

Medication adherence in adolescents in current practice: community pharmacy staff's opinions

Ellen S. Koster, Daphne Philbert, Nina A. Winters and Marcel L. Bouvy

Utrecht Pharmacy Practice Network for Education and Research, Utrecht Institute of Pharmaceutical Sciences, Utrecht University, Utrecht, The Netherlands

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Correspondence

Dr Ellen S. Koster, Utrecht Pharmacy Practice Network for Education and Research, Utrecht Institute of Pharmaceutical Sciences, Utrecht University, PO Box 80082, 3508TB, Utrecht, The Netherlands.

E-mail: e.koster@uu.nl

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Abstract

Objective To explore pharmacy staff's perspectives regarding medication use behaviour in adolescent patients.

Methods Structured face-to-face interviews were conducted with 170 community pharmacy staff members.

Key findings Medication-related problems in adolescents had been experienced by 80 respondents; non-adherence was frequently mentioned ($n = 73$). An important reason for medication-related problems in adolescents not being recognised was that prescriptions are often collected by the parents (with or without the teenager). Solutions suggested by the interviewees to improve adolescents' medication use behaviour included (improving) counselling with emphasis on necessity/benefits of medication ($n = 130$) and more direct contact with adolescents instead of parent(s) ($n = 77$). Use of digital media for educational purposes or reminder services was suggested to support medication use ($n = 67$).

Conclusions Almost half of pharmacy staff experienced problems related to medication use in adolescents. Pharmacy staff see a primary role for counselling on the benefits of therapy but foresee difficulties in obtaining direct contact with adolescents. Use of new media could be useful.

Introduction

Medication adherence rates often decline when children become teenagers.^[1,2] Teenagers' daily schedules, compared with those of children, become more busy, which could cause difficulties with adherence to a daily medicine routine.^[3,4] Furthermore, lack of knowledge, negative illness and medication beliefs, varying support from parents, and a desire for independence have been shown to influence medication use in this group.^[3,5] Health-care providers can stimulate self-management and improve medication intake behaviour by giving patients a clear understanding of why (and how) they need to use medication. Addressing patients' perceptions towards medication (need/concerns) and illness can improve adherence rates.^[6] Little is known about health-care providers' perspectives regarding medication-related problems in adolescents. The community pharmacy is the primary place for medication dispensing. Therefore, the aim of this study was to explore pharmacy staff's perspectives regarding medication-related problems in adolescents in order to explore possibilities to improve medication use in this group.

Methods

Setting and sample

Community pharmacies affiliated with the Utrecht Pharmacy Practice Network for Education and Research were invited to participate.^[7] Data were collected between April and July 2013 by 42 Master of Pharmacy students who were undertaking a traineeship in one of the participating pharmacies or were involved in a course on pharmacy practice research. The study was approved by the Institutional Review Board of the Pharmacoepidemiology and Clinical Pharmacology division, Utrecht University.

Data collection

Per pharmacy, at least three team members were interviewed. All students received instructions on the interview procedure. Data collection was guided by a structured interview

questionnaire that contained mostly closed questions on medication-related problems in adolescents, with special focus on adherence, the frequency of pharmacy staff encounters with adolescents (filling prescriptions, counselling), as well as a question about possibilities to improve medication use in adolescents (open-ended question). Interviews were tested on pharmacy students and researchers at Utrecht University to assess clarity of questions and to assure similar interpretation of answers.

Data analysis

Chi-square testing was used to study differences in mentioned solutions between groups (pharmacists versus pharmacy technicians and between different age groups). Thematic analysis was used to explore the open-ended questions. All open-ended questions were coded by two investigators (E.K., D.P.). A preliminary list of categories was developed for each interview segment, and answers in that segment were coded according to one or more of these categories. Discrepancies were resolved through discussion. Data were analysed using SPSS for Windows, version 20.0 (IBM, Armonk, USA).

Results

In total, 170 team members (53 pharmacists, 109 technicians, 8 other functions) were interviewed in 57 pharmacies. The majority of interviewees were female (87.1%); 11.2% were aged <25 years, 57.1% were aged between 25 and 44 years, and 31.8% were aged ≥45 years.

Experience of medication-related problems by adolescents was reported by 80 respondents (47.1% of total sample); non-adherence ($n = 73$) was frequently mentioned. In addition, problems regarding administration ($n = 23$) and overdosing ($n = 17$) were mentioned. Prescriptions are often collected by the parents (with or without the teenager) (Figure 1).

All interviewees ($n = 170$) were asked about reasons for low adherence in adolescents and possible solutions for this problem. Interviewees mentioned forgetting to take medication (63.5%), low perceived necessity (61.8%), being ashamed to take medication (41.2%), lack of knowledge (32.4%) and lack of time (25.9%). Solutions suggested by the interviewees to improve adolescents' medication use behaviour can be divided into two categories: (1) solutions related to counselling and (2) solutions to support (correct) medication use (Table 1). The majority of the interviewees (76.5%) mentioned the importance of counselling with emphasis on necessity/benefits of medicines. Monitoring adherence (prescription refill rates) and providing feedback to individual patients was also suggested as a solution to improve adherence (24.7%). Furthermore, pharmacy staff mentioned more

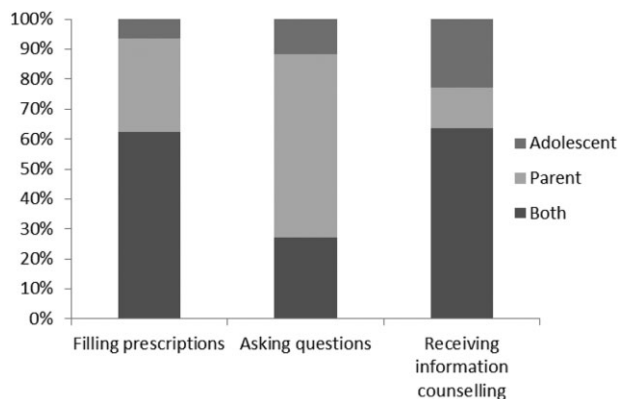


Figure 1 Pharmacy staff's encounters with adolescents.

direct contact with teenagers and adjusting information and counselling specifically for this age group. Use of digital media (39.4%), such as using social media for educational purposes or sending emails or text messages as reminders, was suggested as a tool to improve adherence. There were no differences in perceived reasons for low adherence between pharmacists and technicians or between team members with different age or gender (data not shown).

Discussion

Medication-related problems in adolescents, mostly non-adherence, had been experienced by almost half of the interviewees. Pharmacy staff reported forgetting to take medication and low perceived necessity as important reasons for adolescents' not using medication as prescribed. This is in accordance with previous studies.^[4,8-11] The interviewees suggested different solutions to improve adolescent medication use, mainly aimed at improving knowledge by more and specific counselling in the pharmacy, with special emphasis on necessity and benefits of medicines.

Data were collected in a relatively large sample of pharmacies spread across the country. A potential limitation of the study might be that data collection was performed contemporaneously with a study on asthma medication adherence in the same pharmacies; therefore, some interviewees specifically referred to problems in asthmatic adolescents (e.g. inhalation technique). However, many problems addressed will be the same for other chronic disorders; we therefore do not think this hampers interpretation of findings. Furthermore, data were collected by different students, and although they received instructions, there may have been some variation in interview skills. However, as the questionnaire was straightforward and contained mostly closed-ended questions, we assume this limitation had only minimal effect.

Pharmacists are in an excellent position to recognise patients with medication-related problems. However, this

Table 1 Solutions presented to problems with medication in adolescents (*n* = 170)

Suggested solutions	% (<i>n</i>)	Examples of solutions
Counselling		
Patient counselling	76.5 (130)	Information and education about illness and medication use with emphasis on necessity and benefits, providing additional information at first and second dispensing, providing additional educational material
Monitoring medication use in pharmacy	24.7 (42)	Monitoring adherence rates (refilling prescriptions) by using the pharmacy information system, contacting adolescents to discuss non-adherence if necessary
Repeating instructions	8.8 (15)	Repeating medication use instructions (e.g. inhalation medication, injections)
Contact/involvement with adolescents	45.3 (77)	Aiming communication at adolescents, providing instructions and information to adolescents instead of (only) informing parents; adjustment of information (leaflets) specific for younger age group
Contact/involvement with parents	12.9 (22)	Improvement of knowledge through the parents, motivation of parents, reaching adolescents through their parents (parental support)
Support		
Use of online support/new media	39.4 (67)	Use of online media and digital support (e.g. smartphone applications, text messages, social media and websites) to improve knowledge, use of reminder services
Medication adjustments	14.1 (24)	Adjustment of dosing regimen (e.g. once a day instead of twice) to fit in with daily routine, use of other inhaler, use of other type of drug/administration route
Automatic refill of medication	8.8 (15)	Automatically refilling prescriptions every 3 months, sending reminder to fill prescriptions

All interviewees (*n* = 170) were asked to give solutions to improve medication use behaviour in adolescents regardless of recognition of this problem in their pharmacy.

study indicates there is limited direct contact with adolescents: in many cases, the parents fill prescriptions at the pharmacy, which might be a reason for problems among adolescents not being recognised. This is in line with results reported by Slack *et al.*,^[12] who reported teenagers had only limited contact with pharmacists. This hampers medication counselling and instructions related to specific medication (e.g. inhalers or subcutaneous injections). To improve adolescents' medication behaviour, other ways should be sought to approach (and actually reach) patients. Use of new media could facilitate this.^[13] Interviewees suggested as solutions the use of social media, smartphone applications, and text messages to support counselling and communication purposes with teenagers. Judson *et al.*^[14] propose a dashboard with health information to inform patients and to stimulate patient engagement in disease management.

Conclusion

This study shows that health-care providers feel medication counselling for adolescent patients could be improved by placing more emphasis on the necessity of medication use and by making use of online media and digital support to remind adolescents to take their medication.

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Declaration

Conflict of interest

The Author(s) declare(s) that they have no conflicts of interest to disclose.

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Authors' contributions

E.S. Koster designed the initial study, carried out the initial analyses, drafted the initial manuscript and approved the final manuscript as submitted. D. Philbert participated in data analysis and coordination of data collection and reviewed and revised the manuscript. N.A. Winters and M.L. Bouvy participated in interpretation of the data, critically reviewed and revised the manuscript and approved the final manuscript as submitted. All Authors state that they had complete access to the study data that support the publication.

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