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Application of Quality Gap Model to Measure the Quality of Pharmacist Service in Retail Pharmacy Settings: An Examination of Expectation and Perception

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Learning Objectives

1. To understand the Service Quality Gap Model concept.
2. To apply the Service Quality Gap Model to pharmacist services development.

Abstract: The objectives of this article were first, to adopt the Service Quality Gap model to diagnose quality problems in the area of expectations and perceptions for professional pharmacist services. Second, to describe how the PHARM-SERVQUAL survey instrument is used to measure quality gap (Gap 5) in professional pharmacist services. Third, to suggest areas in which improvements can be made to the service quality blueprints of professional pharmacist services with PHARM-SERVQUAL.

Keywords: pharmacist service, quality gap model, retail pharmacy settings, professional pharmacist service

INTRODUCTION

Pharmacy practice has evolved at an accelerated rate over the past two decades. The role of the pharmacist has also changed dramatically over the past century from an “apothecary” whose rudimentary task was to procure, prepare, and evaluate medicinal drugs to one of a sophisticated clinical specialist utilizing a formalized knowledge base to maximize patient benefits. In 1994, Rupp and Kreling stimulated the idea of interest that changes are occurring in pharmacy practice[1]. They stated that the drug product is no longer the social object around which the practice of pharmacy is organized. Rather, the focus of contemporary pharmacy practice has now shifted to an emphasis on the consumer, and to optimize the interaction that occurs between the consumer and the pharmacist. The continual expansion of pharmacists’ professional roles and responsibilities into clinical specialties, long-term care, and a myriad of other areas are in line with the changing needs of society. As a result, the pharmacist service product mix has expanded. Previous studies conducted have attempted to measure consumers’ opinions regarding their perceptions of pharmacist services and their opinions regarding specific attributes of community pharmacies[2, 3]. More recent patronage studies showed that convenience, professional pharmacist services, and price continue to be important determinants of consumer patronage.

Pharmacists have been implementing pharmacist professional service activities since 1970s. However, few pharmacists have devoted comparable levels of effort in creating awareness and demand for professional pharmacist services to consumers. Metge et al (1998) found only 15% of consumers suggested that their pharmacists did offer professional pharmacist services[4]. This also implied that consumers were generally uninformed about the job scope of pharmacists’ and lack of experiences of pharmacist professional service activities.

The objectives of this paper were to:

1. Adopt the Service Quality Gap model to diagnose quality problems in the area of expectations and perceptions for professional pharmacist services.
2. Describe how the PHARM-SERVQUAL survey instrument is used to measure quality gap (Gap 5) in professional pharmacist services.
3. Suggest areas in which improvements can be made to the service quality blueprints of professional pharmacist services by PHARM-SERVQUAL.

DEFINITION

For this study, "pharmacist professional service activity" can be defined as activities that are provided directly by pharmacists who are responsible for the provision of drug therapy, towards a specific consumer's need in order to achieve definite outcomes that improve a consumer's quality of life. Examples of pharmacist professional service activities are patient counseling, advising for prescription drugs, and pharmaceutical care provided by pharmacist. In Table 1, there are thirty pharmacist professional service activities identified primarily from previously developed scales for community pharmacy patronage [4-10].

CHARACTERISTICS

Professional pharmacist services can been distinguished from pharmaceutical goods on four dimensions[11]. Firstly, professional pharmacist services are intangible, and thus unable to be seen, held, or used as pharmaceutical goods. This dimension is often perplexing as it precludes a consumer's ability to fully comprehend and value professional pharmacist services. Secondly, professional pharmacist services are not easily standardized. Hence, the quality of pharmacist services, as perceived by consumers, varies depending on the pharmacist's unique ability to meet individual needs and demands. Thirdly, the dissemination and development of pharmacist services is inseparable from the pharmacist-consumer service relationship. In other words, the pharmacist service is simultaneously consumed as it was produced. Lastly, professional pharmacist services cannot be easily inventoried. As a result, the responsibility ultimately rests on the pharmacist to ensure an adequate supply of pharmacist services is provided wherever and whenever needed. Upon reviewing the dimensions cited above, it becomes self-evident that pharmacists, do indeed, play an integral role in both the development and successful provision of pharmacist services.

DOMAINS OF PROFESSIONAL PHARMACIST SERVICE ACTIVITIES

In 1999, T. Sriwong and Wiederholt used the 30 pharmacist professional service activities (See Table 1) and applied the Exploratory Factor Analysis Technique to identify the dimensions of pharmacist professional service activities[12]. They came up with four professional pharmacist service dimensions. Those dimensions were labeled as:

(1) Non-prescription Drug Consultation and Monitoring Activities.

(2) Prescription Drug Consultation and Monitoring Activities.

(3) Prescription Drug Administration and Management Activities.

(4) Drug-related Management and Information Activities.

(See Table 2 for details)

Since these four pharmacist service dimensions were identified and grouped, it would be useful to use these four pharmacist service dimensions (composts of 30 pharmacist service activities) as a set of criteria used to evaluate pharmacist service quality (PSQ) that will be given more details in PHARM-SERQUAL section.

Table 1. Pharmacist Service Activities

1.	Tells me what the prescription medicine is and what it is used for.
2.	Tells me when and how to take my prescription medicine.
3.	Tells me about side effects or precautions about my prescription.
4.	Tells me of any dangers in taking prescription medicines together.
5.	Puts extra labels on the container telling me about my prescription.
6.	Checks my understanding of prescription dosage directions.
7.	Contacts my doctor if needed.
8.	Marks refills on my prescription label.
9.	Checks if the prescription strength and dose are correct for me.
10.	Explains any prescription filling delays if they occur.
11.	Gives an emergency supply of prescription medicine if needed.
12.	Describes the effect I should expect from my prescription.
13.	Explains what to do if I miss a dose.
14.	Gives written information about my prescription.
15.	Keeps a computerized record of my prescription and allergies.
16.	Checks for medication interaction.
17.	Answers my questions either in person or by phone.
18.	Keeps a computerized record of illnesses I have.
19.	Teaches me how to use special devices to administer my medicine.
20.	Teaches me how to watch for side effects of my prescription.
21.	Teaches me how to use equipment such as a glucose meter.
22.	Gives my doctor(s) a list of medicines that I take.
23.	Keeps my computerized records confidential.
24.	Interviews me to record a prescription history and any medication allergies I have.
25.	Helps me coordinate taking my prescription when I have more than one prescription medicine to take daily.
26.	Gives advice on whether or not I should see a doctor rather than treat the problem with non-prescription or self-care treatments.
27.	Gives advice on precautions to follow when using non-prescription or other self-care treatments.
28.	Keeps a computerized record of non-prescription and self-care treatment I use.
29.	Helps me select non-prescription or self-care treatment that meet my needs.
30.	Gives advice on side effects and medication interactions with non-prescription or self-care treatment.

Table 2. Identified Dimensions of Pharmacist Service Activities

Dimension	No. of Attributes	Eigenvalue	% Variance Explained	Mean Importance Rating	Subscales Reliability
1. Non-prescription Drug Consultation	3	11.4	39.5	3.7	0.8
2. Prescription Drug Consultation	6	2.3	8.1	4.3	0.8
3. Prescription Drug Administration	12	1.8	6.1	4.2	0.8
4. Drug-related and Information Activities	8	1.2	4.2	3.4	0.8

THE NATURE OF QUALITY

Prior to any further discussion, the quality of service should be differentiated from satisfaction with service. Satisfaction is related to a specific transaction whereas service quality may be viewed as a summation of the levels of satisfaction for all transactions. In the realm of professional pharmacist services, there are basically two distinction of quality, technical and humanistic quality. Technical quality refers to the measure of scientific accuracy upon one would judge the entire professional pharmacist service process or system. Humanistic quality involves subjective assessment of the manner in which pharmacist service activities are delivered to the consumers. Majority of patients would use humanistic quality as the major determinant of quality perceptions. The two different and distinct perspectives held by pharmacists and consumers lead us to question whether potential gaps in expected and perceived services exist. The Service Quality Gap model provides us with a framework to formulate our above hypothesis.

GAPS IN QUALITY OF SERVICE

Measuring the gap between expected service and perceived service is a routine customer feedback process that is practiced by leading service companies. In Figure 1, the gap between customer expectations and perceptions is defined as GAP 5. It is shown to depend on the size and direction of the four gaps that are associated with delivery of the service.

The first gap is the discrepancy between customer expectations and management perceptions of these expectations. GAP 1 arises from management's lack of full understanding about how customers formulate their expectations on the basis of number of sources: advertising, past experience with the firm and its competitors, personal needs, and communications with friend. Strategies for closing this gap include improving market research, fostering better communication between management and its contact employees, and reducing the number of levels of management that distance the customer.

The second gap results from management's inability to formulate target levels of service quality to meet perceptions of customer expectations and translate these into workable specifications. GAP 2 may result from a lack of management communication to service quality or a perception of the unfeasibility of meeting

customers' expectations; however, setting goals and standardizing service delivery tasks can close this gap.

The third gap is referred to as the service performance gap, because actual delivery of the service does not meet the specifications set by management. GAP 3 can arise for a number of reasons, including lack of teamwork, poor employee selection, inadequate training, and inappropriate job design.

Customer expectations of the service are formed by media advertising and other communications from the firm. GAP 4 is the discrepancy between service delivery and external communications in the form of exaggerated promises and lack of information provided to contact personnel.

Customers use some criteria to form their judgments of service quality, which are based on a comparison between expected and perceived service. The gap between expected and perceived service is called GAP 5 which is a measure of service quality; satisfaction is either negative or positive.

Service Quality Gap Model

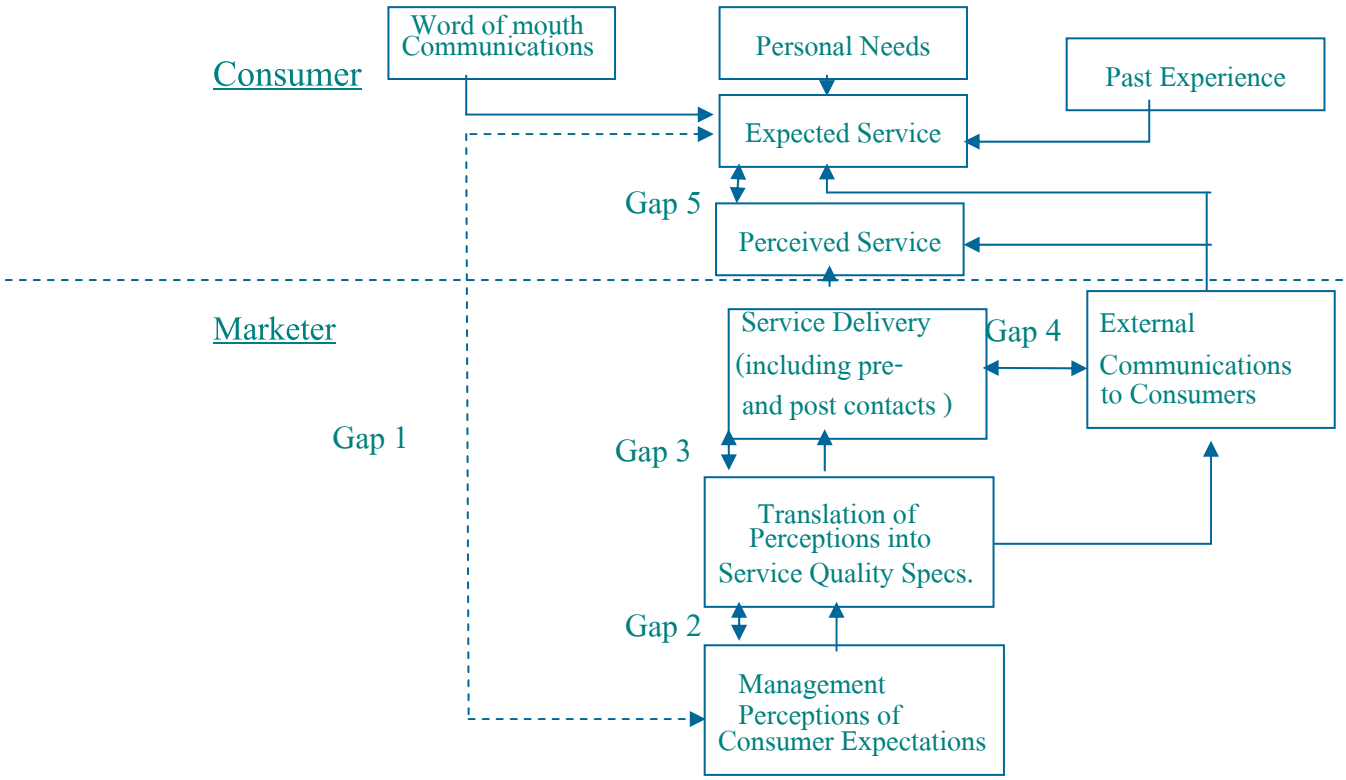

Figure 1. Service Quality Gap Model. (V. A. Zeithaml, L. L. Berry, and A. Parasuraman, "Communication and Control Process in the Delivery of Service Quality," Journal of Marketing, Vol. 52, April 1988, p. 36.)

QUALITY OF SERVICE DEFINED

The quality of service (QOS) can be defined quantitatively as the difference between two antecedent variables. These include the quality expectation variable (EQ) and the quality perception variable (PQ). The quality of service can be presented in form of equation as:

The quality of service (QOS) = the quality perception (PQ) - the quality expectation (EQ)

Example:

EQ (Score 5)

The pharmacist should tell me about the side effects or precautions about my prescription.

PQ (Score 7)

The pharmacist told me about the side effects or precautions about my prescription.

$$QOS = PQ - EQ$$
$$= 7 - 5$$
$$= +2$$

Interpretation: The consumer's expectation score is lower than the consumer's perception score, so the consumer was satisfied with that particular service.

The results of the QOS coefficient represent Gap 5 on the Service Quality Gap Model. Unfulfilled expectations are represented by a negative QOS coefficient and expectations that have been exceeded are represented by a positive coefficient. However, it should be noted that the ability to estimate the QOS coefficient collectively does not necessarily mean that pharmacists were able to estimate the PQ and EQ scores individually. Also, quality improvement efforts should not be simply based upon the QOS comparisons alone as the QOS score simply quantifies the PQ and EQ relationship. The utilization of the individual EQ and PQ antecedent constructs to define QOS provides potentially valuable diagnostic insight into the quality deficiencies in professional pharmacist service activities.

PHARM-SERVQUAL

Parasuraman et al (1986) developed a multiple-items scale called SERVQUAL for measuring the service quality. The SERVQUAL is an instrument, which has been proven to be an effective instrument for surveying customer satisfaction that is based on the Service Quality Gap model [13]. The five dimensions of the SERVQUAL scale include tangibles, reliability, responsiveness, assurance and empathy. This two-

part instrument has an initial section to record customer expectations for a class of service, followed by a second section to record a customer's perceptions for a particular service firm. A score for the quality of service is calculated by computing the differences between the ratings that customers assigned to paired expectation and perception statements. This score is referred to as GAP 5. Score for other four gaps also can be calculated in a similar manner.

A modified version of SERVQUAL that has been used in the context of pharmacist services is the PHARM-SERVQUAL (PSQ). The PSQ has been adapted from the original SERVQUAL scale and validated in areas of health care service quality such as hospitals and physician services. One possible proposal that we suggest is to adopt the PSQ to identify possible differences between consumers and pharmacists in their assessment of the overall quality of professional pharmacist service provided. The four domains of the PSQ would be as mentioned earlier as:

1. Non-prescription Drug Consultation and Monitoring Activities.
2. Prescription Drug Consultation and Monitoring Activities.
3. Prescription Drug Administration and Management Activities.
4. Drug-related Management and Information Activities.

APPLICATIONS

The PSQ scale provides retail pharmacy settings with a valuable tool to randomly survey its consumers to determine their level of service quality. The survey results can provide insights into what consumers expect and perceive and whether the pharmacist service performance exceeds consumers' expectations. The PSQ instrument also allows pharmacies to examine the strengths and weaknesses of their service delivery blueprints by analyzing data from the PSQ dimensional subscales. This information will allow each pharmacy to make necessary changes in specific areas of its operations. Also, the results derived from the PSQ instrument can also be used as a tool for making comparisons with other pharmacists in a similar geographic area. Individual pharmacies can roughly gauge what their competitor strengths are and seek to make improvements in those areas.

CONCLUSIONS

Consumers' perceived quality play a dominant role in the changing nature of the health care market. Accurate information on the expectation and perception of

consumers is critical if pharmacies want to expand their service roles in the evolving health care system. Given today's highly competitive and dynamic marketplace, the price attribute may soon lose its key position of importance with the retail pharmacy customer. There is growing evidence to suggest that perceived quality is becoming the single most important variable influencing the retail pharmacy consumers' value perceptions. The new differentiating factor among competing pharmacies of the future will most likely be the quality of service provided by the winning store's operational environment. This implies that pharmacy executives must be able to manipulate the appropriate dimensions on their service blueprints to optimize their pharmacy operations.

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