Parental Patterns of Use of Over the Counter Analgesics In Children

Abstract:

AA Garvey, CP Hawkes, CA Ryan, M Kelly
School of Medicine UCC, College Road, Cork

Parental Patterns of Use of Over the Counter Analgesics In Children

Over-The-Counter Analgesics (OTCAs) account for over a fifth of Irish pharmacy sales. Little is known about patterns of use, specifically in children. This study investigated parents’ use of OTCAs in children. A questionnaire exploring use of OTCAs and knowledge of potential side-effects was administered to guardians of children attending three GP surgeries in South of Ireland from June-September 2010. The questionnaire was completed by 183 parents (response rate 95%).

Methods

A cross-sectional survey of parents and guardians with at least one child was undertaken during a 4-month period (June to September 2010) across three family physician surgeries in the South of Ireland. Reception staff at each of the sites invited all parents/guardians attending the medical centres with their children for appointment to complete a questionnaire. A child's pyrexial status at the time of immunization has been shown to significantly reduce the primary antibody response to all serotypes of PCV 10 and to haemophilus influenza type b, diphtheria, tetanus and pertactin antigens. For this reason, the study’s Anotey questionnaire (separately designed to respondents the use of paracetamol/ibuprofen for pyrexia >39.5°C or if a child has a large local reaction post-vaccination). Several studies have described a relationship between paracetamol or ibuprofen use, specifically in children. This study investigated parental patterns of use of OTCAs in children in Ireland.

Results

183 parents or guardians participated in this study; their mean age was 34 years (range 18-66 years). 9 parents declined to participate, citing time pressure. No questionnaire had more than 2 unanswered questions and all were included in subsequent analysis. All questions were answered in 95% of questionnaires except educational status (7%) and insurance status (5%). Parents with and without health insurance, and those achieving each educational milestone were equally represented. Almost two thirds (62.3%) had more than one child and over 83% of participants indicated that their child/children attended a Child minder, Montessori, Pre-school or Primary school. An overview of results is given in

*Results were calculated as percentage of total population surveyed in cases of partial completion.

Measurement of temperature

Eighty-six percent of participants reported using a thermometer to measure temperature prior to administering OTCAs. Oral formulations were most frequently used. 20.7% to determine whether or not the child was pyrexial. It was piloted and adjusted accordingly. Of paracetamol use in infancy and the development of atomic conditions. Propylactic use of paracetamol at the time of immunization has been shown to significantly reduce the primary antibody response to all serotypes of PCV 10 and to haemophilus influenza type b, diphtheria, tetanus and pertactin antigens. For this reason, the study’s questionnaire (separately designed to respondents the use of paracetamol/ibuprofen for pyrexia >39.5°C or if a child has a large local reaction post-vaccination). Several studies have described a relationship between paracetamol or ibuprofen use, specifically in children. This study investigated parental patterns of use of OTCAs in children in Ireland.

Results were dichotomized into appropriate or inappropriate use. Inappropriate use was defined as use of an analgesic that potentially did not optimise symptom control (e.g. oral medications if a child is vomiting, and vice versa using suppositories if vomiting). Questions regarding the number of preferred types of OTCAs, Knowledge of potential side-effects; and use in relation to immunisation were included. Use of OTCAs was assessed using 10 vignettes. Vignettes were constructed by a family doctor and paediatrician to reflect commonly encountered clinical scenarios. Participants indicated which analgesic, if any they would use in a particular situation. Participants were given the option of leaving a comment.

Results

183 parents or guardians participated in this study; their mean age was 34 years (range 18-66 years). 9 parents declined to participate, citing time pressure. No questionnaire had more than 2 unanswered questions and all were included in subsequent analysis. All questions were answered in over 95% of questionnaires except educational status (7%) and insurance status (5%). Parents with and without health insurance, and those achieving each educational milestone were equally represented. Almost two thirds (62.3%) had more than one child and over 83% of participants indicated that their child/children attended a Child minder, Montessori, Pre-school or Primary school. An overview of results is given in

*Results were calculated as percentage of total population surveyed in cases of partial completion.

Clinical vignettes

Two thirds of respondents were using analgesics inappropriately, as determined by the clinical scenarios. 54% indicated that they would use the incorrect analgesic for a particular symptom and a third of respondents used OTC analgesics when there are no indications for use. Patients with private health insurance were more likely to have appropriate patterns of use (40%) compared to Medical Card/Doctor-Only Card holders (22.5%) (p=0.016).

Side-effects

Most parents (92.7%) purported that their child had never experienced side effects from OTCAs. However identification of potential side-effects was poor, with drowsiness (n=88, 49%), rash (n=39, 22%) and nausea (n=32, 18%) listed as potential side-effects. Inappropriate use of OTCAs is prevalent in Irish children. Parents need more information and guidance on their use.
of potential side effects was poor, with drowsiness (49%), rash (22%) and nausea (18%) listed as the most commonly observed side effects. Approximately one in ten parents incorrectly indicated symptoms such as high temperature, headache and irritability as possible side effects. Almost 20% of parents/guardians said they would routinely give OTCAs to their children prior to vaccinations.

**Discussion**

This study describes patterns of use of OTCAs in a paediatric population in Ireland. Pharmacies are the most common place of purchase. Parental misconceptions regarding correct route of administration, appropriate use, knowledge of side effects and use around time of vaccination, were observed. Previous studies have shown that many parents use OTCAs for unlicensed indications\(^1\). This was shown in our study, where one in three parents/guardians used OTCAs in situations in which they are not clinically indicated. In these instances, the OTCAs were used predominantly for parental misconceived side effects, in particular sedation. Irish parents without private health insurance were more likely to incorrectly use OTCAs. This contrasts with an American study by Kogan et al\(^2\), which reported a higher level of incorrect use of OTCAs among those with private health insurance. Despite the fact that over 90% of OTCAs are purchased from pharmacies, only a quarter of parents/guardians regularly consulted a pharmacist prior to administration of OTCAs. In addition, 14% do not routinely consult the label of the product prior to administration. Restricting OTC availability to pharmacies, accompanied by a discussion with a pharmacist prior to sale, similar to measures implemented by the Pharmaceutical Society of Ireland (PSI) to increase awareness and reduce consumption of codeine containing products, could potentially result in improved use of OTCAs amongst the Irish population.

In view of recent data assessing analgesic use and impaired immunological response to immunizations, it is reassuring that the majority of parents adhere to evidence-based guidelines and do not use OTCAs around the time of vaccination. Nevertheless, it remains common, with almost one fifth of those surveyed routinely administering OTCAs prior to immunizations. This study consisted of almost 200 participants recruited from both urban and rural family practice surgeries, consistent with the current structure of primary care models in Ireland. As with all questionnaires, this study may have experienced recall bias in relation to OTC use as it relied on a self-report method of data collection. In addition, the questionnaire was largely quantitative, such that explanations and causation factors for some of the research findings may not be generalisable.

In conclusion, incorrect OTC use is prevalent in the Irish paediatric population. We recommend that all sellers of OTCAs should be aware of their responsibilities and use the point of sale to provide and reinforce correct information to parents. Finally, all healthcare providers should enquire about OTC use at routine healthcare visits allowing for opportunistic parental education.

Correspondence: M Kelly
G329 Undergraduate Family Medicine, Health Sciences Centre, University of Calgary, 3330 Hospital Drive, Calgary NW, Alberta T2N 2N1, Canada
Email: makelly@ucalgary.ca

**References**


Parental Patterns of Use of Over the Counter Analgesics In Children