

PATIENTS' SATISFACTION WITH PHARMACIST CONSULTATION SERVICES: APPLICATION OF A MODEL OF SERVICE ENCOUNTER EVALUATION

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ABSTRACT

We used a Model of Service Encounter Evaluation to explore how patients evaluate pharmacist consultation services. Relationships between performance of pharmacist consultation services and confirmation/disconfirmation of patient expectations, and between confirmation/disconfirmation of patient expectations and patient satisfaction were assessed.

Three hundred sixty pharmacist - patient interactions in 12 pharmacies were used for data collection. Of 360 patients in the sample, 304 (84 percent) provided usable responses to personal interviews as they exited their pharmacy. Patients who received longer consultations and were provided more types of information during consultation more likely reported positive disconfirmation of their expectations. Patients who received more consultation than expected reported the highest satisfaction with the service, on average. A Model of Service Encounter Evaluation appears to be a good model for investigating patient's evaluation of pharmacist consultation.

INTRODUCTION

Pharmacist Consultation Services

When prescription medications are dispensed to patients, pharmacist consultation services are useful for improving appropriate medication use (Brown, et al. 1978; Davis and Cohen 1992; Hammarlund, et al. 1985; Wiederholt and Schommer 1991). Pharmacist consultation services are endorsed by health professionals (Kimberlin 1989) and consist of pharmacists' assessment of patients' medication therapies with subsequent verbal communication to patients about appropriate use of their medications. Consultation may include provision of information about directions for use, side effects, drug-drug interactions, drug-food interactions, storage, how

to monitor for effectiveness, and what to do if a dose is missed or a problem occurs.

Implementation of the Omnibus Reconciliation Act of 1990 (OBRA '90) mandated pharmacist consultation for all Medicaid patients who receive prescriptions, effective January 1, 1993. In light of this federal regulation, most states have mandated pharmacist consultation for all patients (Ginsburg and Bair 1993). Although reportedly beneficial, endorsed by health professionals, and now mandated by law, researchers report that the prevalence of pharmacist consultation was low prior to implementation of OBRA '90. Wiederholt, et al. (1992) reviewed literature on pharmacist consultation for their study, and reported the proportion of patients who received no consultation from pharmacists for new prescriptions ranged between 30 and 87 percent. Results from their study conducted in Wisconsin (in which pharmacist consultation services have been required since 1977) showed that 54 percent of respondents to a telephone interview reported no consultation with their pharmacist if their last prescription was a new prescription. Sixty-seven percent whose last prescription was a refill reported no consultation with their pharmacist.

Patient Satisfaction with Pharmacist Consultation Services

An important issue to consider for pharmacist consultation services is patient satisfaction with the service. According to Ross, et al. (1987), patient satisfaction with medical services is important for retaining or attracting patients. Patient willingness to remain within a delivery system, or with an individual pharmacy, may be due directly to satisfaction or dissatisfaction. Satisfied or dissatisfied patients generate reports about the adequacy or value of a service that may attract or deter potential patrons for a pharmacy. Patient satisfaction also may be an important factor in successful medical treatment. Satisfied patients might be expected to participate in and comply

with treatment, thus increasing the likelihood of successful outcomes.

Although the prevalence of pharmacist consultation has been low, researchers reported that at least 74 percent of patients were satisfied with pharmacist consultation services (Epstien 1992, Schering Report 1992). Many patients expected consultation only for new prescriptions they had not taken before, when a problem was detected by their pharmacist, or when they had a question (Schommer 1992). According to the Schering Report (1992), only 27 percent of respondents reported pharmacists should talk with them personally every time a prescription is dispensed. Thirty-six percent reported consultation should occur only if the patient asks, and 32 percent reported it should occur only if the pharmacist thinks it is necessary.

Now, pharmacists presumably consult patients about medications and health more than before OBRA '90 regulations took effect. For example, Schommer (1992) reported consultation occurred for 74 percent of a sample of interactions between pharmacists and patients in the time period May to September 1992, during which pharmacists were preparing for compliance with mandatory consultation requirements. Little is known about how an increase in consultation will affect patients' satisfaction for consultation with their pharmacist. According to disconfirmation of expectations theory (Bearden and Teel 1983; Cadotte, et al. 1987; Churchill and Surprenant 1982; Halstead 1989; LaBarbera and Mazursky 1983; Oliver and Linda 1981; Oliver and Westbrook 1982), increased consultation should exceed patients' expectations for it and lead to increased satisfaction with the service. However, it is unknown if patients' evaluations of pharmacist consultation services follow the disconfirmation of expectations theory. It is possible that increased consultation from a pharmacist may offend patients because they already received information from the prescribing physician, do not feel well or are in a hurry and view pharmacist consultation as a waste of time, or view their pharmacist as a source only for the product and not for information. Therefore, providing more consultation than expected may not lead to patient satisfaction as posited by the disconfirmation of expectations theory.

The purpose of this study was to explore patients' evaluation of pharmacist consultation services using a disconfirmation of expectations - type model. The specific research problem was to determine if patients report positive disconfirmation of expectations for increased pharmacist consultation services, and if positively disconfirmed expectations translate into greater satisfaction with the service.

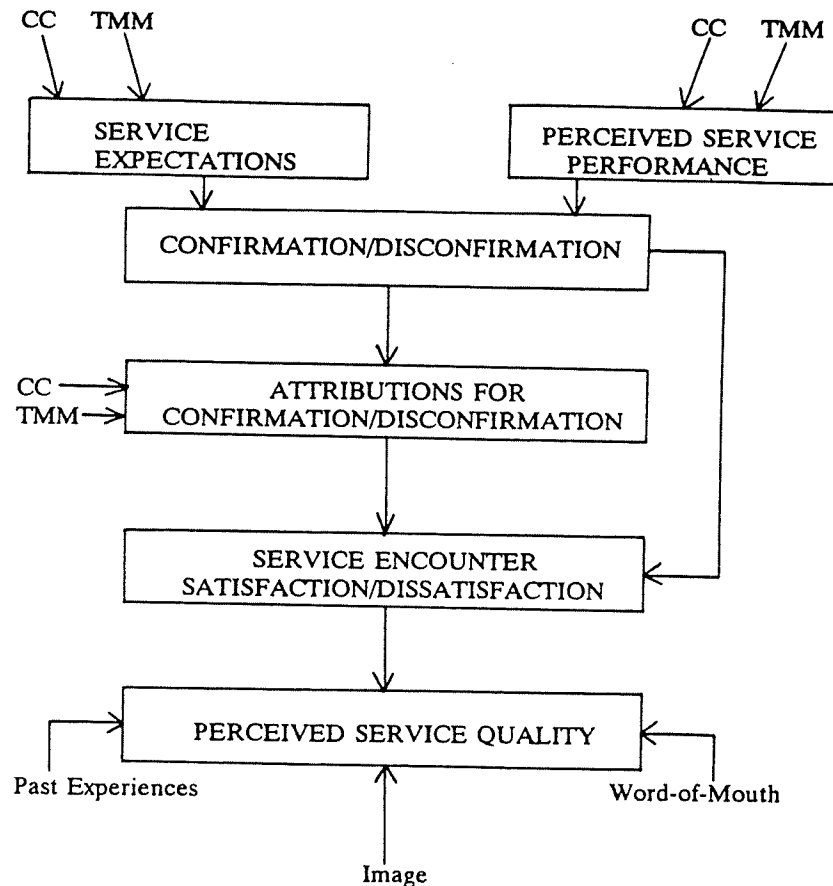
A MODEL OF SERVICE ENCOUNTER EVALUATION

A useful theoretical framework for this study was based on a Model of Service Encounter Evaluation (Bitner 1990, 1991) and is presented in Figure 1. The model was based on consumer satisfaction theories developed in consumer behavior literature (e.g., Churchill and Surprenant 1982, Oliver 1980, Oliver and DeSarbo 1988, Swan 1983) and attribution theory in social psychology literature (e.g., Folkes 1988; Weiner 1980, 1985a, 1985b). The model also presents a hypothesized relationship between service encounter satisfaction and perceived service quality based on services marketing literature (e.g., Parasuraman, Zeithaml, and Berry 1988, Zeithaml 1987).

Bitner (1990, 1991) defined a service encounter as "a period of time during which a consumer directly interacts with a service." We consider pharmacist consultation a service encounter, even though consultation usually is linked with a medication purchase. According to Bitner's model, the first stage of consumers' service encounter evaluations depends on a comparison of service expectations and perceived service performance (Bitner 1991). When expectations match performance, confirmation occurs. When expectations reportedly exceed perceived performance, negative disconfirmation occurs. Positive disconfirmation occurs when perceived performance reportedly exceeds expectations.

The next stage of consumers' evaluations depends on their attributions for confirmation/disconfirmation. Depending on the perceived nature of the causes of confirmation/disconfirmation, consumers may modify their level of service encounter satisfaction/dissatisfaction.

Figure 1
A Model of Service Encounter Evaluation



Note: CC (Contextual cues) = Physical Evidence, Process, and participants (Pharmacist and Patient); TMM (Traditional Marketing Mix) = Product, Price, Place, and Promotion

Source: Bitner, 1991

For example, when the consumer believes the causes for negative disconfirmation reside with the service provider, to be within the control of the provider, and likely to occur again, the consumer will be more dissatisfied than when the opposite conditions hold (Bitner 1991).

For this model, satisfaction is defined as "the summary psychological state resulting when emotion surrounding disconfirmed expectations is coupled with the subject's prior feelings about the experience under consideration" (Oliver 1981).

We posit that satisfaction is of finite duration, so it soon decays and is incorporated into subsequent attitudes, such as perceived service quality.

The final stage of the model shows service encounter satisfaction (a temporary affective state) influencing perceived service quality. Here, perceived quality is viewed as equivalent to a general post-encounter attitude (Parasuraman, Zeithaml, and Berry 1988, Zeithaml 1987). Other variables, such as word-of-mouth, perceived image and past experiences, may influence perceived

service quality as well (see Bitner 1991 for further discussion).

Bitner (1991) also included two constructs in the model that directly can influence other components of the model: traditional marketing mix and contextual cues. Traditional marketing mix includes variables known as the four Ps: product, price, place, and promotion (McCarthy 1960). In 1981, Booms and Bitner proposed the idea of an expanded marketing mix for services, which they called contextual cues (Booms and Bitner 1981). Because services are intangible and cannot be experimented with prior to purchase, consumers look for tangible evidence (contextual cues) of what they are about to experience in a given service encounter (Berry and Clark 1986, Bitner 1991, Langeard et al. 1981, Shostack 1977, Zeithaml 1981). Contextual cues were classified as Physical Evidence, Process, and Participants (see Bitner 1991).

Some research about patients' expectations and satisfaction has been reported for pharmacist consultation services. Ludy, et al. (1977) reported that patients who randomly were assigned to a satellite hospital pharmacy reported higher expectations for pharmacist consultation than patients assigned to a traditional pharmacy setting. Mackowiak and Manasse (1984) reported that patrons of an office practice pharmacy expressed significantly higher expectation and satisfaction scores about pharmacist counseling services than patrons of a traditional (retail) pharmacy. Patrons of the office practice pharmacy reported more frequent consultation with a pharmacist.

Curtin (1987) reported patients who received more information in a consultation with a pharmacy student were more satisfied than those who received less. Mackowiak and Manasse (1988) reported a significant difference in expectations for pharmacist consultation based on age. Respondents less than age 49 reported significantly higher expectations than those 65 years or older.

Cady, et al. (1989) used the disconfirmation of expectations model to evaluate the effect of providing drug information on patient satisfaction with prescription medication. They reported that providing drug information resulted in more positive disconfirmation and higher levels of satisfaction when the outcome of therapy was less

than optimal. This result supported the disconfirmation of expectations model.

In summary, there is some evidence that a Model of Service Encounter Evaluation can be applied to patients' evaluations of pharmacist consultation services. Contextual cues, such as pharmacy design, may affect patients' expectations for consultation. Provision of more information to patients may lead to greater satisfaction with consultation. Cady et al. (1989) reported the disconfirmation of expectations model was supported for patients' satisfaction with the performance of a medication, but satisfaction with consultation was not investigated. Although some support for the Model of Service Encounter Evaluation was found for pharmacist consultation, it still is unknown if increased consultation services affect patient satisfaction through positive disconfirmation of expectations.

To investigate if a disconfirmation of expectations - type model applies to pharmacist consultation services, two parts of the Model of Service Encounter Evaluation were studied. The relationship between performance of the service and confirmation/disconfirmation of expectations was investigated by comparing the length and content of consultation received by patients who reported negative disconfirmation, confirmation, and positive disconfirmation of expectations. The relationship between confirmation/disconfirmation and satisfaction was investigated by comparing the level of satisfaction for patients who reported negative disconfirmation, confirmation, and positive disconfirmation. Testable hypotheses for these relationships are presented next.

STUDY HYPOTHESES

To accomplish the purpose of this study, three hypotheses were proposed, stated in the null form. The relationship between increased consultation and confirmation/disconfirmation of expectations was investigated by testing hypotheses H1 and H2. The relationship between confirmation/disconfirmation of expectations and satisfaction was investigated by testing hypothesis H3.

H1: There is no difference in Length of Consultation among patients categorized as having Negative Disconfirmation,

Confirmation, or Positive Disconfirmation of Expectations for Consultation.

H2: There is no difference in Content of Consultation among patients categorized as having Negative Disconfirmation, Confirmation, or Positive Disconfirmation of Expectations for Consultation.

H3: There is no difference in Satisfaction with Pharmacist Consultation among patients categorized as having Negative Disconfirmation, Confirmation, or Positive Disconfirmation of Expectations for Consultation.

METHODS

Measures

Pharmacist Consultation was defined as "any face-to-face verbal communication between a pharmacist and patient (or agent of the patient; hereafter referred to as patient) about medications or health during the dispensing of a prescription to that patient. Length of Consultation was how long, in seconds, Pharmacist Consultation occurred. It was measured by observing pharmacist - patient interactions and timing, with a stop watch, how long consultation occurred. During any gaps in consultation for a patient, the stop watch was turned off. Content of Consultation was how many types of information were verbalized. It was measured by observing and recording whether or not 12 types of information were verbalized during a pharmacist - patient interaction. The types of information were selected based on the National Association Boards of Pharmacy model regulations regarding appropriate consultation (National Association of Boards of Pharmacy 1990). They were: name of medication, purpose of medication, directions for use, side effects, interactions with other medications, contraindications (conditions under which the medication should not be taken), administrative (price, generic availability, renewals), continuity of therapy (how this medication works with others), monitoring (how to assess medication's effectiveness), solicitation of feedback, patient question asking, and other. A

Content of Consultation score was a frequency count for the number of types of information conveyed during a pharmacist - patient interaction.

Confirmation/Disconfirmation of Expectations for Pharmacist Consultation was defined as "the degree to which a patient's expectations for pharmacist consultation were or were not met." One item was used for its measurement. Patients were asked to respond to the question, "Was the amount of communication you had with your pharmacist today: more than you expected, about what you expected, or less than you expected? Respondents answering "more than you expected" were categorized as Positive Disconfirmation, those answering "about what you expected" as Confirmation, and "less than you expected" as Negative Disconfirmation of Expectations. For this exploratory study, no assessment was made for patients' expectations for particular types of information.

Patient Satisfaction/Dissatisfaction with Consultation was defined as "the summary psychological state resulting when the emotion surrounding confirmed or disconfirmed expectations for pharmacist consultation is coupled with the patient's prior feelings about consultation" (Oliver 1981). It was measured using three items selected from a reliable patient satisfaction measure reported by Curtin (1987). Patients, for whom consultation occurred, were asked to give their responses using a seven point semantic differential scale. A Satisfaction/Dissatisfaction score was the sum of scores for the three items. The potential range of scores was 3 to 21, with a higher score denoting greater satisfaction.

Pretest

Measures of the variables were pretested on 30 pharmacist - patient interactions in one pharmacy before inclusion in the final data collection forms. For none of these cases did patients report Negative Disconfirmation of Expectations for Consultation. This result suggested few or no respondents would comprise the Negative Disconfirmation group. Therefore, each hypothesis was modified to compare respondents categorized as Confirmation and Positive Disconfirmation of Expectations only.

Samples

A judgment sample of 12 community pharmacies in Wisconsin was selected for data collection sites. Results from a statewide study conducted prior to this one (Schommer et al. 1992) helped identify pharmacies and at least one pharmacist from each pharmacy for inclusion in this study. The sample was selected to provide variation in geographic location, prescription volume, and type of ownership among pharmacies. Twenty-three pharmacists from the 12 study pharmacies agreed to participate in the study.

A random sample of 30 patients who received a prescription from a participating pharmacist was selected at each of the 12 pharmacies. Thus, the total number of patients included in this study was 360. This size was determined by considering not only requirements for statistical analyses, but also the expected heterogeneity of the sample, and the time, money and personnel available for the study.

Random selection of patients was accomplished by random selection of a time during the first 15 minutes for which observations for data collection started and selecting the first patient observed after that random start time. Subsequent patients were selected systematically by selecting the next patient who received a prescription after the previous patient's interview was completed. The timing of patient selection depended upon how frequently patients entered the pharmacy to obtain prescriptions and how long patient interviews were. Most patient interviews required less than five minutes to complete.

Data Collection

Two instruments were used for data collection. One was designed to collect data through unobtrusive observations of pharmacist - patient interactions (Berardo et al. 1989, Ortiz et al. 1989, Scott et al. 1990). Through observation, data were collected for Length and Content of Consultation. Observations were conducted unobtrusively by one observer from an area at least 25 feet away from the patient and out of the pharmacist's area of forward vision. Observations were made from an area to the side of patients so they would not notice the observer, but still could be observed. Pharmacists were not told that their

communications with patients were being studied. Rather, they were told that the researcher was watching for patients who received a prescription so he could conduct interviews. After all observations were completed, pharmacists were informed about the data that were collected.

The other instrument was designed to collect data through personal interviews with patients as they exited their pharmacy. Through patient interviews, data were collected for Confirmation/Disconfirmation of Expectations and Satisfaction/Dissatisfaction with Consultation. During this interview, patients were notified that they had been observed and that their responses would remain anonymous and confidential.

To help decrease response order bias, two questions were inserted between the questions about Confirmation/Disconfirmation of Expectations and Satisfaction/Dissatisfaction with Consultation. One of the questions was about the amount of privacy in the pharmacy and the other was about how busy the pharmacist appeared. Expectation for Consultation was not measured in this study because ideally it should be measured before the service encounter (Holbrook 1983, Rogers et al. 1992). Patients were not interviewed prior to Pharmacist Consultation because response bias would have been introduced for the exit interviews.

Data Analysis

Descriptive statistics were used to describe the judgment samples in this study to assess if there was variation in pharmacies similar to variation in the study population. Statistics for Prescription Volume and Occurrence of Consultation were compared with statewide data collected in other studies.

Cases for which Pharmacist Consultation occurred were included for data analysis. Scale reliability for Satisfaction/Dissatisfaction was assessed using Cronbach alpha. Cronbach alpha greater than 0.70 supported reliability.

Based on pretest results, few or none of the respondents were expected to comprise the Negative Disconfirmation group. Therefore, comparisons were made between respondents categorized as Confirmation and Positive Disconfirmation of Expectations for Length of

Consultation, Content of Consultation, and Satisfaction/Dissatisfaction with Consultation. Hypotheses for comparisons between these two groups were tested using the two-tailed t-test, with significance at a level of 0.05.

Limitations

Pharmacies and pharmacists were not selected randomly. However, judgment samples were selected to be diverse enough to yield insight into Pharmacist Consultation under different conditions of pharmacy practice.

Observer inference effects could have influenced the results. Incorrect inferences by the observer about observed consultation behaviors would lead to erroneous results and conclusions (Kerlinger 1973). For example, due to observer bias about levels of Consultation expected in one pharmacy versus another, the same observed communication may have been categorized as Consultation in one pharmacy but not in the other. To address this problem, the observer used a check list of types of information considered consistent with the definition of Pharmacist Consultation to help identify when Consultation occurred.

This study was only exploratory in nature. Some variables, which may influence patients' evaluation of Pharmacist Consultation, were not included in this study (e.g., strength of pharmacist - patient relationship). The variables which were included were simple measures of complex constructs. A single item measure for Confirmation/Disconfirmation of expectations was used which poses potential problems for reliability and validity.

Only the total amount of communication (length and content) was explored. Some respondents, who received only one type of information, could have been very satisfied if they did not expect the information and the information was very relevant for their needs. Our measures did not consider individual types of information, which could confound the results.

RESULTS

Sample Description

Twelve pharmacies, dispersed geographically throughout Wisconsin, served as data collection sites. Pharmacies were located in rural (population less than 50,000), small urban (population 50,000 to 500,000) and large urban (population greater than 500,000) areas. Some areas were affluent and some impoverished. Prescription volumes for study pharmacies ranged from 40 to 500 per day. Type of pharmacy ownership included national chain, regional chain, local chain, and independent ownership. Chain pharmacies were defined as at least two pharmacies under common ownership and independent pharmacies were only one pharmacy under common ownership.

To assess if there was variation in the study pharmacies representative of variability in the study population, statistics for Prescription Volume and Occurrence of Consultation were compared with data collected in other studies. The range of Prescription Volumes for the study pharmacies (40 to 500 per day) was judged representative for the range of prescription volumes for Wisconsin pharmacies. Based on comparison data from Schommer et al. (1992), 7.6 percent of Wisconsin pharmacies reportedly were lower volume pharmacies and 1.3 percent higher than the range for this study. The lowest volume pharmacies in Wisconsin were not included for this study because data collection would take a prohibitively long time. Only a few very high volume pharmacies were not represented by the sample used for this study.

The range for rates of Consultation in the study pharmacies was from 30 percent to 100 percent of observed pharmacist - patient interactions. The average rate of Consultation for all 360 observations in this study was 74 percent (266/360). This rate is higher than the rate reported for Wisconsin by Wiederholt et al. (1992), which was 36 percent. Data for the study by Wiederholt et al. were collected almost 10 years before data collected for this study. It appears that consultation rates in Wisconsin pharmacies have increased as we expected with recent OBRA '90 mandates for pharmacist

consultation.

Another reason for the discrepancy in Consultation rates could be due to different methods used for the studies. Patients' self-reports were used by Wiederholt et al. which, according to Ortiz et al. (1989) under-estimate consultation rates. Evidence of this was seen during patient interviews. After some patients were observed to receive consultation, they told the researcher during their interview that they didn't talk with their pharmacist about medications or health on that visit. Patients seemed to disregard administrative information, or information they already knew, as consultation. Also, they often disregarded pharmacist solicitation of feedback and any questions they asked the pharmacist as consultation.

When administrative, solicitation of feedback, and patient question asking information were deleted as possible elements of consultation, Occurrence of Consultation for this study dropped to 51 percent. This is closer to Wiederholt et al.'s finding. Therefore, it appears that rates of Consultation in Wisconsin pharmacies are increasing and the study sample of pharmacies provided a wide range of Consultation rates.

Of the 360 patients in the sample, 304 (84 percent) provided usable responses to their interviews. Of the 304 respondents, 231 (76 percent) received consultation. Of these respondents who received consultation, three (1 percent) reported receiving less consultation than expected, 162 (70 percent) about what they expected, and 66 (29 percent) more than they expected. The three item measure of Satisfaction/Dissatisfaction was found reliable (Cronbach alpha = 0.94).

Hypothesis Testing

As expected, few respondents (only three) reported receiving less consultation than they expected. Therefore, the three study hypotheses were tested by comparing respondents categorized as Confirmation and Positive Disconfirmation of Expectations only.

Comparisons for Length of Consultation between respondents categorized as Confirmation and Positive Disconfirmation of Expectations are presented in Table 1. Patients who reported

positively disconfirmed expectations for consultation received an average of 75.2 seconds of consultation compared with 45.9 seconds for patients who reported confirmed expectations. This difference was statistically significant with a p-value equal to 0.015.

Table 1
Comparisons for Length of Consultation
Between Respondents Categorized as
Confirmation and Positive Disconfirmation of
Expectations^a
(N = 226)^b

	N	Mean ^c	Standard Deviation	Range
Confirmation of Expectations	160	45.9	67.5	2 - 563
Positive Disconfirmation of Expectations	66	75.2	109.5	2 - 689

^a Confirmation = expectations for pharmacist consultation matched performance, Positive Disconfirmation = performance for pharmacist consultation exceeded expectations.
^b N did not equal 228 due to missing data.
^c Measured in seconds, t-value = -2.44, p-value = 0.015.

Only three respondents were categorized as Negative Disconfirmation and not included in the statistical test. However, they received an average of 28.3 seconds of consultation, with a range between 2 and 75 seconds.

Comparisons for Content of Consultation between respondents categorized as Confirmation and Positive Disconfirmation of Expectations are presented in Table 2. Patients who reported positively disconfirmed expectations for consultation received an average of 5.5 types of information (range = 1-12) compared with 3.3 types of information (range = 1 -11) for patients who reported confirmed expectations. This difference was statistically significant with a p-value equal to 0.025.

Table 2
Comparisons for Content of Consultation
Between Respondents Categorized as
Confirmation and Positive Disconfirmation
of Expectations^a
(N = 226)^b

	N	Mean ^c	Standard Deviation	Range
Confirmation of Expectations	160	3.3	2.2	1 - 11
Positive Disconfirmation of Expectations	66	5.5	11.9	1 - 12

^a Confirmation = expectations for pharmacist consultation matched performance, Positive Disconfirmation = performance for pharmacist consultation exceeded expectations.
^b N did not equal 228 due to missing data.
^c Measured in types of information, t-value = -2.26, p-value = 0.025.

Table 3
Comparisons for Satisfaction/Dissatisfaction
with Consultation Between Respondents
Categorized as Confirmation and Positive
Disconfirmation of Expectations^a
(N = 228)

	N	Mean ^b	Standard Deviation	Range
Confirmation of Expectations	162	17.4	3.6	3 - 21
Positive Disconfirmation of Expectations	66	19.3	2.6	11 - 21

^a Confirmation = expectations for pharmacist consultation matched performance, Positive Disconfirmation = performance for pharmacist consultation exceeded expectations.
^b Measured using a 3-item Satisfaction/Dissatisfaction measure with possible range 3 to 21; a higher score signifies greater satisfaction; t-value = -4.07, p-value = 0.000.

Respondents categorized as Negative Disconfirmation (n = 3) received an average of 3.3 types of information (range = 1-6). Due to the small number of respondents who comprised this group, they were not included for statistical tests.

Results presented in Table 3 show comparisons for Satisfaction/Dissatisfaction with Consultation between patients categorized as Confirmation and Positive Disconfirmation of Expectations. Mean Satisfaction/Dissatisfaction scores were significantly different (p = 0.000) between respondents who received what they expected (mean = 17.2, range = 3 - 21) compared to more than they expected (mean = 19.3, range = 11 - 21). Although not included in statistical tests, respondents categorized as Negative Disconfirmation (n = 3) had a mean satisfaction score equal to 9.0.

Overall, the mean Satisfaction/Dissatisfaction score was 17.8. Assuming scores 11 to 13 reflect neutral Satisfaction/Dissatisfaction, scores less than 11 Dissatisfaction, and scores greater than 13 Satisfaction, three percent of respondents were Dissatisfied, 9 percent neutral, and 88 percent Satisfied with Consultation.

DISCUSSION AND CONCLUSIONS

Bitner's Model of Service Encounter Evaluation can be used to investigate patient's evaluation of Pharmacist Consultation. Results from this study support the primary portion of the model which is the disconfirmation of expectations paradigm for satisfaction with a service. Patients who reported positive disconfirmation of their expectations received longer consultations with their pharmacist and more types of information, on average. Thus, as pharmacists increase their level of performance for consultation to patients, most patients should have their expectations for consultation exceeded.

Our concern that patients may become dissatisfied when they receive more consultation than they expected appear to be unfounded. The results showed that patients categorized as Positive Disconfirmation of Expectations reported higher Satisfaction with Consultation than patients categorized as Confirmation of Expectations. Although statistically significant, average

Satisfaction scores between the two groups only differed by 1.9 units on a scale from 1 to 21, which raises the question of how important this difference really is. However, based on differences in the ranges for the scores (see Table 3), we conclude that Satisfaction was higher for the Positive Disconfirmation group. None of the respondents categorized as Positive Disconfirmation of Expectations reported Dissatisfaction with Pharmacist Consultation (i.e., Satisfaction/Dissatisfaction score less than 11). Also, based on Cohen's guidelines for effect size (Cohen 1977), the 1.9 unit difference was more than 0.5 times the pooled standard deviation of 3.3 which suggests a moderate to large effect size.

Only three patients reported Negative Disconfirmation of Expectations. They received a relatively low amount of Consultation from their pharmacist, although we could not determine if this was a statistically significant difference from other groups of patients. These patients also reported lower Satisfaction with Consultation, on average. Assuming that scores 11-13 signified a neutral level of Satisfaction/ Dissatisfaction, and scores less than 11 represented Dissatisfaction, these patients, on average, were dissatisfied with the Consultation they received. This finding is consistent with the Model of Service Encounter Evaluation.

Ninety-nine percent of the patients reported that their expectations for Pharmacist Consultation were met or exceeded. Most of these patients reportedly were satisfied with the communication they had with their pharmacist on their pharmacy visit, with 88 percent satisfied overall. This finding is consistent with previously reported research. Epstein (1992) reported 87 percent of patients she surveyed were satisfied with the quality and amount of information they received from their pharmacist. According to the Schering Report (1992), 74 percent of patients surveyed were satisfied with the verbal and written instructions provided by their pharmacist, even though in 48 percent of the cases a clerk handed over the prescription rather than a pharmacist.

In a previous study, we found that pharmacists assess what types of information a patient needs before providing consultation by checking the patient's medication profile and asking the patient questions (Schommer and Wiederholt 1992a,

1992b). This increases the probability that information conveyed to the patient will help reinforce important points or provide new information for the patient. Patients likely value this information and are satisfied.

We conclude that patients expect very little, if any, consultation from their pharmacist, and generally are satisfied with pharmacist consultation services they receive. As pharmacists provide more consultation services for patients, recipients of consultation should experience greater satisfaction with the service. We believe the Model of Service Encounter Evaluation provides a foundation for further research in patient evaluation of pharmacist consultation services.

Patients' expectations for pharmacist consultation services may need to increase dramatically before patients can discriminate among pharmacists based on consultation service performance, or would be willing to pay directly for consultation services. Patients who have higher expectations for pharmacist consultation services more likely request consultation and are receptive to consultation (Schommer 1992), which could lead to more appropriate medication use. Before strategies can be designed to change patients' expectations, how patient expectations for pharmacist consultation services are formulated should be investigated.

An important area for future service encounter evaluation research is to assess how increased service performance can affect subsequent expectations for the service. We posit that increased performance of consultation services will translate into increased patient expectations for the service. To maintain high satisfaction and perceived quality for consultation, pharmacists would have to increase their performance level in proportion to patients' increased expectations. According to Boulding et al. (1993), patients might have different types of expectations that may serve different roles in patients' evaluative processes for services. They suggest that, while there is a negative relationship between expectations and satisfaction (as proposed by the Model of Service Encounter Evaluation), there is a positive relationship between a type of expectations they investigated (expectations for what will be received) and perceived quality for a service overall (Boulding et al. 1993). They showed that

increasing this type of expectation actually increased perceived service quality. It is unknown if multiple classes of expectations for pharmacist consultation exist. A study to investigate this possibility would be an important next step for research in this area.

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