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Pharmacy Technicians' Attention to Problems With Opening Medicine Packaging

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Abstract

Background: Pharmacy technicians seem to be well equipped to engage in conversations with patients about their experiences and problems with medication, but it is unclear whether or not they systematically explain or demonstrate to patients how to use medication packaging. **Objective:** To explore to what extent pharmacy technicians identify problems with opening medicine packaging and how they assist patients in solving these problems. **Methods:** We conducted a cross-sectional study that comprised semistructured interviews, with 31 pharmacy technicians in 31 pharmacies, to assess the occurrence and type of difficulties with packagings and to suggest solutions. **Results:** All pharmacy technicians recognize the occurrence of packaging problems, though patients rarely report them at the pharmacy counter. Not all pharmacy technicians are familiar with opening all packaging forms, but they all describe ways to find out how to open them, which usually only happens after patients bring up problems. Solutions suggested by the pharmacy technicians include informing and counseling, changing or manipulating the packaging, and providing assisting tools. **Conclusions:** This study shows that although pharmacy technicians are aware that medication packaging can cause problems and are able to name or find out solutions to all these problems, there is no systematic attention for packaging at drug dispensation in most pharmacies. Discussing the handling of medication packaging should become a fixed part of drug dispensation counseling. Pharmacists should draw up working procedures to support pharmacy technicians in their counseling activities.

Keywords

community pharmacy, pharmacy technician, drug packaging, drug containers, patient problems with drug packaging

Introduction

Guidelines developed by the Royal Dutch Pharmaceutical Society state that correct medication use should be addressed during dispensation,[1] but practical issues such as usability of the packaging do not receive much attention. Problems with opening medicine packaging such as blisters or bottles can cause difficulties in daily use, especially for older people or people with rheumatoid arthritis (RA).[2-7] One previous study showed that most of the practical problems with medication concerned this issue[8]; another study showed that 1 in 4 patients using omeprazole experienced problems with opening the packaging.[9] Some of these problems could have been prevented with proactive counseling on how to open the packaging or by supplying tools designed to help open certain packaging forms.

In the Netherlands, pharmacy technicians engage in patient contact at the counter more frequently than pharmacists.[10] Training and work roles of pharmacy technicians may vary between countries. In the United States, technicians are usually involved in areas including administration (prescription entry, inventory control, filling bottles with prescribed medication, and labeling them) and answering simple questions (referring patients to a pharmacist for medication information), to free up the pharmacist to focus on other functions such as patient counseling.[11,12] In the United Kingdom and Belgium, for instance, pharmacy technicians are given other responsibilities, including advising patients on correct and safe medication use.[13,14] Technicians in the Netherlands are professionally trained to counsel patients about their medication.[15,16]

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The aim of this study was to explore to what extent (and how) pharmacy technicians identify problems with opening medicine packaging and how they assist in solving these problems. Problems with administration of medication are outside the scope of this study.

Methods

Setting and Participants

In this cross-sectional study, pharmacy students in their final (sixth) year conducted semistructured interviews with pharmacy technicians in the pharmacies where they were doing their internship (duration 6 weeks). Students had not been employed in the pharmacy prior to their internship.

A convenience sample of 31 community pharmacies affiliated with the Utrecht Pharmacy Practice network for Education and Research (UPPER) was selected because these pharmacies were supervising pharmacy student interns during the period of data collection. These pharmacies covered areas in the center, northwest, and southwest of the Netherlands, in mostly urban settings. The pharmacist selected the technician who had the most experience as well as frequent patient contact, and this technician was interviewed for the study.

The study was conducted in compliance with the requirements of the UPPER Institutional Review Board of the Pharmacoepidemiology and Clinical Pharmacology Division of Utrecht University.

Interview

Interviews were guided with an interview questionnaire that contained mostly open-ended questions concerning the occurrence of reported problems with opening medicine packages, identification of patient groups at high risk of problems, types of problems, and counseling regarding the opening of medicine packaging by technicians. Specific attention was given to push-through and peel-off blisters, pill bottles, dropper containers, suppositories, and tubes (see the appendix for the questionnaire). Students attended a session prior to their internship that included information on background of the study, data collection methods, and instructions on how to conduct the interview. Students were instructed to wait for the technicians' answers and only prompt them with additional questions or examples when elaboration on initial answers was desired.

Analysis

The completed questionnaires were sent to the researchers. Answers were explored and categorized into groups by 2 researchers (DP and EF) independently. In case of inconsistencies a third researcher (EK) was consulted until consensus was reached.

Results

Thirty-one pharmacy technicians were interviewed. Not all technicians answered questions about their work experience; 89.5% (17 out of 19) of the technicians who gave this information had more than 5 years of experience, and 86.7% (26 out of 30) worked 32 hours a week or more. All technicians had counseled patients on problems with opening medicine packaging. The frequency of these consultations varied from once a year to twice a week. Two thirds (67.7%; n = 21) of the pharmacy technicians indicated that they encounter these problems at most once a month. According to the technicians, elderly patients (27 technicians) and patients with RA/other joint diseases (24 technicians) most commonly report packaging problems.

Problems With Opening Medicine Packaging

Technicians have encountered patients who experience problems with 2 to 6 (out of 6 prompted) packaging forms (Table 1). In addition, 16 (72.7%) technicians describe problems with other (unprompted) packaging forms.

Eighteen technicians (60.0%) stated that they do not always immediately know how to open a medicine packaging themselves, for example, for less common packaging forms or new medicines, but nearly all technicians are able to find out how to open the packaging. Eight pharmacy technicians actually tried to open the packaging themselves, and in one instance it is specified that this means the extracted tablet will be thrown away.

Solutions to Problems With Opening Medicine Packaging

Three categories of solutions to problems with opening packaging were examined: information and counseling, changing or manipulating the packaging, and suggesting or providing tools (Table 2).

Most pharmacy technicians feel they can always offer an efficient solution, or that they think they could, if a problem is reported (82.1%, 23 technicians). Some say that they always try, but it might not always be possible (5 technicians). Reasons for this are that the technician may not be experienced enough, that it is not possible to change or manipulate the packaging for every patient (this is only done in exceptional cases), or that some patients refuse to pay for the assisting tools the pharmacy can offer.

Attention for Problems With Opening Packaging in the Pharmacy

Usually, attention for packages is reactive, and information or demonstrations are only given when patients bring up problems at the counter (20 technicians). Most pharmacy technicians state to only have structural attention for medicine

Table 1. Problems With Opening Medicine Packaging Reported by the Pharmacy Technicians.

Packaging	n (%), N = 31	Most Reported Problems
Push-through blister	28 (90.3)	Foil too rigid to push the tablet or capsule through, which causes tablets to break, capsules to indent, or small tablets to fly out; tablets too close to each other or too tight in package
Pill bottle	24 (77.4)	Problems opening the child-resistant closure and security seals (the first time); the pull tab on the seal is too small
Peel-off blister	22 (71.0)	Unclear how to open the package; patients try to push the medicine through the foil, which breaks the tablets; tab too small, difficulties peeling the tab, patients tear more than one cavity
Dropper container	19 (61.3)	Container too rigid or too small to squeeze or get a good grip (sometimes causing more than a few drops to come out); problems with opening the dropper the first time (pull tab or sealing too tight)
Tube	18 (58.1)	Plastic tube too rigid, or substance too rigid; opening tube the first time (not knowing (how) to puncture the protective foil); squeezing out the last portion of the substance from a plastic tube
Suppository strip	14 (45.2)	Plastic too rigid to tear; packaging too greasy and slick (to get a grip); when opening this strip, the suppository flies into the air, more than one cavity is opened or the suppository breaks
Other packaging forms	16 (72.7)	Opening child-resistant closure or tearing foil of bottles with liquid medication; powders are difficult to get into glass or out of the sachet; containers with special/rare mechanisms

Table 2. Solutions That Can Be Offered According to the Pharmacy Technicians.

Category of Solution	n (%), N = 31	Solutions[a]
Information and counseling	24 (77.4)	Providing information (n = 15); demonstrations (n = 10)
Changing and manipulation of packaging	31 (100)	Changing label or dosage form (n = 9); extracting tablets or capsules from blisters and dispensing them (usually) in a bottle (n = 23); extracting medicine and exchanging difficult for easy to open packaging form: bottle for (easy to open) bottle (n = 15), tube for (more malleable, plastic instead of aluminum) tube or container (n = 5); exchanging lids on bottles (n = 4); removing a seal or unscrewing caps of (tamper-evident) bottles (n = 9); dispensing medicine in special pill organizers (eg, multi-dose dispensing system, n = 12)
Tools	20 (64.5)	None (n = 5); tools can be provided, sometimes on order (n = 7); eye drop bottle squeezers (n = 7); towels for gripping bottles (n = 2); tube squeezers (n = 1); blister pack openers (n = 3, although some would advise household tools instead)

[a]Sometimes one technician mentioned multiple solutions.

packaging when it concerns a first (or second) dispensation of an uncommon dosage form, when switching to a generic, or when counseling is important for correct use (eg, administration of inhalation medication; 17 technicians). Some also address opening of the packaging (or provide alternative packaging) proactively when there is a note in the patient's file about prior problems with opening the regular packaging, when dealing with specific patient groups (eg, impaired patients in nursing homes), or when the technician is already aware of problems with opening that particular packaging (4 technicians). Two technicians would like to pay more attention to packaging and are willing to think about how this could be accomplished (eg, putting up posters, offering multi-dose dispensing systems for certain patient groups). One technician noted that advising patients on how to open packages can be viewed as patronizing (they expect negative reactions from patients, such as "I'm not stupid, I know how to open a bottle!"), and this is why they are reluctant. Another technician mentioned the lack of instruction from pharmacists on this subject, which leads to technicians using their own judgment in this matter.

Discussion

This study shows that every pharmacy technician encounters patients who have problems with medicine packaging. However, there is a wide range in the reported frequency of these encounters. Spontaneous reports of patients are rare in

the pharmacy, although problems are not uncommon among patients.[8,9] This suggests that medicine packaging is not systematically addressed during medication dispensation. Technicians usually only discuss the problems when patients bring them up themselves.

Although it was only mentioned by a few technicians, insecurity with respect to counseling, sometimes caused by unclear protocols and procedures, could be part of the reason why they do not ask about experiences with the packaging, and why information on opening packaging is not systematically provided. Communication in the pharmacy might be hampered by a number of factors, such as lack of privacy and time constraints.[17,18] Together with a possibly limited engagement of patients in communication on this topic, this could create a more passive and reactive (instead of proactive) attitude of technicians on this issue.[18]

Another illustration of the importance of including the topic of medicine packaging in protocols and procedures is the great number of solutions related to manipulation of the packaging in the pharmacy (extracting tablets, unscrewing sealed caps, exchanging the original packaging for a more usable one). Manipulation introduces risks to the shelf-life of the medication when it is removed from the original packaging. Drawing up protocols that incorporate the experiences of technicians could improve commitment and confidence toward counseling, which could improve patient safety, medication adherence, and efficacy.

Strengths and Limitations

This study gives insight into the perspective of the pharmacy technician on a subject that has not received a lot of attention.

The method of data collection (semistructured interviews) could have caused socially desirable answers. This could indicate that in daily practice there is even less attention for opening medicine packaging. This would further support our finding that attention to packaging is sporadic at best. Data collection was conducted by 31 different students, and although students had received clear instructions, there might be differences in the quality of the obtained data (eg, variation in interview skills).

Conclusion

This study shows that although pharmacy technicians are able to name a wide range of solutions to solve packaging problems, there is no systematic attention for packaging at drug dispensation in most pharmacies.

Practice Implications

Discussing the packaging and asking about patients' experiences should become a fixed part of (first) dispensation counseling. Any first dispensation should include information on how to open the packaging, and for refill prescriptions counseling should involve asking patients about their experiences with opening the packaging and whether there were any problems. Especially elderly people and people with RA or other hand function limitations might benefit from periodic monitoring. In addition, demonstrating how to open the packaging could help elucidate the difficulties and create an opportunity to provide tools for opening, or alternative packaging. Even though counseling in other countries may not be part of the work role of pharmacy technicians, studies conducted in other countries have also shown that opening packaging can cause problems for patients.[3,4,6,7] These patients could benefit from systematically discussing the packaging at dispensation as well. Technicians exchanging knowledge and experience on specific problems and useful solutions could help create the most efficient and safe ways to assist patients on this issue. In addition, protocols or working procedures could be drawn up to support technicians in their counseling and should include the safest ways to manipulate the original packaging, when this is unavoidable.

Appendix

Interview Questionnaire for Pharmacy Technicians

1a. Do patients ever express experiencing difficulty opening medicine packaging?
1b. How often do you encounter patients expressing such difficulties in your pharmacy?
2. Which specific patient groups most often experience difficulty opening medicine packaging?
3. With which type of medicine packaging do people experience difficulties?

3a. Do patients ever express experiencing difficulty opening:		What difficulties are these?
Push-through blisters	yes/no	
Peel-off blisters	yes/no	
Pill bottles	yes/no	
Dropper containers	yes/no	
Suppository strips	yes/no	
Tubes	yes/no	
Other packaging		

4a. Do you always know yourself how to open the packaging you are dispensing?
4b. How do you find out how to open it?
5a. Which solutions can the pharmacy offer when patients experience difficulties opening medicine packaging?

5b. What counseling, tips, or information can be given?
5c. What tools can the pharmacy offer?
5d. Are you always able to offer a solution that helps adequately solve the packaging problem?
6. In what way does the pharmacy pay attention to medicine packaging?
7a. How long have you been working in a community pharmacy?
7b. how many hours a week do you work here?
7c. how many hours a week do you have patient contact (counter, email, or telephone)?

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