the assessment of the unwell child.

Conclusions:

This is the first known use of high-fidelity simulation to enhance specialty recruitment in N.Ireland. This course provides an opportunity to gain access to motivated junior trainees in a safe, simulated learning environment. This course actively helps in addressing the current plight of low trainee recruitment and retention in Paediatrics and could be easily replicated in other areas.

ORAL PRESENTATIONS

EYES WIDE SHUT: ARE WE MISSING PAEDIATRIC OBESITY IN GENERAL OUTPATIENT CLINICS?

Anne-Marie McClean (presenting author)



Jenny Thompson (F2 Paediatrics) Karen Orr (Paediatric Outpatients Ward Manager) Patricia Anderson (Nursing Support Worker) Tom Waterfield (Paediatric Registrar) Bernadette O'Connor (Consultant Clinical Lead) Mugilan Anandarajan (Consultant Paediatrician and Project Supervisor) Organization: Paediatrics Department, Ulster Hospital, Dundonald, South Eastern Health and Social Care Trust, Belfast, UK

Background and Aims:

Reducing childhood obesity rates will save lives[ii]. Children are only routinely screened for obesity twice (4-5years, 10-11years) through the National Child Measurement Programme (NCMP)[iii]. Additional opportunities to identify overweight/ obese children cannot be missed. This study aims to explore the prevalence and recognition of overweight/obese children in the outpatient population of a district general hospital (DGH).

Methods:

An audit of growth parameters for 87 children (2-16 years) attending paediatric outpatient/ambulatory clinics was performed during one week in September 2017. Retrospective body mass index (BMI) centile plotting enabled identification of overweight (\geq 91st centile) obese (\geq 98th centile) and severely obese ($>$ 99.6th centile) children. Clinic letters were reviewed to check if children were recognised as overweight/obese. Public Health Agency (PHA) collaboration facilitated NCMP data comparison.

Results:

BMI centiles were retrospectively plotted for 75 children (56%-male, 44%-female). 14% were excluded as no heights measured. 28% were overweight/obese comparing similarly to NCMP data: 27% 10-11-year olds in the SEHSCT are overweight/ obese[iv]. Our study had more obese children at 15%. (4% severely obese) compared to NCMP data at 6.6%.

Only 3 patients were diagnosed as obese (all severely obese) during consultations. 86% of overweight/obese children (presenting with constipation, asthma, enuresis etc) went unrecognised.

Conclusions:

Despite a high prevalence of overweight/obese children, our recognition rate is poor at 14%. Telephone scoping exercises indicate this is an issue across all Northern Irish hospitals. Questionnaires show strong support for the introduction of routine BMI plotting and a joint PHA-Paediatric regional training package to improve recognition and response to childhood obesity by paediatric staff.

HATS OFF TO MUM...IS THERE SUFFICIENT EVIDENCE FOR THE USE OF HATS FOR TERM NEONATES WHEN SKIN-TOSKIN CARE IS PRIORITISED?

Dr Anne-Marie McClean, Dr Roisin MacMahon, Dr Michael Coffey, Alison Bartlett, Dr Mugilan Anandarajan

Background and Aims:

The Ulster Hospital Dundonald (UHD) guidelines recommend hats for preterm babies but not term babies (unless deemed necessary by a midwife/doctor or parental choice). This contrasts with regional thermal care neonatal guidelines which recommend hats for all babies in the first six hours of life. This study aims to assess if there is sufficient evidence to recommend hats for babies \geq 37 weeks gestation.

Methods:

One-hour temperatures were collected from babies born during September 2017 using a "temp ticket" proforma. Delivery method, gestation and thermoregulation practices were documented on the proformas which were later analysed.

Results:

146 (46% of eligible babies) were included. 96% were \geq 37 weeks gestation. All preterm babies received hats. 34.9% of term babies received hats (parental/midwife choice). 65.1% of term babies did not have hats.

88% of babies had a normal temperature: 89% of babies without hats and 84% of babies with hats had normal temperatures. 79.7% of normothermic babies were skin-to-skin with a nappy and blanket over the top at one hour (63% of these skin-to-skin babies had no hats, 37% had hats).

Conclusions:

Hats did not lead to better temperatures for term babies- in fact more babies without hats had normal temperatures than babies with hats. Most normothermic term babies were skin-to-skin with mum and whether they had a hat or not did not impact their temperature. This shows hats are not needed for well neonates \geq 37 weeks when skin-to-skin care is prioritised. The regional neonatal thermal care guideline is changing to reflect these findings.

Junior Members Forum & RBHSC Annual Lecture

22nd February 2019 Riddell Hall, Belfast

POSTER AND ORAL PRESENTATIONS

THE NORTHERN IRELAND CYSTIC FIBROSIS APP – A NEW AND INNOVATIVE RESOURCE FOR PATIENTS AND THEIR FAMILIES

Dr Ben McNaughten, Dr Laura Jenkins, Dr Alastair Reid

Background: Cystic Fibrosis (CF) is a genetic condition affecting approximately 200 children and young people in Northern Ireland. A diagnosis of CF is life-changing for patients and their families. At diagnosis they are provided with a wealth of educational information. This can often be overwhelming at what is already a particularly challenging time. Consequently the CF team were keen to develop a resource which would enable patients and their families to access reliable educational information in their own time which would be of benefit both at the time of diagnosis and as they grew older.

Methods: We decided to create an app which could be downloaded and accessed free of charge. During the design process we consulted with medical professionals, CF specialist nurses, dieticians, physiotherapists, pharmacists, clinical psychologists and social workers in addition to patients and their families.

Results: We created an app containing information about the local adult and paediatric CF services and providing links to useful online resources in addition to material on physiotherapy, dietetics, medications, common infections, evolving research and the transition process. The app was made available to patients in 2018. To date it has been accessed over 3,200 times. Verbal feedback has been very positive. It costs approximately £75 per year to publish online and is updated regularly by members of the multi-disciplinary team.

Conclusions: The app has already proved a useful resource for patients and their families. We are keen to continue to develop this resource by formally evaluating and adjusting the content accordingly.

DOES FLASH GLUCOSE MONITORING IMPROVE PATIENT SATISFACTION & HBA1C IN 12-16 YEAR OLD PATIENTS WITH TYPE 1 DIABETES AND SUBOPTIMAL HBA1C LEVELS

Dr Kathryn Parker, Dr Julia Smyth, Dr Shilpa Shah, Dr Sarinda Millar

Background and Aims: Type 1 diabetes requires significant self-management.

Teenagers have motivation but are also vulnerable. The Flash Glucose monitoring system is a device that measures interstitial glucose level by scanning the sensor placed upon the arm.

Does flash glucose monitoring improve the HBA1c and overall satisfaction in 12-16 year old patients with type 1 diabetes with suboptimal levels?

Methods: Flash glucose monitoring was made available to all patients with type 1 diabetes who fulfilled set criteria and after completing a training session.

We included 12-16 year olds with hba1c 69 mmol/mol (8.5%) and above. Demographic details were recorded. We monitored their HbA1c at 3 and 6 months from starting flash glucose monitoring.

We also asked them 2 questions

- Do you feel the flash glucose monitoring system has made it easier for you to manage your diabetes on a day to day basis

- Do you think it will improve your overall HbA1c level?

Results:

24 patients aged 12-16 years had Hba1c above 69mmol/mol

8 were eliminated either due to recent diagnosis of type 1 diabetes (3) or refusal to use Libre (5) therefore N=16.

Median: HbA1c before starting Libre= 78mmol/mol (mean=85), at 3 months 86 mmol/mol (mean=85) and 6 months 73mmol/mol (mean 73) p=0.016 At 3 months all felt Libre made it easier to manage day to day sugar levels

Conclusion: There was a significant fall in Hba1c (P=0.016) 6 months after using Flash Glucose monitoring. Most felt it improved overall satisfaction

THE MIND BUBBLE – A PATIENT EMPOWERMENT TOOL. A QUALITATIVE ANALYSIS OF WHAT YOUNG PEOPLE REALLY WANT TO DISCUSS AT DIABETES CLINICS.

K. Parker, S Shah, S Millar, J Smyth. Paediatric Diabetes SHSCT.

Background and Aims: In the SHSCT diabetes team, our goal is to empower our young people and encourage self-management of their diabetes. A key component of this is to understand the expectations of young people attending our clinics, and therefore provide patient centred consultations. Our aim was to identify each patient's goals and specific



areas for discussion when attending clinic.

Methods: We distributed questionnaires, the in form of a 'mind bubble', to young people over 12 years attending paediatric diabetes clinics in the Southern Trust over a two month period. A 'mind bubble' is a simplified visual questionnaire designed to be user-friendly and engage with young people. Young people were asked 'What would you like to discuss today at your diabetes clinic?' and their responses were then addressed at that attendance.

Results: We received 32 completed 'mind bubbles'. The most common response was for advice on hyper- and hypoglycaemia (44%). 7 responses (22%) were regarding practical advice on holidays and exercise, 6 responses (19%) for specific questions regarding insulin pumps and infusion sets, and 3 (9%) regarding the use of associated computer programmes. 3 responses (9%) asked for education on ketones.

Conclusions: The 'mind bubble' provides a practical way for young people to inform the diabetes team of their expectations for each clinic visit. The wide variety of responses highlights the challenges of engaging with young people with complex, life long conditions, and the need for patient centred care to enable our young people grow in confidence.



Ulster Paediatric society Annual Conference

30th September 2017

TITANIC BUILDING BELFAST

BRINGING NURSING HANDOVER TO THE BEDSIDE- AN INTERVENTION TO IMPROVE COMMUNICATION AND PATIENT SAFETY

J Holland, Dr McClean & Dr Anandarajan

BACKGROUND: Nursing handovers represent the transfer of professional responsibility for patient care between team members. Patient safety depends on clear and accurate handovers. Staff surveys in 2014 identified dissatisfaction with previous handover practice. Verbal handovers occurred away from the patient bedside, without use of standardised communication tools. An opportunity to improve nursing handovers was identified.

AIMS: To achieve 90% compliance of Bedside Nursing Handovers. To improve staff, patient and parent satisfaction. To create a culture of handover practice which prioritises patient safety

METHODS: A literature search was performed to identify best practice. Staff feedback exercises and “brainstorming” allowed evidence based interventions to be tailored to address specific shortcomings.

Plan-Do-Study-Act cycles focused on:

- -Face-to-face education/staff training
 - -SBAR communication tool implementation
 - -Introduction of written handover proformas
 - -Improving start and end times (minimising interruptions)
 - -Improving accuracy of patient information transfer
 - -Utilisation of the Patient Safety Scan (safety checklist)
- Regular audits monitored compliance. Results were displayed on a noticeboard for staff to identify areas for improvement and celebrate success.

RESULTS: Bedside handovers have increased from 0% to 100%. Parents and patients listen to handovers and have an opportunity to contribute. All handovers utilise SBAR communication and patient safety checks (name-bands, PEWS charts, fluid balances, airway equipment and medications). Staff and parental feedback has demonstrated increased satisfaction and confidence with this safer, holistic, patient-centred handover.

CONCLUSIONS: Nursing bedside handovers have become routine practice in Maynard- Sinclair Ward and staff, patient and parental feedback continues to be extremely positive.

WEIGHT A MINUTE – COMPARISON OF ACTUAL VERSUS ESTIMATED WEIGHT USING APLS FORMULAE IN PATIENTS ATTENDING THE PAEDIATRIC EMERGENCY DEPARTMENT

CR Parris, T Bourke

Background & Aims: In the paediatric patient, weight is required to calculate drug dosages and fluid prescriptions. In some instances, an actual weight measurement is not possible or practical and an estimate must be made. This study aimed to compare the accuracy of weight estimation using the current versus previous APLS formulae in Northern Irish children.

Methods: The actual weight and age of patients was collected from patient records from children attending the RBHSC Paediatric Emergency Department in April 2016 (n=523). The estimated weight using current and previous APLS formulae was calculated for each subject and compared to actual weight using the mean residual sum of squares (RSS). A sub-analysis of age groups was conducted (1-11 months; 1-5 years; 6-12 years; 13+ years).

Results: The Mean RSS across all age groups was 46.75 for the current formulae versus 103.23 for the previous formula. The comparative Mean RSS (current:previous formulae) for specified age groups was as follows: (1-11 months 1.65:4.88 n=82; 1-5 years 10.29:10.29 n=231; 6-12 years 77.85:181.12 n=185 ; 13+ years 301.40:708.13 n=25).

Conclusion: The current APLS formula is overall more accurate than the previous APLS formula at estimating weight in children and across almost all age groups (note: the formulae for 1-5 year olds were equivalent). Weight estimates are less accurate in older children with both calculation methods.



Ulster Paediatric society Annual Conference

28th September 2018

HILTON HOTEL, TEMPLEPATRICK

“WHAT IS KNOWN ABOUT CHILDREN AND YOUNG PEOPLE’S EXPERIENCE OF RECEIVING HEALTHCARE FROM THEIR PRESENT PERSPECTIVE?”

Gail Davison, Richard McCrory, Andrew Thompson, Tim Dornan

Background & Aims: Most studies explore children and young people’s (CYP’s) experience of healthcare without consulting CYP directly. The aim of this study is to explore “what is known about children and young people’s experiences of receiving healthcare from their present perspective?”

Methods: Scoping review methodology was used to address the research question through a phenomenological lens of direct quotation. Basic numerical analysis and qualitative content analysis was completed.

Results: 3095 CYP, aged 0-18 years, participated in the 89 studies included in this literature review at an international level. Studies describing CYPHCEs through direct quotations have increased from 2005. Most studies used semi-structured participatory interviews. CYPHCEs are complex and unique to that individual. Twelve themes emerged. Communication and autonomy were the most common themes. CYP are asking for better communication at an understandable level.

Conclusions: CYP have an increasingly active voice in qualitative healthcare research at an international level. A lack of patient-specific communication, which acknowledges the patient’s ability to understand, has a negative impact on CYPHCEs. CYP’s participation in their own care affects their experience, however, the level of participation each seeks is varies.

Ulster Paediatric society Annual Conference

13th September 2019

HILTON HOTEL, TEMPLEPATRICK

FOR THE FUTURE: STARTING TO ADDRESS THE GAP IN PAEDIATRIC OBESITY SERVICES

Anne-Marie McClean, Jodie McGoldrick, Joanne Gordon, Arlene Long, Jennifer Gawley, Mugilan Anandarajan, Bernie O'Connor

Background and aims: Fit Families for the Future launched in May 2019 and is presently Northern Ireland's only multidisciplinary service for children (4-16 years) with BMI > 98th centile. Over 12 months we aim to support 48 children to achieve a healthier BMI.

Methods: Children are referred by paediatricians, GPs and school nurses. Each family is invited to clinic for holistic assessment by a paediatrician, physiotherapist, associate psychologist and dietician. Outcome measures include BMI, 6-minute walk test, grip strength, blood pressure testing, dietary history and quality-of-life measures. Parents are encouraged to have their own weight/BMI checked. An individualised family plan is coproduced. Treatments include a series of educational evening classes and/or one-to-one input from dietetics/physiotherapy/health coaching. Outcome measures will be reassessed at 3, 6 and 12 months.

Results: Currently 30 children have attended Fit Families assessment clinics. 29 are in the treatment phase. 1 child discharged as <4 years. 8 children participated in the first 5-week cycle of evening classes. Attendance averaged 73%. 6/8 children have had their BMI reassessed. 60% (4/6) have reduced their BMI including one family who collectively lost >12kg. One child's BMI increased, and another's remained static. Family and staff feedback have been overwhelmingly positive.

Conclusions: In response to feedback we have extended our evening class programme to 6-weeks, introduced text reminders for appointments and strengthened our outreach programme with community organisations including Parkrun and local councils. We are excited to recruit more families, see more results from the programme and develop a viable business case for this gap in paediatric services.

MEDICATION ADMINISTRATION ERRORS IN CHILDREN: MIXED METHODS STUDY OF CRITICAL INCIDENTS

Vincent McLarnon, Richard Conn and Angela Carrington

Background and Aims Medication administration errors (MAE) are a common problem. To address this problem it

is important to understand the how and why MAEs occur. The study aims to investigate;

- o Type and characteristics of MAE;
- o Underlying factors that led to these errors.

Methods: A mixed methods study of clinical incident reports related to MAE was undertaken. MAEs involving children 0-16 years, in paediatric medical and surgical wards in Northern Ireland (NI) between 2011- 2015 were included. The characteristics and types of MAE were quantified, then MAE descriptions were thematically analysed to determine the underlying contributing factors which led to error.

Results: In total 369 incident reports of MAEs (including 391 drugs) were analysed. The most common MAE type was omitted and delayed (n=103; 28%). The most common drug class was antimicrobials (n=93; 24%). MAE characteristics include; children 5 years and under (n=178; 48%); insignificant harm (n=257; 70%); Contributing themes were related to management and organisational processes; features of the team, environment, task, and patient; and unsafe acts of staff. Defences were also found but commonly occurred after MAEs reached the patient.

Conclusion: This research has found there are multiple types, characteristics and contributing factors associated with MAE. The findings should be used to target specific error types, drug classes and contributing factors to prevent potential MAEs in future practice.

LAUNDERED LANYARD OR NOT SO MUCH?

Emma McCann, Rachel Philpott, Mugilan Anandarajan

BACKGROUND: White coats to lanyards, did we solve the infection control risk problem? Lanyards serve as a quick method of identifying the position of staff. However, with infection control becoming a prominent clinical priority, we are washing our hands but are we washing our lanyards? By exploring hygiene practices with regards to lanyards we can assess whether there is a need for change in the responsibility we take for what hangs around our neck.

AIM: To assess the lanyard hygiene practices of healthcare professionals within a district general hospital.

METHOD: A mixed-method survey of healthcare staff with dichotomous, nominal and free-text responses which were analysed numerically and thematically.

RESULTS: This questionnaire provided information on potential gaps relating to appropriate lanyard infection control measures. Common themes demonstrated that the majority



of lanyards were not washed nor replaced regularly, despite being worn continuously throughout the day, including travel to and from work. Gaps in staff adherence and understanding of adequate lanyard hygiene were evident.

CONCLUSION: The survey reiterated the need for clear information and guidance with regards to lanyard hygiene practices. The data collected raises awareness of the current discontinuity in attention and supply of adequate information in order to empower staff to take responsibility for their neck-suspended lanyard. The implementation of a lanyard hygiene protocol and consideration of future movement towards rubberised lanyards are practical measures that could improve upon infection control standards within hospitals.

THE PRO-VAC MOVEMENT-A QUALITY IMPROVEMENT & EDUCATIONAL INITIATIVE

A.E. Henry, V. McLarnon, M. Hanna, R. Hearst, S. Shah

Background & Aims: Some people choose not to vaccinate their children resulting at least in part to a rise in the incidence of vaccine preventable disease such as measles globally. Interactions between Health Care Professionals (HCP) and parents help to alleviate vaccination concerns.

- What is the prevalence and cause of vaccine hesitancy or refusal in mothers attending antenatal clinics in a District General Hospital?
- Can targeted intervention strategies such as group educational sessions improve confidence in vaccine safety?
- Can educational sessions delivered to HCP about 'vaccine safety & having conversations with vaccine hesitant families' improve their confidence to undertake these discussions?

Methods:

- 147 consecutive mothers attending antenatal clinics filled questionnaires. Data including prevalence and spectrum of vaccine hesitancy with causation was obtained and analysed.
- Bespoke information sharing sessions on vaccine safety and having conversations with vaccine hesitant parents were delivered by trained HCP to families and HCP respectively.
- Feedback was analysed

Results:

- Majority of mothers had no concerns about vaccinating their baby (86%) with commonest concerns being 'side effects like fever and allergic response' followed by 'link between MMR and autism'
- 2 'Vaccine safety' sessions for families significantly increased their confidence in vaccine safety ($p=0.0004$)
- 4 'Vaccine safety & having conversation' sessions attended by multidisciplinary HCP significantly increased their confidence in the above area ($p=0.001$)

Conclusions: Majority of families are confident about the safety and efficiency of vaccines. Education and vaccine safety sessions targeted towards families and HCP both

increase the confidence in vaccine safety.

FRAGILE X SYNDROME; A SURPRISINGLY UNCOMMON CAUSE OF INTELLECTUAL DISABILITY

C McKenna, D Beattie, C Gervin, T Dabir

Fragile X Syndrome (FXS) is often described as the most common cause of intellectual disability (ID) in males. Anecdotally, we have noted a low diagnostic yield from FXS testing. FXS is typically caused by a triplet repeat expansion (>200 CGGs) in FMR1. FXS more commonly affects males, however it is estimated that one third of females are symptomatic. Classical features of FXS include ID, autism, behavioural disturbance and dysmorphism. Smaller expansions in FMR1 (pre-mutations) are associated with Fragile X Associated Tremor/Ataxia Syndrome (FXTAS) and Premature Ovarian Insufficiency (POI).

We retrospectively reviewed the results of FMR1 assays undertaken at the NIRGC between 24/05/12 – 08/07/19. In total, 521 FMR1 assays were performed for a variety of indications (FXS, FXTAS, POI and carrier status). Thirteen full mutations (>200 repeats) and 34 pre-mutations (59-200 repeats) were identified. All but two of those patients with a full mutation had a known family history of FXS. Of those with a full mutation, five were male and eight were female. Five of the females had symptoms of FXS.

Our findings suggest a low diagnostic yield from FMR1 assays, particularly in the absence of a family history. It is also noteworthy that an equal number symptomatic females and males were diagnosed. This may be a reflection of the small sample size and/or ascertainment bias. We propose that FXS testing should not be undertaken as a first line investigation in children with ID, and only sought if there is a high degree of clinical suspicion, or a known family history.