Journal of the American Pharmacists Association 56 (2016) 266–269

Contents lists available at ScienceDirect

Journal of the American Pharmacists Association

journal homepage: www.japha.org

RESEARCH

Counseling of children and adolescents in community pharmacies: Results from a 14-day observational study

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ARTICLE INFO

Article history:
Received 7 December 2015
Accepted 3 March 2016

ABSTRACT

Objectives: To characterize community pharmacists' interactions with children and their caregivers.

Methods: This observational study was conducted over a 14-day period in 3 community pharmacies. Trained researchers used an observation guide to document information about prescriptions that were picked up for children 7 to 17 years of age. Research assistants recorded: 1) when the prescription was picked up; 2) who picked up the prescription; 3) who was counseled by the pharmacist; 4) which pharmacy staff members interacted with the family; 5) pick-up location; 6) wait time; 7) how many questions the child or caregiver asked pharmacy staff; and 8) caregiver gender. Additional details such as the child's age, sex, and medication information were obtained from the prescription.

Results: One hundred sixteen prescriptions were dispensed to 97 families. Most families picked up prescriptions on weekdays (84%) and after school (53%). Fifty-four percent of prescriptions were refills, and most (38%) were for mental health conditions. Only 28 children (29%) accompanied their caregivers to pick up their prescription. Nineteen caregivers (20%) received counseling; children were never counseled separately by pharmacists. Families with younger children were more likely to receive counseling than older children ($\beta = -0.28$; $P = 0.01$).

Conclusion: Children infrequently accompany their parents to pick up their prescriptions, which limits pharmacists' opportunities to counsel children about their medications. Even when children are present, they rarely receive counseling from pharmacists.

The number of children living with a chronic health condition who take prescription medications regularly has grown substantially over the past several decades.[1,2] In addition to chronic disease medications, approximately 70% of children have taken medications to treat an acute condition in the past 30 days.[3]

Studies of pediatric counseling in pharmacies have relied on self-report survey data from pharmacists to document pharmacist-child communication.[4-6] Collectively, these studies have estimated that direct pharmacist-to-child communication occurs around 30% of the time,[5,6] even though 90% of pharmacists dispense prescriptions for children daily.[5,6] Moreover, only 14% of families reported receiving counseling from a pharmacist when picking up a new asthma medication.[7]

The United States Pharmacopoeia asserts that health care professionals should communicate directly with children about medicines.[8] Direct communication with children improves their medication regimen adherence, disease self-management, and clinical outcomes[9-11] and may prevent medication errors.[12] Although children as young as 7 years of age are capable of contributing to health-related discussions,[13] children are often not engaged by their providers.[14-16]

Disclosure: The authors declare no relevant conflicts of interest or financial relationships.

Funding: This project was funded by a grant from the Community Pharmacy Foundation.

Previous presentation: Presented at the American Pharmacists Association Annual Meeting, Baltimore, MD, March 4, 2016.

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http://dx.doi.org/10.1016/j.japh.2016.03.001

Key Points

Background:

- Pharmacists have self-reported counseling children about their medications approximately 30% of the time.
- Previous studies of pharmacist-child interactions have relied on pharmacist-reported data rather than observational data.

Findings:

- Using 14 days of observational data, we found that pharmacists counseled children about their medications 2% of the time.
- Children accompanied caregivers 29% of the time.

Objectives

Our goal was to build on previous studies,[4-6] which have been limited by use of cross-sectional surveys with low response rates and pharmacist estimates of child communication. Our objectives were to use 14 days of observational data from 3 community pharmacies to: 1) document how often children accompany their caregivers to pick up their prescription; 2) describe how often children and caregivers are counseled by pharmacists; 3) describe characteristics of the medications that are dispensed; and 4) explore whether demographic and prescription characteristics predict whether a family is counseled.

Methods

Setting

A convenience sample of 3 community pharmacies—one grocery chain pharmacy located in a rural western North Carolina town and 2 pharmacies (1 independent and 1 grocery chain) located in urban western Pennsylvania—were selected to participate in our observational study. Rurality of the pharmacies was determined by means of the 2013 U.S. Department of Agriculture's Rural-Urban Continuum (RUCA) Codes.[17]

Procedures

Over a 14-day period (1 week in May and 1 week in June), trained researchers documented information about prescriptions that were picked up for children (aged 7 to 17 years) in each pharmacy. Research assistants, who were trained by the authors, were blinded to the study hypotheses. To ensure that all pediatric patients were captured, pharmacy staff notified the research assistants each time a child's prescription was dispensed. Additionally, pharmacy staff placed a small sticker on the medication bag to notify the research assistants when a child's prescription was being picked up. This study was approved by the Institutional Review Boards of the University of North Carolina and the University of Pittsburgh.

Measures

Research assistants used an observation guide that was developed by the authors to record: 1) the date and time (i.e., during school hours [9 am to 3 pm] or after school hours [after 3 pm]) that the prescription was picked up; 2) who picked up the prescription (i.e., caregiver, child, both); 3) who was counseled by the pharmacist (i.e., caregiver, child, both, neither); 4) who interacted with the family (i.e., pharmacist, pharmacy technician, both, neither); 5) pick-up location (i.e., walk-in, drive-through); 6) wait time in minutes; 7) how many questions the child or caregiver asked pharmacy staff; and 8) caregiver gender. Depending on pharmacy work flow, 1 to 3 research assistants were present during pharmacy business hours. Wait time was estimated by documenting the family's arrival and departure time. Research assistants also used the pharmacy prescription record to document the child's age, sex, medication name, and medication type (i.e., new, refill).

Medication indications were characterized as acute or chronic, with acute referring to medications that are typically used for fewer than 30 days and chronic as those used to treat chronic health conditions, such as asthma, diabetes, attention deficit–hyperactivity disorder (ADHD), depression, and acne. Accordingly, using the Micromedex Drug Reference, medications were broadly classified into their commonly used indication classes, such as mental health condition, infection, asthma/allergy, contraception, and other (Supplemental Table 1).

Statistical analyses

IBM SPSS Version 23 (Armonk, NY) was used to calculate descriptive statistics for the variables of interest. We dichotomized counseling behaviors as follows: 1 = either child or caregiver received counseling; and 0 = neither child nor caregiver received counseling. Logistic regression was used to examine if child age, child sex, prescription type (new, refill), medication indication (acute, chronic), and pharmacy type (urban, rural) predicted whether the family received counseling ($\alpha = 0.05$).

Results

Sample characteristics

Ninety-seven families picked up prescriptions during the 2-week observation period (Table 1).

Table 1
Sample characteristics (n = 97)

Characteristic	Mean ± SD or n (%)
Child age (y)	12.5 ± 2.9; range 7–17
Child sex male	46 (47%)
Caregiver gender female	67 (69%)
Location of pick-up	
Urban	78 (80%)
Rural	19 (20%)