Quality Improvement and Patient Safety

PRESCRIPTION OF PARACETAMOL AS AN ANTIPYRETIC IN PAEDIATRICS: ANALYSIS OF PRACTICES IN A NATIONAL ACUTE AND TEACHING HOSPITAL

Joanna Cachia, Jamie Alexander Grech, Cecil Vella. Mater Dei Hospital Malta

Background Prescription errors represent a pervasive problem found across many hospitals and the ubiquity by which antipyretics are prescribed in paediatrics makes them a frequent source of error. Such avoidable errors not only lead to actual physical harm for the child, but also incur financial and legal costs on the service provider, dampen public confidence in the health care system and predispose to negative psychological impact on both the patient and prescriber. Adherence to proper prescription practices has been repeatedly emphasised by regulatory bodies and safe prescription is considered an integral part of sound medical practice. Greater attention needs to be paid to appropriate dosing according to indication and route to prevent overdosing. Correct writing of dosing interval abbreviations, as well as recording of weight and allergies in treatment charts is also essential.

Methods Treatment charts of all admissions to medical paediatric inpatient wards were reviewed daily over a four-week period. Prescriptions for Paracetamol were assessed for legibility, inedibility, approved drug nomenclature, correct dose and dosing frequency, approved dosing interval abbreviations, writing of minimum dosing interval for pro re nata (PRN), appropriate dating, prescriber signature and prescriber designation. Treatment charts were also analysed to assess accurate writing of patient name, identification number, age, date of birth, height, weight, and allergies.

Results A total of 93 charts were reviewed of which 44 contained Paracetamol prescriptions. Average age ranged from 1 day to 13 years. 93.2% of all prescriptions were on a PRN basis. Legibility and inedibility met the BNFC standard in 100% of cases. Approved drug nomenclature was used in 97.7% of prescriptions.

Conclusions Adherence to proper prescription practices has been repeatedly emphasised by regulatory bodies and safe prescription is considered an integral part of sound medical practice. Greater attention needs to be paid to appropriate dosing according to indication and route to prevent overdosing. Correct writing of dosing interval abbreviations, as well as recording of weight and allergies in treatment charts is also essential.
Concerned this posed a risk to our patients, we utilised well-known children’s games to assess the problem.

Objectives Could we accurately pass on verbal information in our resus bay whilst wearing reusable FFP3 masks?

Methods

Whisper down the lane: 4 participants wore FFP3. Additional participant stood 2m apart and gave instruction wearing a surgical mask. 3 scenarios trialled twice, once using a common APLS instruction (e.g. please give phenytoin 20mg/kg IV over 20 minutes – 200mg total please) and once a non-sensical instruction participants had no cognitive bias towards (e.g. cow really needs to jump in the bucket to impress the pig). Participant 1 relayed instruction to participant 2 as they entered the room and so on.

Scenario 1 – no background noise, standing 2 metres apart
Scenario 2 – background noise (defibrillator/monitors on, ‘baby shark’ playing in the background)
Scenario 3 – background noise and participant receiving instruction distracted building tower of blocks.

Treasure hunt: One registrar relayed 8 simple instructions to one SHO e.g. ‘pass me a blue cannula’. Different SHO in each scenario. 3 scenarios with the same registrar wearing surgical mask, FFP3 or reusable FFP3 and microphone.

Measures:

Whisper down the lane:
- Did person 4 accurately report back the initial instruction?
- Subjective assessment on safety, difficulty and risk of drug error.

Treasure hunt:
- Number of times instructions given (minimum 8)
- Total time taken.
- Subjective assessment of safety and risk of drug error.

Results Whisper down the lane Table 1:

<table>
<thead>
<tr>
<th>Scenario number</th>
<th>Instruction number 1 — passed on accurately?</th>
<th>Instruction number 2 — passed on accurately?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Whisper down the lane Table 2:

<table>
<thead>
<tr>
<th>Scenario number</th>
<th>Did you feel there was a risk of a drug error? (N= 5)</th>
<th>Was communication difficult? (N = 4)</th>
<th>Was communication unsafe? (N = 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes/No (%)</td>
<td>Yes/No (%)</td>
<td>Yes/No (%)</td>
</tr>
<tr>
<td>1</td>
<td>No (100%)</td>
<td>No (100%)</td>
<td>No (100%)</td>
</tr>
<tr>
<td>2</td>
<td>Yes (100%)</td>
<td>Yes (100%)</td>
<td>No (80%) Yes (20%)</td>
</tr>
<tr>
<td>3</td>
<td>Yes (100%)</td>
<td>Yes (100%)</td>
<td>Yes (100%)</td>
</tr>
</tbody>
</table>

Treasure Hunt Results:
Whilst wearing FFP3 100% of participants felt that communication was difficult, unsafe with increased risk of making a drug error. This fell to 0% when adding in the microphone with FFP3.

Conclusions ‘Whisper down the lane’ clearly demonstrated potentially significant communication difficulties whilst wearing reusable FFP3 masks. Realistically background noise from human factors such as the patient or relatives cannot always be controlled. Therefore finding an effective solution to ensure safe, patient care is vital. As a direct result of our project, our local trust safety group are investing in testing and finding solutions including microphones. We believe this demonstrates that even smaller, creative projects can have a positive impact on patient safety.

British Society of Paediatric Endocrinology and Diabetes

286 BE FIT STUDY: BIOMARKERS RELATED TO WEIGHT AND LIFESTYLE IN YOUNG ADULTS

Katherine Fairhurst, MG Semple, GJ Kemp, DJ Cuthbertson. University of Liverpool

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Background The prevalence of obesity is rising, with a dramatically earlier onset. The ‘seeds of adult disease’ will manifest initially as pre-clinical abnormalities in critical organs such as the liver, heart, and systemic vasculature. However, estimates of obesity-related disease in younger adults are unreliable owing to the lack of effective screening measures. Clinical practice relies primarily on body mass index (BMI), family history, and blood tests, often neglecting to consider or address modifiable lifestyle factors. Magnetic Resonance Imaging can be used as a fast and accurate screening tool that can identify individuals at risk, even at an early stage when the disease is still reversible.

Objectives This is a feasibility study to enable future research on the deleterious effects of modern lifestyles in young persons aged 16–25 years. We will explore the inter-relationship between lifestyle (modifiable factors including physical activity, diet and sleep pattern) and general health (including liver and cardiovascular health, and body composition).

Methods Twelve participants, 4 female, 8 male; mean age 21.5 ± 2.8 years; BMI 28.6 ± 4.4 kg/m²; 4 had a BMI within the normal range, 8 were either obese or overweight (BMI > 25). Each participant attended two sessions. In the first session, they undertook an oral glucose tolerance test, liver function tests, and a VO₂max measurement. Between the two sessions their physical activity was monitored for a week using a wrist monitor, and they completed a screentime and diet diary. Finally, liver and cardiac structure and function were assessed using MRI.