Evaluation of Changes in Prescription Medication Patronage Motives: The Comparison Study

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Abstract

The purposes of this study were to: (1) compare the results of selected prescription medication patronage motives to the 1984 study in Madison, Wisconsin, and (2) to compare the top ranked and rated prescription medication patronage criteria for 1999 study. Data were collected in summer 1999. The survey instrument was developed into seven sections, one of which are related to this research. Section one contained 14 prescription medication patronage motive factors. Patronage factors were identified from the literature search from 1970-1997. After pretesting the questionnaire, it was mailed to a systemic random sample of 200 state government employees and 300 households residing in the Madison, Wisconsin area. The response rate was 55.20%. Using the directional student t- test, the results showed that most of the tested prescription medication patronage motive dimensions were significantly different ($p < 0.05$). Also the test of convergent validity showed that the top five ranked and rated prescription medication patronage dimensions were similar (only in different order). In conclusions, results suggest that overtime pharmacy patrons perceive most of prescription medication patronage motives in more important attitude than 1984 study.

Key Words: Prescription Medication; Patronage Motives

Introduction

The health care market especially pharmacy is rapidly changing. Some of the changes have improved the quality of services provided by pharmacists. These changes include use of computers, monitoring of drug utilization, increased efforts to prevent drug interactions and adverse reactions, and improve communication with patients and prescribers. It can not be deny that consumer preferences are playing a dominant role in this change. Accurate information on the needs and preferences of consumers is critical if pharmacy is to develop its role in the evolving health care system (Metge et al., 1998).

As the practice of pharmacy, especially in the community pharmacy, evolves tremendously in the past decade, there is the need for re-evaluating what pharmacy attribute is important when consumers select the community pharmacy for having their prescription filled.

However, when monitoring changes that occur in prescription medication patronage motives (consumer preferences) over time, there are several problems that occur. First, researchers have not consistently monitored changes over time, so we do not know if changes either have or have not occurred. Second, consistent criteria to define and measure change have not been used which makes it difficult to compare research results. Third, data collection techniques and analyses vary widely among the studies, which may lead to convergent validity of

dimensions but also introduces measurement error. Fourth, most studies are done in a single geographic area and not repeated; thereby making it difficult to document changes.

This is the first study that attempts to evaluate changes in prescription medication patronage motives over time within the same geographic area by applying the same methodological approach. Thus, there is one research question, which is to be addressed in this study. Do consumers' ratings of the levels of importance (consumer preferences) for specific prescription medication patronage motives for prescription drugs change over time? Research hypothesis was generated from the research questions stated earlier. The hypothesis is represented below:

H_1: "Consumers' ratings of the levels of importance (preference) for specific prescription medication patronage motives are positively different for 1999 as for 1984 study"

The goals of this study were to investigate within the same geographic area and using the same methodology if there were changes in consumers' ratings of prescription medication patronage. Specific objectives of this study were to:

(1) Compare the results of specific prescription medication patronage criteria (consumer preferences) between 1984 and 1999,

(2) Testing the convergent validity by comparing the top five ranked and rated prescription medication patronage criteria for 1999 study

Materials and Methods, Area Description, Techniques

Development of Scale Items

Based upon the review of the literature, the construct of prescription medication patronage was defined as the integral components of evaluative criteria used by consumers in determining patronage and applied to pharmacy prescription medication (Assael, 1984; Lusch and Darden 1981; Engel et al., 1982).

The review of the literature showed that the prescription medication patronage in general is composed of a variety of dimensions (Wiederholt 1987; Joyce and Hubbard 1988; Arneson et al., 1989; Smith and Coons, 1990; Fain, 1996; Metge, 1996; APhA Pharmacy Practice Activities Classification, 1998).

In addition to the literature review, the personal work experience of the researcher and discussions with academic advisors were used to define the dimensions of prescription medication patronage. A set of fourteen relevant dimensions was proposed. The dimensions were: (1) Location, (2) Pharmacists, (3) Other Store Personnel, (4) Prices of Prescriptions, (5) Accepts Prescriptions Covered by My Health Plan, (6) Merchandise Selection of Other Health Care Products, (7) Pharmacist Professional Services, (8) Store Services, (9) Promptness and Attention to Service, (10) Store Décor, (11) Hours Opened, (12) Private Area to Speak with Pharmacist About My Prescriptions, (13) Always Has My Prescription in Stock, and (14) Other.

For comparison purpose to the 1984 study, only exact or similar wording in either dimensions or items to the 1984 study were used to test the difference in mean importance rating. Those testing dimensions and/or items are shown in Table 1.

Scale Construction

Each of 14 prescription medication patronage dimensions was written as a positively worded statement. Subjects were asked how important are the following reasons to them in selecting a pharmacy for obtaining medications. Then the subjects were also asked to rank the three most important reasons from the above dimensions.

Subjects rated the importance of each dimension/item using uni-polar importance scale. The scale was presented in a forced choice format and labeled 1 = Of No Importance, 2 = Little Importance, 3 = Moderate Importance, 4 = Considerable Importance, 5 = Great Importance.

The scale was chosen for its summative

Table 1 Comparisons of Similar Prescription Medication Patronage Dimensions Between 1984 and 1999 Studies

1984 Study	1999 Study
Economics (16) Accepts prescriptions covered by my health insurance plan (7) Low prices for prescription drugs	Accepts prescription covered by my health plan Price of prescription medication
Friendly Personnel (13) Clerks and other personnel are friendly	Pharmacy Technical Staff
Pharmacist Competence (51) Always has my prescription in stock	Pharmacist (competence, knowledgeable) Always has my prescription medication in stock
Temporal Convenience	Hours Open
Tradition (39) Delivery Service Provided	Home Delivery and Emergency Services

- The number in the blanket is referred to the number of attribute in 1984 study.
- The bold characters referred to the prescription medication patronage dimensions in 1984 study.

properties (Mclver and Carmine 1981; Nunally 1994), importance measurement properties, ranking properties, and also for general preference comparison of results to the 1984 study.

Survey Instrument Content

The survey instrument contained six sections. Section I was focused for this research. The other sections were part of a funded project and conducted by Sonderegger Research Center. Section I: Prescription Medication Patronage: contained the 14 prescription medication patronage motives dimensions as mentioned previously. Using the uni-polar importance scale, respondents were asked to evaluate the importance of each dimension when selecting a pharmacy to purchase a prescription drug. Also, at the end of the section, the directions asked respondents to rank the three most important dimensions when selecting the pharmacy.

Section II: Pharmacist Service Activities: contained 30 pharmacist service activities. These pharmacist service activities were derived from a review of the pharmacy literature. Respondents were asked to evaluate the importance of each criterion related to prescription medications, non-prescription medications and also other self-care items. The pharmacist service activities were rated using the uni-polar importance scale. Also, the directions asked the respondents to check the "experienced" box next to the importance scale if they knew they experienced that pharmacist service activity before.

Section III; "Talking to Your Pharmacist;" contained 19 questions asking the respondents to rate pharmacist(s) on "Talking to Your Pharmacist" questions. Section IV; "Working with Pharmacist;" included five questions to probe how respondents feel in working with pharmacist(s). The "Quality of Pharmacist Service," Section V, consisted of 3 general questions asking the respondents about things the pharmacist did that may bother them and also how they rate the quality of service pharmacist(s) provided to them. The last Section consisted of general questions relating to the respondents, prescription medication and pharmacy they used. The respondents were asked if they have ever obtained

the prescription drug for themselves, how many prescription medications they have obtained in the past month, how much a month they spend on their prescription, how many pharmacies they usually shop at for their prescription drugs (listing the names), how long they have shopped at their favorite pharmacy. The respondents were also asked about demographic variables such as age, gender, health status, number of persons living in the same household, education, working hours and income.

Study Location

The data collection site was the Metropolitan Statistical Area (MSA) representing Dane County, Wisconsin. The U.S. Bureau of Census (1990) reported the total resident population of Dane County, Wisconsin was 367,085, with median ages of 30.8 years, including 9.2% of 65 years and over, with a median household income approximately $32,703. For persons older than 24 years of age, 88.9% graduated from high school and 34.2% graduated from college. Females represented approximately 50.7% of the population. The civilian work force included 241,050 non-farm, salaried workers. Specific areas of employment were: manufacturing 10.3%, construction 3.7%, transportation and utilities 4.6%, trade 17.5%, finance and insurance 7.8%, services and miscellaneous 33.8%, and government 22.5%. Unemployment rates ranged between 3.5 and 5% annually. The University of Wisconsin-Madison is located in Madison with approximately 40,000 students enrolled.

During the study, there were 24 independent pharmacies (i.e. traditional prescription pharmacies), 24 chain pharmacies (more than 10 units under the same ownership) and 14 clinic pharmacies operated by health maintenance organizations (HMOs) in the county. Traditional third party prescription drug benefit programs were available to consumers in this MSA as well as similar plans offered by health maintenance organizations (HMOs). Pharmacists' participation in these prescription benefits plans was universal. Thus, consumers' freedom of choice in selecting a pharmacy for obtaining prescription drugs was universal.

Pretest

The first draft of the questionnaire was reviewed by a panel of five pharmacy administration faculty and eight graduate students. Opinions were gathered regarding the face validity, clarity, format and overall evaluation of the instrument. The time required to complete the questionnaire was noted to be approximately 30 minutes. Based on comments received during this exercise, instructions and format were revised. The second draft of the questionnaire was offset printed onto 11 by 17 inch paper with the word "draft" on the background of every page and folded into a four-page, 8.5 by 11 inches, booklet form.

The booklet was ivory colored and contained the 14 prescription medication patronage dimensions with uni-polar importance scale, questions about drug purchases and demographic information, space for written comments and suggestions, and direction for returning the booklet. Also included were (1) a draft cover letter, and (2) additional letter eliciting respondents' evaluation the questionnaire.

Using a purchased Dane County Wisconsin Resident Mailing List and State Employee Directories, a systematic random sample of 15 consumers from Madison and 15 state employees were selected. A $1.00 token was placed in each cover letter in order to enhance the response rate. Questionnaires were sent out to the selected subjects. Seven days after the booklet mailing, each subject was mailed a follow-up postcard reminder.

From the results of the pretest, only minor change in the survey booklet was changed.

Demographic Information

The response rate was 53.33% (N=30) and 86% was female. The average age was 53.8 years old. They rated their health as fair (14.3%), good (42.9%), and very good (42.9%). The mean for education level was high school graduate with some college degree. About 71% of the subjects worked about 40 hours per week.

Every respondent obtained his or her own prescriptions. Most people (85.7%) obtained 1 to 5 prescriptions in the past month. They spent between $ 4 and $150 per month for their prescriptions. All of them shopped at only one primary pharmacy. The length of time they had been consumers of that specific pharmacy ranging from 3 to 30 years.

Populations Sampled

Again, using the purchased Dane County Wisconsin Resident Mailing List and State Employee Directory, a systematic random sample of 300 consumers from purchased Dane County Wisconsin Resident Mailing List and 200 employees from the State Employee Directory was selected.

The selected subjects from the resident mailing list were categorized by age and gender. The reasons for age and gender stratification are that, first, previous studies found that there were relationships between consumers' ages and gender to prescription medication preferences and prescription drug use. Second, in previous pharmacy patronage studies, about 60% of the pharmacy consumers were female. The purchased Dane County Wisconsin Resident Mailing List also was stratified by age and gender, so the ratio of male vs. female sample were assigned as 40%(male): 60%(female). Also, within each gender category, age was divided into greater and equal to or less than 50 years of age groups. The proportion of 60%: 40% of age range for each gender were given for this study. Then the total number of 300 residents residing around Dane County were randomly selected from the mailing list. (See Table 2. for details)

For the sample of 200 state employees, a systematic sampling technique was used. From the State Employee Phone Directory, the total number of state employees in Dane County was counted (13,800 total) and divided by 200. The first name in the directory was selected along with every 69th name that followed. This process provided 200 names.

Data Collection

Since the pretest, targeted response rate was greater than 50%; a $1.00 token was placed in each booklet. The final sample size of 500 was determined by the sufficient number of respondents needed for analysis and the amount of funding available.

Table 2 Selected Subject (Residence and State Employee) by Age and Gender

Subject		Sent out	Percent
Residence	=	300	60
Female age ≥ 50	=	108	60*
Female age < 50	=	72	40*
Male age ≥ 50	=	72	60*
Male age < 50	=	48	40*
State Employee	=	200	40

Note: *the percent is calculated from each gender

For the Dane County resident sample, on February 5, 1999 a notification postcard was sent to the 300 selected residences. Subjects received a notification postcard informing them about the study's purpose, how they were selected and asking for their participation. Three days after the notification postcard was mailed, subjects were mailed the booklet and business reply envelope in a School of Pharmacy envelope. Then a week after the survey booklet was mailed, the follow-up postcard was sent to subjects to remind them about the survey and response.

Also, on February 17, 1999, the first survey was sent to the 200 selected state employees via inter-departmental mail. Subjects received the first survey booklet and business reply envelope in a School of Pharmacy envelope with a cover letter informing them about the study's purpose, how they were selected and asking for their participation. A week after the first survey booklet was sent out, the second survey booklet with the same content was sent to subjects again. One exception for the second survey, is that it did not include a $1 token. The objective for using two different methods for the two different groups is that the researcher in another study would like to compare the response rate between the two methods used.

Data Analysis

The responses were coded for computer analysis. The Statistical Package for the Social Sciences PC 8.0 for Windows was used for conducting all statistical tests. The mean value of the item responses was substituted for the missing responses for reliability and factor analysis. Similar dimensions of prescription medication patronage motives (pharmacy preference) to the 1984 study were tested for differences in the means by using Student t-test at $\alpha = 0.05$. (See Table 1 for details)

To determine which three prescription medication patronage motives dimensions (determinant dimension) were most important to the respondents, data collected on the importance rankings of selected prescription medication patronage dimensions were analyzed by calculating frequencies and overall mean rating scores of the prescription medication patronage dimensions to place them in order of importance. Overall mean importance-rating scores also were calculated to find out the three general categories of prescription medication dimensions. Mean weighted importance scores were calculated by weighing most important by 3, second most important by 2, and third most important by 1, and then summing these weighted important values for each prescription medication patronage dimension.

Results

Respondent Demographics and Patronage Characteristics

Of 500 surveys in the initial mailing, 483 (96.6%) were delivered, and 284 (58.8%) were returned. The response rates from residents and state employees were 51.33% and 61.00% accordingly. Eight responses were unusable leaving 276 surveys available for data analysis.

The median age of respondents was 52 years, and 71% were females. About 73 % of respondents rated their health as good to very good. Almost half of them (43.3%) had two persons currently living in their household. Over 81 % had at least a high school graduate or equivalent degree, and more than 50 % earned at least technical or bachelor's degree or higher education. The median income was in the $ 35,000 to $ 49,900 category.

Almost 98.1 % indicated they had obtained at least one prescription for themselves in the past month, and 62.3 % had obtained from one to five prescriptions in the preceding month. The range of prescription cost per month was $ 0 to $ 400 with an average expense for prescription drugs per month of $ 28.48. Most respondents (70.5%) usually went to one specific pharmacy for purchasing prescription medications. The most mentioned pharmacy from this survey was Walgreens Pharmacy. The average time that respondents were loyal to the pharmacy where they purchase most of their medications was about 11 years. Almost 59 % of the respondents stated they purchased most of their non-prescription medications and other types of self-care remedies from the pharmacy where they obtained their prescription medications.

There are somewhat differences in age, education and income between residents and state employee samples. The reason for age difference was that 60% of the resident we sent the survey to were the elderly group, while the state employee group were still working in the government section that could be assumed that their age should be not more than 60 years old, that caused the age difference. In term of education, most state employees have pursued higher education comparing to resident sample, which in turn resulted in higher income.

Prescription Medication Patronage Motives Dimensions

An overview of the responses to the survey is provided in Table 3. The range of responses, the mean rating and standard deviation for each item are given. The mean item responses were on the great importance end of the importance rating scale. Twelve of the fourteen (85.71 %) mean item responses were greater than three. The mean response was moderate importance. The standard deviation of

Table 3 Descriptive Statistics of Prescription Medication Patronage Dimensions

Item	No[a]. Response	No. Missing	Mean[b]	Std. Dev.	Range
1. Always has my prescription medication in stock.	273	3	4.32	0.86	1 - 5
2. Private are to speak with pharmacist about my prescriptions.	273	3	2.95	1.04	1 - 5
3. Convenient location.	275	1	4.47	0.72	2 - 5
4. Store appearance. (layout, decor, well lit, clean)	273	3	3.66	0.94	1 - 5
5. Prompt and attentive service.	272	4	4.41	0.68	1 - 5
6. Home delivery and emergency services.	272	4	2.84	1.18	1 - 5
7. Pharmacist professional services such as consultation.	273	3	3.42	1.10	1 - 5
8. Merchandise selection for other health care products.	274	2	3.23	1.02	1 - 5
9. Accepts prescriptions covered by my health plan.	273	3	4.59	0.90	1 - 5
10. Prices of prescription medications.	272	4	4.04	1.16	1 - 5
11. Pharmacist. (competent, knowledgeable)	273	3	4.60	0.85	1 - 5
12. Hours open.	274	2	4.05	0.85	1 - 5
13. Pharmacy technical staff.	267	9	3.66	1.04	1 - 5
14. Other.	43	233	3.42	1.50	1 - 5

Note: a. Totals do not add up to 276 due to missing data.

b. Include insertion of aggregate mean score for missing data.

the mean item responses ranged from 0.68 to 1.50. Seven mean item responses had standard deviations less than one. .

Instances of unusable or missing responses randomly were dispersed throughout the scale portion of the questionnaire. A total of 44 item responses were affected, involving 9 of the 276 respondents. (Exclude item 14) The maximum number of missing responses for any item was nine, or not greater than 3.3 % of the total number of responses. The only item, which had five or more missing responses, was Pharmacy technical staff.

Hypothesis Testing

Based on Hypothesis, "Consumers' ratings of the levels of importance (preference) for specific prescription medication patronage motives are positively different for 1999 as for 1984 study, four prescription medication patronage dimensions were not significantly different from the 1984 study. The student t-test comparing for a difference in the mean scores for this study and the 1984 were not significant (See Table 4). The four prescription medication patronage dimensions were: Item 1: Always has my prescription medication in stock, Item 6: Home delivery and emergency services, Item 10: Prices of prescription medications, and Item 13: Pharmacy technical staff. Thus, for these four prescription medication patronage dimensions, hypothesis I was not accepted (At $\alpha = 0.05$, one- tailed test).

The prescription medication patronage dimensions that were significantly different from the 1984 study ($\alpha = 0.05$, one- tailed test) were Item 9: Accepts Prescriptions Covered by My Health Plan, Item 11: Pharmacist, and Item 12: Hours Open. Since these three prescription medication patronage dimensions were significantly different from the 1984 study, the hypothesis was accepted for them.

Respondents were asked to rank the importance of those prescription medication patronage factors

Table 4 Comparison of Similar Prescription Medication Patronage Dimensions 1984 and 1999 Studies

Dimensions/Items	1999 Study		1984 Study		
	Mean	(S.D.)	Mean	(S.D.)	t-test [a]
	N = 276 [e]		N = 335 [e]		
1. Always has my prescription medication in stock.	4.325	0.86	4.33	.89	-0.14
2. Private are to speak with pharmacist about my prescriptions.[d]	2.950	1.04	-	-	-
3. Convenient location. [d]	4.473	0.72	-	-	-
4. Store appearance. (layout, decor, well lit, clean) [d]	3.660	0.94	-	-	-
5. Prompt and attentive service. [d]	4.414	0.68	-	-	-
6. Home delivery and emergency services.	2.840	1.18	2.73	1.32	1.09
7. Pharmacist professional services such as consultation. [d]	3.420	1.10	-	-	-
8. Merchandise selection for other health care products. [d]	3.230	1.02	-	-	-
9. Accepts prescriptions covered by my health plan.	4.592	0.90	4.10	1.14	5.94 [b]
10. Prices of prescription medications.	4.040	1.16	4.12	0.95	-0.92
11. Pharmacist. (competent, knowledgeable)	4.601	0.85	4.51	0.22	1.71 [b]
12. Hours open.	4.050	0.85	3.16	0.51	15.28 [b]
13. Pharmacy technical staff.	3.660	1.04	3.65	1.01	0.12
14. Other. [d]	3.420	1.50	-	-	-

Note: a. Formula for t test of a difference between means: $t = \frac{(y1 - y2) - E(y1 - y2)}{\text{Est. SE diff.}}$

b. Significance at alpha = 0.05 (p value = 1.645) one-tailed test.

c. The testing dimensions/items are 1, 6, 9, 10, 11, 12, and 13 respectively.

d. Items not studied in 1984

e. Include insertion of aggregate mean score for missing data.

that they considered important. The frequencies of factors rated most important, second most important, and third most important are summarized in Table 5.

The total importance scores and rank by total importance score for each factor are shown in Table5. Accepts prescriptions covered by my health plan was selected as the most important factor, Pharmacist was ranked second and Always has my prescription medication in stock was come in third closely followed by Convenient Location as fourth.

To confirm the ranking of the most important dimension of prescription medication patronage motives, the mean scores also are included in Table 5. (Only in difference in order of the top 5 dimensions resulted via the different method of calculation) It can be concluded that their results are consistent, even when done a bit differently.

It is interesting in the way that pharmacist dimension was perceived to be the most important dimension in ranking score or the second highest mean in rating score. One way to interpret this result is that consumers rely on pharmacist in the prescription task, or pharmacist may be perceived as the gate keeper who provides access to the prescription medication, since consumers need a pharmacist present to have their prescription filled. It would be worthwhile to conduct the research to find out what role of the pharmacist that consumers expect.

Table 5 Respondents Ranking Specific Prescription Medication Patronage Factors as First, Second, and Third Most Important.

Item	Most Important	Second Important	Third Important	Total Importance Score	Ranking By Total Score	Ranking By Mean Score
1. Accepts prescriptions covered by my health plan.	68	53	31	311	1	2
2. Pharmacist. (competent, knowledgeable)	59	28	44	277	2	1
3. Always has my prescription medication in stock.	61	36	14	269	3	5
4. Convenient location.	32	53	41	243	4	3
5. Prompt and attentive service.	17	34	52	171	5	4
6. Prices of prescription medications.	15	20	24	109	6	7
7. Pharmacist professional services such as consultation.	4	22	11	67	7	10
8. Hours open.	2	11	29	57	8	6
9. Private are to speak with pharmacist about my prescriptions.	3	8	3	28	9	13
10.Store appearance. (layout, decor, well lit, clean)	4	2	11	27	10	8
11.Home delivery and emergency services.	5	1	2	19	11	14
12.Other.	2	3	2	12	12	10
13.Pharmacy technical staff.	-	-	5	5	13	8
14.Merchandise selection for other health care products.	-	1	3	5	13	12

Note: Total weighed importance score were calculated by multiplying:

Most Important	by	3
Second Most Important	by	2
Third Most Important	by	1

Discussion

In the pretest, by using a small number of subjects, it was possible that a non-representative group of respondents resulted. However, since the objective for the pretest study was to determine the validity, clarity and appropriateness of the questionnaire, there was little concern about representativeness of the pilot sample.

In the data collection, the sample size was expanded in order to provide an adequate number of respondents, and a systematic random sampling of subjects was used to provide the distribution of respondents across the demographic and geographic types.

The sample of respondents was quite consistent with the pretest in gender (more female), age (52-53 years old), and education (high school or above) and health (good or above). Both samples of respondents were somewhat representative of the sample population based on level of education, and income. Reasons why the sample was not representative to sample population in age and gender categories could be due to method of sampling used (age and gender stratification as mentioned in methodology section), and sampling error. Also, the sample in this study is somewhat different from the sample in the 1984, since the sample drawn from the 1984 study were limited to Madison, Wisconsin, but for this study the sample were

drawn from Dane County, Wisconsin. The percentage of female respondents (71%) compared with 51% of the population sample were more representatives of prescription consumers by gender. The difference in median ages, 52 years and 31 years, could be due to either users of prescription drugs being generally older when compared to non-users, or the sample age group appeared older because no children were included.

Prescription Medication Patronage Motives Dimensions

The mean importance of four dimensions, "Always has my prescription medication in stock", "Home delivery and emergency services", "Prices of prescription medication", and " Pharmacy technical staff" were not significantly different from the 1984 study.

For the "Always has my prescription in stock" dimension, the means of the "Always has my prescription in stock" dimension for this study and the 1984 study were both high in mean importance. (4.32, 4.33 respectively) It could be interpreted that this dimension was still the determinant dimension.

For "Home delivery and emergency service" dimension, as both studies showed that the means importance ratings were quite low (2.84, 2.73 respectively), implied that this dimension was considered not important in the first place. Perhaps due to the fact that most consumers (especially in these two studies) did not use this service, it did not matter how well the pharmacy provided this patronage dimension. However, it might be important for the elderly. Further analysis must be conducted in order to find out how the elderly group of consumers consider this "Home delivery and emergency service" dimension.

The explanation for "Price of prescription medication" dimension was related to the proliferation of third-party prescription drug plans and the increasing number of people covered by those plans. A plan subscriber often pays the same co-pay regardless of which store filled the prescription; therefore, the price of the prescription was not of concern (Schondelmeyer and Trinca, 1983). Especially, for this study, 40% of the sample was drawn from the state employees who had prescription drug coverage, so they might judge "Price of prescription medication" dimension less important than other selected dimensions. In other words, it could be stated that the "Price of prescription medications" dimension was substituted indirectly by the implementation of third-party prescription drug plans. As shown in Table 5, "Accepts prescriptions covered by my health plan" was placed as the first most important in the ranking score of this study. This implied that the evoked sets of consumer preferences that once used to included "Price of prescription medication" has been replaced by "Accepts prescriptions covered by my health plan". However, due to the fact that consumers were not aware that almost all pharmacies accept prescription benefit plan, that why consumers perceived this dimension important. Thus, they would fear losing coverage if they went to another pharmacy.

Finally, for the "Pharmacy technical staff" dimension, respondents might perceive the staff in the pharmacy just performing the routine work in a retail environment and not responsible for building relationships with consumers. Also consumers of prescription drug might prefer to deal directly with the pharmacist if they had a choice, which in turn the "Pharmacy technical staff" was considered not as important and did not change much in term of mean differences over time.

The "Pharmacist" and "Hours open" dimensions increased in mean importance rating. "Pharmacist" dimension was considered more important over time, due to pharmacists continuing to improve and implement new services in order to serve consumers better. Moreover, Rupp and Kreling (1994) stated that the focus of contemporary pharmacy practice has now shifted to an emphasis on the consumer, to optimize the interaction that occurred between the consumer and the pharmacist, which in turn creates more

potential contacts between the pharmacist and consumers, together with the increasing rate of prescription drug used by consumers recently, that might have caused the increase in the mean importance rating for the "Pharmacist" dimension. Alternative view of interpretation this result was that consumers need a pharmacist present to have their prescription filled. Instead, it was related to the access issue that pharmacist acts as the gate-keeper for prescription patronage.

For "Hours open" dimension, since most people have to work, and the consequence of the working schedule might limit the chance to visit the pharmacy, it seemed reasonable if the pharmacy could provide convenient hours for consumer to get their prescription filled. In turn this may have made this dimension more important over time.

The author determined the five most important dimensions in selecting the pharmacy for prescription medication. The results showed consistency for the top five most important dimensions but their order of importance changed due to method of calculation.

The first determinant dimension was "Accept prescriptions covered by my health plan". One explanation is that the current cost of prescription medication is so expensive, therefore people rely on a prescription drug insurance benefit. Since almost half of the respondents were state employees that had health plan coverage, they tended to select this dimension as their first choice. However, due to the fact that consumers were not aware that almost all pharmacies accept prescription benefit plan, that why consumers perceived this dimension important. Thus, they would fear losing coverage if they went to another pharmacy.

More interesting was that in the 1999 study the "Pharmacist professional service" dimension was not included in the top five most important dimensions. The result did not imply that consumers did not consider pharmacist professional service as not important as other dimensions. (As consumers rated almost all pharmacist service activities higher than three on the importance rating scale) It may be as Kotler (1988) found that service was difficult to identify by the consumers and especially pharmacist service activities were not consistently provided in the practice. Perhaps consumers did not know what the pharmacist professional services were, and so they did not expect it, even though they wanted it. The point is that since the pharmacist professional services were not easily identified (known), the consumers were going to key on other prescription medication patronage dimensions such as convenient location and the pharmacist because those factors were more tangible.

Moreover, other factors, for example: environment, competition, pharmacy regulations, and new pharmacist services could cause changes in consumers' evoked sets of pharmacy patronage preferences. As can be shown from this study, "Accepts prescriptions covered by my health plan" was ranked first in importance rating in 1999 study. One major influence that probably caused this change was due to managed care and the high cost of medication that forced consumers to rely on prescription drug coverage plan (Schondelmeyer and Trinca, 1983). Thus, other factors in the retail environment created a situation in which consumers re-evaluated and re-defined their evoked set of the five most important preferences for patronage.

There are some limitations to this study. First, the sample for this study was limited to one metropolitan statistical area (MSA), Dane County, Wisconsin. A comparison of the demographic characteristics of the study sample with the MSA population revealed the sample distribution to be slightly different from the MSA population on two of the four demographic variables examined together with the sample from this study were somewhat different from the 1984 study in term of sample geographic area representation. Therefore, caution should be used in generalizing beyond the study sample. Second, all of the data were based on respondents' reported recall of their past patronage patterns. Any errors in respondent recall

may have affected the results. Third, there are limitations in using a summative scale (Nunally, 1994). Fourth, the School of Pharmacy letter head might cause the bias result. Respondents might want to please the researcher in some ways.

Finally, this study did not take into account consumers' past experiences with other pharmacies, and therefore was not able to determine what effect those past experiences had on the pharmacy patronage motive assessment of their current pharmacy.

Conclusion

In conclusion, changes in preferences towards the prescription medication patronage motives dimensions tested for this study compared to the 1984 study, showed that preferences are dynamic. Second, from this study, prescription drug coverage becomes an essential issue and included in the evoked sets when consumers make decision about purchasing medication, it would be worthwhile for future research to study how important prescription drug coverage is to consumers in selecting their pharmacy. Finally, it seems that consumers do not understand the general preference cues for professional services. Thus, pharmacists must develop promotional tools to educate consumers about professional services and communicate their expanded services to consumers so that consumers would have clear understanding of the role of pharmacist in providing professional services.

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