Pharmacist Question-Asking in New Mexico Community Pharmacies[1]

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An investigation was undertaken to examine the frequency, content, and type of pharmacist question-asking in New Mexico community pharmacies. A total of 344 pharmacy personnel-patient interactions were observed in eight community pharmacies. Pharmacists or interns interacted with patients in only 57 percent of the observed encounters. Pharmacists asked drug therapy questions during only 36 percent of their interactions with patients. Ninety-three percent of the drug therapy questions asked by pharmacists were close-ended. The types of questions most often asked by pharmacists included: (*i*) asking whether the doctor explained the medication; (*ii*) assessing whether the patient had any questions about the medication; (*iii*) monitoring the patient's medication use; and (*iv*) assessing the patient's familiarity with the medication.

INTRODUCTION

Pharmacist-patient communication is becoming an increasingly important part of pharmacy practice as new federal and state regulations place added responsibility on pharmacists to counsel patients about drug therapy. On a federal level, the Omnibus Budget Reconciliation Act of 1990 (OBRA-90) requires pharmacists to offer to counsel Medicaid patients(1). In New Mexico, pharmacists or pharmacy interns are required to verbally offer to counsel each patient or patient's agent about all new and refill prescriptions(2).

Under federal and state regulations, pharmacists are also required to document whether the patient refuses the pharmacist's offer to counsel(1,2) Abood and Brushwood(1) point out that a refusal of counseling can be considered effective only if the patient truly understood the offer and really did not want counseling. A pharmacist saying "Do you have any questions?" is not an adequate offer of counseling.

The federal and state regulations that require pharmacists to offer to counsel patients rather than requiring them to counsel patients, give pharmacists the opportunity to ask a close-ended question "do you want counseling?" rather than an incentive to ask a series of open-ended questions. Close-ended questions are direct questions that ask for specific information, (*e.g.*, where short responses are generally the only response options). Open-ended questions are often distinguished from close-ended questions by their nonspecificity and/or probing intent. They often begin with "what," "why," "could," or "how" and request an answer of perception, information or feelings(3). It is important that pharmacists ask patients open-ended rather than close-ended questions because open-ended questions give pharmacists an opportunity to: (*i*) assess patient needs for counseling to ensure the safe and effective use of medications; (*ii*) identify adverse drug reactions; (*iii*) detect patient noncom-

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pliance; and (*iv*) assess patient confusion and drug-taking problems.

Participatory or patient-centered care occurs when pharmacists ask patients open-ended questions which allow the patient to become more active during the pharmacist-patient encounter(4-7). Several studies have found that patients are better satisfied, are more adherent to medical regimens, and have better outcomes (*e.g.*, improved blood pressure control) in interactions where health care providers demonstrated more participatory or patient-centered behavior(6-11).

Therefore, the purpose of this study was to examine: (*i*) how frequently pharmacists ask patients questions about their drug therapy; (*ii*) the content and type of drug therapy questions that pharmacists ask their patients; and (*iii*) how pharmacist question-asking varies by pharmacist-patient interaction characteristics.

METHODS

Twelve pharmacies were randomly selected from a list of 93 Bernalillo County community pharmacies provided by the New Mexico Board of Pharmacy. The principal investigator personally visited with the pharmacy manager of each of the selected pharmacies and asked for permission to observe eight unannounced hours (or at least 30 pharmacy personnel-patient encounters) sometime during a three month period. If the pharmacy manager agreed to participate in the study, a trained observer was sent into the pharmacy at scheduled times on different days of the week for two to four-hour shifts to observe the provision of patient counseling information.

Three pharmacy student observers were trained over a one-month period of time how to observe and record pharmacy personnel-patient encounters using a coding instrument which is discussed more fully below. The observers were trained to code the pharmacy personnel-patient encounters using a videotape of 25 such real interactions. The observers viewed the tape and coded the 25 interactions over a three-week period of time. Periodically through the training period, discrepancies in coding among the three observers and procedures for observation were reviewed.

Inter-rater reliability was assessed after completion of training using a second videotape of 10 pharmacy personnel-patient interactions. A kappa value was calculated to determine the level of agreement among the observers(12). The kappa value for the observations recorded by the observers was 0.765.

When the pharmacy student went into a pharmacy, he or she told the pharmacy manager that he or she was present and asked which employees working that day were pharmacists, pharmacy interns, or pharmacy technicians. The observer would then watch the encounters from the waiting area of the pharmacy or from behind the prescription counter.

Coding Instrument

The coding instrument used in this study was developed using work done by previous investigators who had observed and recorded what was occurring during pharmacist-patient and physician-patient interactions(6,13-15). The face validity of the coding instrument was assessed by three practicing pharmacists and a sociologist.

The pharmacy students recorded the following pharmacist-patient interaction characteristics: (*i*) whether the patient interacted with a pharmacist, intern, or technician; (*ii*) the gender, age, and race of the pharmacist and the patient; (*iii*) the type of community pharmacy (chain, HMO, independent); (*iv*) the total number of prescriptions the patient received; (*v*) whether the patient was receiving a new or refill prescription; *(vi)* the number of people waiting nearby; and (*vii*) the number and content of questions that pharmacists asked patients.

Table I. Pharmacist-patient interaction characteristics (N=196)

Variable	Percent (N)
Pharmacist gender	
male	47 (93)
female	53 (103)
Pharmacist age	
<26	13 (25)
26-35	46 (91)
36-45	26 (50)
>45	15 (30)
Pharmacist race	
white	90 (176)
non-white	10 (20)
Patient gender	
male	35 (69)
female	65 (127)
Patient age	
18-25	5 (10)
26-35	24 (47)
36-45	28 (54)
46-65	21 (41)
>65	22 (44)
Patient race	
white	68 (134)
non-white	32 (62)
Type of pharmacy	
independent	15 (30)
HMO	47 (92)
chain	38 (74)
Number of prescriptions picked up	
1	72 (142)
2 or more	28 (54)
Type prescription picking up	
refill	35 (68)
new	56 (111)
unknown	9 (17)
Persons waiting nearby	
0	70 (138)
1 or more	30 (58)
Number of pharmacist questions about drug therapy	
0	64 (127)
1	30 (58)
2	5 (9)
3	1 (2)

The data were coded and analyzed using Statistical Package for the Social Sciences (SPSS/PC) (16). Descriptive statistics were calculated for the pharmacist-patient interaction characteristics and the number and content of drug therapy questions that pharmacists asked patients. Next, bivariate analyses were conducted between pharmacist question-asking and pharmacist gender, pharmacist age, pharmacist race, patient gender, patient age, patient race, total number of prescriptions picked up, type of prescription picked up, and type of pharmacy. Chi-square statistics were calculated(16).

Table II. Percent of interactions where pharmacists asked the following types of drug therapy questions (N=196)[a]

Type of question	Percent	(N)
Doctor explain the medication	10	(20)
How often do you see your doctor? (open-ended)		
Did the doctor tell you how to take the medication?		
Did the doctor tell you how to use the medication?		
Did your doctor tell you what your taking?		
Did he give her eye drops?		
Did the doctor talk to you about the medication?		
Did your doctor go over you medication with you?		
Did the doctor tell you any information?		
Did your doctor explain how to use the medication?		
Did the doctor advice you to take 1 a day?		
Any questions about the medication	9	(17)
Anv questions about your inhalers?		
Any questions about eye drops?		
Do you have any questions?		
Monitoring the patient's medication use	8	(16)
How is your blood pressure medication working? (open-ended)		
How is your metoclopramide working for you? (open-ended)		
How is she doing on her medication? (open-ended)		
How are you doing on your medications? (open-ended)		
Are you doing okay on both medications?		
Are you doing okay on the Pavalor?		
Is she finished with the Zovirax?		
Are you doing okay on your medication?		
Have you been doing okay on your medications?		
Any trouble with the medication?		
Any problems?		
No side effects?		
Is everything okay?		
Assessing the patient's familiarity with the medication	6	(11)
Are you familiar with how to take this?		
Have you used this before?		
Have you used ampiciilin before?		
Is this refill for you?		
Have you ever taken Tylox before?		
Are you familiar with using eye drops?		
Have you ever taken Tylenol with codeine before?		
Have you been taking the Premarin before?		
Need other medications, accessories	3	(5)
Do you need any other medications?		
Do you need syringes?		
There are 2 types of droppers, which type would you like?		
Do you need any other medications?		
Do you need some Tylenol PM?		
Allergies	2	(4)
Do you have any allergies?		
Any allergies to penicillin?		
Condition	2	(3)
How are you feeling? (open-ended)		
How long have you had the infection? (open-ended)		
Do you have sores in vour mouth?		
Purpose	1	(2)
What are you taking this for?		
Safety caps	1	(2)
Would you like an easy-open cap?		
Written information	1	(1)
Did you get a printout on the medication?		
Take with	1	(1)
Do you know it is important to take this with every meal?	1	(1)

[a]Open-ended questions are noted in parentheses.

RESULTS

Sample Description

Eight of the 12 community pharmacies (67 percent) agreed to participate in the study. The sample included four chain pharmacies, three health maintenance organization (HMO) pharmacies, and one independent pharmacy. Three independent pharmacies and one chain pharmacy refused to participate in the study. A total of 344 pharmacy personnel-patient encounters were observed. Pharmacists or interns interacted with patients in only 57 percent of the observed interactions (N-196). As reported elsewhere, pharmacists were significantly more likely to interact with Hispanic patients and with patients picking up prescriptions with fewer people waiting nearby[3]. Only those 196 patients who interacted with pharmacists or interns were used in the following analyses of pharmacist question-asking. Pharmacy interns interacted with patients during only 20 out of the 196 interactions so pharmacists and interns were combined into one group for the following analyses.

Table I presents the characteristics of the pharmacist-patient interactions. During 53 percent of the interactions pharmacists were female and during 15 percent of the interactions pharmacists were age 46 or older. During 90 percent of the interactions pharmacists were white. Sixty-five percent of the patients were female and 43 percent were over the age of 45. Thirty-two percent of the patient sample was non-white. The non-white category contains primarily Hispanics (87 percent). Sixty-two percent of the patients picked up their prescriptions at HMO or independent pharmacies. Fifty-six percent of the patients were picking up new prescriptions and 72 percent were picking up only one prescription.

Pharmacists asked one or more questions about drug therapy during 36 percent of their interactions with patients. A total of 82 questions were asked by pharmacists during 69 different pharmacist-patient interactions. Pharmacists asked two questions during nine of their interactions with patients and three questions during two of their interactions with patients. Only seven percent of all questions asked by pharmacists were open-ended.

Table II shows the types of drug therapy questions asked by pharmacists. The types of questions most often asked by pharmacists included: (*i*) asking whether the doctor explained the medication (10 percent of interactions); (*ii*) assessing whether the patient had any questions about the medication (nine percent of interactions); (*iii*) monitoring the patient's medication use (eight percent of interactions); and (*iv*) assessing the patient's familiarity with the medication (six percent of interactions).

Table II also presents the actual questions asked by pharmacists. As shown in Table II, most of the open-ended questions asked by pharmacists were in the monitoring patient's medication use category. Another interesting finding in Table II is that pharmacists rarely refer to the name of the patient's medication(s) when asking questions. Also, we found that pharmacists are not asking patients whether they want counseling, they are simply asking patients whether they have any questions. Simply asking patients whether they have any questions is not the same thing as offering patients counseling. Many patients may be saying they do not have any questions, but they may have wanted counseling if they knew it was being offered.

[3]Slcath, B., "Pharmacist participation in patient counseling," Presented at the National Association of Boards of Pharmacy. Districts 7 & 8 Regional Meeting, Lake Tahoe NV (1994).

Table III. Pharmacist drug therapy question-asking by pharmacist-patient interaction characteristics (N=196)[a]

Variable	Percent of interactions where pharmacist asks a question
Pharmacist sender	
male	35 (33)
female	35 (36)
Pharmacist age	
<26	48 (12)
26-35	36 (33)
36-45	32 (16)
>45	27 (8)
Pharmacist race	
white	36 (64)
non-white	25 (5)
Patient gender	
male	30 (21)
female	38 (48)
Patient age	
18-25	50 (5)
26-35	30 (14)
36-45	37 (20)
46-65	34 (14)
>65	36 (16)
Patient race	
white	32 (43)
non-white	42 (26)
Type of prescription picking up	
refill	38 (26)
new	35 (39)
Number of prescriptions picking up	
1	32 (45)
2 or more	44 (24)*
Type of pharmacy	
independent	27 (8)
HMO	37 (34)
chain	36 (27)

aSignificance level of chi-square test *

**P*<0.10.

Table III presents whether the pharmacist asked one or more drug therapy questions by the pharmacist-patient interaction characteristics. Pharmacist drug therapy question-asking did not vary at the $P<0.05$ significance level by any of the pharmacist-patient interaction characteristics. However, pharmacists asked patients picking up two or more prescriptions more drug therapy questions than patients picking up only one prescription.

DISCUSSION

Despite the fact that the New Mexico Board of Pharmacy regulations require pharmacists or pharmacy interns to offer to counsel all patients or patients" agents about their new and refill prescriptions, 43 percent of patients did not interact at all with a pharmacist or pharmacy intern. Even if pharmacists did interact with patients, pharmacists asked patients drug therapy questions during only 36 percent of these interactions.

Additionally, pharmacists asked more than one drug therapy question during only six percent of their interac-

tions with patients. Part of the reason why pharmacists may not have asked most patients more than one question could be because the majority of questions that pharmacists asked were close-ended (93 percent). Close-ended questions reduce the patient's degree of openness and cause the patient to become more passive during the interviewing process(17). Open-ended questions are harder to formulate than close-ended questions but they are more crucial in decreasing the patient's defensiveness by conveying a willingness to listen(17).

Pharmacists asked open-ended questions during only seven percent of their encounters with patients. This finding suggests that pharmacy students and practicing pharmacists need to be better trained on how to ask open-ended questions, which allow patients to become more involved in the communication process(18). However, it is not clear what barriers (*e.g.,* lack of training, lack of motivation, lack of time) prevent pharmacists from asking open-ended questions. Future research needs to examine what factors inhibit pharmacists from asking open-ended questions in community pharmacy settings.

Pharmacist question-asking did not differ at the $P<0.05$ significance level by any of the pharmacist-patient interaction characteristics. This finding suggests that pharmacist question-asking needs to be improved in all types of pharmacists, with all types of patients, and in all types of practice settings. However, our sample of pharmacies was small. Future research could examine if question-asking differs by pharmacist-patient interaction characteristics with larger sample sizes.

Pharmacy students and practicing pharmacists need to be aware of the importance of asking open-ended questions when interacting with patients. The Indian Health Service has designed an educational program that can be used to educate pharmacy students and practicing pharmacists how to ask open-ended rather than close-ended questions(19). The program suggests that pharmacists ask the following open-ended questions when counseling a patient who is picking up a new medication:

- What did the doctor tell you the medication is for?
- How did the doctor tell you to take the medication?
- What did the doctor tell you to expect?

The program also suggests that the following question be used to verify the patient's understanding:

- Just to make sure I didn't leave anything out, can you please tell me how you are going to take your medicine?

The program suggests that pharmacists ask the following open-ended questions when counseling a patient who is picking up a refill prescription for a maintenance medication:

- What do you take the medication for?
- How do you take it?
- What kinds of problems are you having?

In addition to using the U.S. Indian Health Service program, Colleges of Pharmacy need to provide more training in real life practice settings where workload demands often counter what students have been taught about communicating with patients. Billow(20) found that only 37.7 percent of pharmacy schools taught patient interviewing outside the classroom in their communications courses. Behavioral science clerkships that are problem-oriented, person-centered, theory-based, collaborative with practitioners and managers, and located at practice sites where psychosocial and behavioral problems are difficult to solve are very much needed in pharmacy school curricula(21). Additionally, pharmacy schools should work more with Boards of Pharmacy to improve the way that state counseling regulations are written so that future regulations will mandate counseling rather than requiring pharmacists to simply offer counseling and to assure that the practice environment accommodates patient counseling.

Research on training medical students how to better communicate with patients has shown that providing students with detailed feedback on their video-taped performance improved their ability to clarify patients' statements, use open-ended questions, and respond to verbal clues about patients' problems(22). Future research on training pharmacy students to better communicate with patients could examine how different methods of teaching students and practicing pharmacists how to better communicate with patients influence how well students and pharmacists do at communicating with patients in their everyday practice settings.

The study has numerous limitations including the observer effect of the student being present in the pharmacies. Pharmacists may have interacted with and counseled patients more when an observer was present. Another limitation of the study is that we did not have important patient demographic information (*e.g.,* patient diagnoses, how frequently the patient visits the pharmacy, the total number of medications the patient is on, years since the pharmacist graduated from pharmacy school). Additionally, we had more independent than chain or HMO pharmacies refuse to participate in the study.

Despite the limitations of the study, our findings are an important starting point for better understanding pharmacist question-asking in community pharmacies. Although the study was conducted in New Mexico, our findings have more broad-based applications since most states have adopted counseling regulations that are very similar to those found in New Mexico(1).

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