MEASURING MEDICINES ADHERENCE IN CHILDREN: A SYSTEMATIC REVIEW

Mohammed Aldosari, Sharon Conroy, Ana Oliveira. Nottingham University

Aim 30–70% of children prescribed long-term medicines have poor adherence.1 Knowing the degree of adherence is important to understand the consequences of nonadherence and to develop strategies to improve medication adherence in children. We therefore performed a systematic review to identify measures of medication adherence used in children and the strengths and weaknesses of those measures.

Methods A systematic literature search was performed using PubMed, EMBASE, Medline, CINAHL, IPA and Cochrane library databases covering the period March 2008 to March 2018 in order to focus on the methods recently used to assess adherence. Inclusion criteria were original research studies measuring medication adherence in children (aged 0–18 years) and included all countries and languages. To be included, the assessment tool used to measure adherence in each study needed to be described in detail. Exclusion criteria included: review articles, editorials, conference papers, reports, and studies reporting only adherence outcomes/rates without reporting measurement methods. As a reliability measure, 5% of titles and abstracts were assessed independently by a second researcher.

Results Of 9,747 papers identified by the search, only 31 articles met the inclusion criteria. Most studies were conducted in the US (14) with four in South Africa, three in Kenya and the remaining ten studies in various countries including one in the UK. Diseases studied included: HIV/AIDS (13), asthma (5), inflammatory bowel disease (3), epilepsy (2), type 1 diabetes (2), others (6). In the commonest disease studied, HIV, self-report, Medication Event Monitoring Systems (MEMS), dose counting, pharmacy refill data and medication plasma levels were used to assess adherence. In patients with diabetes, mobile phone, medication plasma levels and self-report were used. Canister weight and MEMS were used to assess adherence in patients with asthma. Self-reporting was the most commonly used method to assess adherence and was reported to be flexible, inexpensive, and time saving but it was the least accurate and overestimated adherence rates. MEMS was the most accurate method but was also the most expensive. Dose counting was easy to use and inexpensive but adherence was also overestimated with this method. Measuring medication plasma levels was more precise than self-reporting and dose counting but was costly, time consuming and difficult to perform. Pharmacy refill data was more accurate than self-reporting and less accurate than MEMS and medication plasma levels. Mobile phone methods were reported to be very expensive and difficult to perform. Canister weight had the same efficacy as using MEMS and was less expensive, but was only applicable to inhalation devices.

Conclusion Currently, no gold standard method to measure adherence to medicines in children exists as each method has its own advantages and disadvantages. Overall, the MEMS method was the most accurate but most expensive, while self-reporting was the least accurate but least costly.

None of these measures were reported to be highly accurate in the assessment of adherence, so it is important to use a combination of multiple measures in order to gain a true picture of adherence.

REFERENCE


P009 MEDICINES OPTIMISATION WHEN TRANSITIONING FROM PAEDIATRIC TO ADULT CRITICAL CARE

Karen Boume, Shreeen Howson. Sheffield Children’s Hospital

Introduction Transitioning is the process of preparing, planning and moving from children’s to adult services.1 More young people are surviving with long-term conditions and it is therefore inevitable that more patients will require specialist care into adulthood.2 Effective transition requires effective communication and planning between paediatric and adult multidisciplinary teams and must engage both the patient and their parents/careers.3 A trust critical care transition pathway was developed in 2016 by the adult and paediatric critical care teams.

Case summary A 17-year-old transitioning patient required an urgent transfer from paediatric to adult critical care to receive treatment that was unavailable at the paediatric trust. On arrival at the adult trust, it became apparent that patients’ previous and current drug history and allergy status was poorly documented resulting in confusion and delay in