

## **Factors Contributing to Pharmacist's Selection and Recommendation of "Over the Counter Drugs" In Lebanon: An Empirical Study**

**Nabila Abass**

*Associate Professor,  
Business Administration Department,  
Alexandria University, Egypt*

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**Keywords:** Over-the counter-Drugs selection; Over-the counter-Drugs recommendation; Marketing; Sales representatives.

**Abstract.** The aim of the current study is to identify the factors that affect the selection of "Over-the Counter-Drugs" (OTC), specially the factors that contribute most to OTC recommendation. Furthermore, this study examined the effect of pharmacist demographics: years of experience, ownership, qualification and pharmacies location, on the selection of OTC drugs.

A pilot study was conducted to specify the conditions for which pharmacists recommend OTC drugs, the available OTC drugs, as well as the first line OTC drugs that will be selected for each condition. It also discusses the factors that determine the selection of OTC drugs. The results of the pilot study were used to develop the quantitative instrument, filled by 574 pharmacists through personal interviews which were conducted by 10 sales representatives working in seven Lebanese districts. Factor analysis and Cronbach's  $\alpha$ -value assessed the validity of the research constructs, and generated three groups of factors described as, product-related factors, patient-related factors, and commercial -related factors.

The study also indicated that there are significant differences among Lebanese districts in respect to the factors that contribute to a Pharmacist's selection of OTC drugs. The results also concluded that there are significant differences in the factors that contribute to the selection of OTC drugs in respect to pharmacies ownership and Pharmacist's qualifications, but no significant differences are found in respect to the pharmacists' years of experience, recommendations for pharmaceutical companies and future research directions are also presented.

### **1. Introduction**

There are two main categories of medication, over-the-counter (OTC) and prescription. Prescriptions are more potent, present risks even when they are used properly, and are considered adequate for more serious diseases, which need professional diagnosis and medical advice from health care professionals. OTC drugs reflect products that need definition of drugs that are self-limiting in their therapeutic consequences, have nominal or controllable side effects, and are used for diseases and conditions that can be self-recognized. The use of these products is a highly favorable risk-benefit (Grossman, 1995).

According to Paninchukunnath (2007), most OTC drugs are safe, effective and economical. Because they are available without prescription, their perceived value is higher compared to the orthodox models for common ailments.

OTC medication range from analgesics to anti-histamines and it differs from one country to another, depending on the legislative framework-mainly the national medicines authority. In addition to the current classification of OTC drugs, there is a behind-the-counter product (BTC), which may fall between prescription and OTC on the risk-benefit continuum. The Academy of Managed Care Pharmacy (AMCP, 2010) supports the establishment of this class of drugs that allows customers, with the intervention of the pharmacist, to purchase certain medications with prescription.

AMCP supports the establishment of a third class of BTC drugs if the following conditions are met. Medications selected for BTC status must provide a benefit to the public, decisions on which drugs are selected for BTC drugs must be based on clinical effectiveness and safety. The process for ordering and dispensing of BTC drugs must be standardized. The

pharmacists must be required to perform a clinical evaluation and dispense OTC drugs. The pharmacists' training requirements must be based on knowledge and skills that are required to interpret objective clinical data and to apply selection criteria in order to dispense OTC products. The Patients' health information must be protected, standards for the use and disclosure of the patients' personal health information must meet the existing requirements, and the program oversight requirement must be developed. These conditions are approved by the AMCP Board of Directors, June; 2009.

These conditions are not required in case of OTC drugs. Sands (1982) concluded that 96% of the study's sample had used OTC medications, and they named 131 different products by brand name. Most subjects named the media and family members as the source of information about the OTC drugs.

OTC medicine sales have grown due to their reclassification from prescription drug, changing regulations, as well as self-care information (Westerlund *et al.*, 2004).

As OTC drugs have a low monetary value, low financial and social risk, and are habitually purchased, customers have a low involvement in the decision-making process, Rodway (1995), or they have no say in the purchase of OTC drugs (Lele and Panse, 2007). The nature of OTC drugs marketing mission is different from that of prescription drugs. Pharmacists influence OTC drugs decision-making at the point of purchase, as customers lack the specialist's knowledge, and they may fail to optimize their brand choice due to variety and ambiguity (Mitchell and Papavassiliou, 1999), so that they mostly depend on the advice of pharmacists and have greater faith in their advice and are less skeptical toward healthcare (Ganther *et al.*, 2001). Pharmacists can ensure consumer safety with product efficacy (Prayle and Bruzier, 1998). They have simultaneous roles: subjectively, they have commercial interests in selling, and objectively, they provide impartial advice. Conflict may exist between professional duties, which is to provide customers with impartial advice and the commercial duties that is to sell OTC drugs (Pioch and Schmidt, 2004).

Consumers buying decision process always starts with the recommendation by the pharmacist or any other prescription power, so that most of the promotional efforts by pharmaceutical companies must be directed to the pharmacists as the gatekeepers to the success of an individual brand.

Pharmacists' promotion takes a variety of forms, such as; gifts, free samples, raffles, items and equipment, and discounts. The pharmacist's choice of

OTC drugs could be influenced by a variety of factors including promotional, experience, financial, social factors as well as the clinical issues. It is important to specify the factors that contribute most to the selection and recommendation of OTC drugs, which is the focus of the current research.

The researcher conducted a pilot study to specify the factors that affect pharmacist's selection of OTC drugs; factor analysis generates three groups of factors, which are product-related factors, patient-related factors, and commercial-related factors. The research model is proposed to test the contribution of these factors in explaining pharmacist recommendation of OTC drugs. The model explains approximately 41% of the variance in the recommendation of the OTC drugs. Step wise regression analysis indicates that product related factors are the most important factors that contribute to pharmacists' recommendation of OTC drugs, followed by patient-related factors, and finally promotion-related factors. The study also found that there are significant differences in the factors that contribute to the selection of OTC drugs among Lebanese districts, as well as the pharmacies ownership, but there are no significant differences concerning the year of experience in this respect.

Current research may provide both practical and academic contribution to the OTC drugs literature by extending business buyer behavior theory to explain pharmacist's selection of the OTC drugs. The academic and practical importance could be discussed as follows:

#### **Academic importance:**

There are three main theoretical contributions of the current study:

**First:** The results of the current study are expected to contribute to the growing literature on the marketing of OTC drugs by extending the study to a less developed country (Lebanon). The study covers all districts in Lebanon (Beirut, Bekaa, North Lebanon, North Mount-Lebanon, South Lebanon, South Mount-Lebanon, and Kesserwan/Jbeil) which includes different socioeconomic areas. It is not a town-based study. This may help to generalize the results.

**Second:** To the researcher's knowledge, this study is one of the first studies of the OTC drugs selection and recommendations for a variety of conditions (24 conditions) specified by pharmacists as the common conditions prevalent for the OTC products. However, the empirical studies on these issues are somewhat limited, except for the study conducted by Kennedy & Moody (2000) which

specified the factors that influence the pharmacist's decision when recommending OTC drugs for six categories of conditions, which were the clinical and patients factors. This study's results are similar to Kotecki's (2002), who concluded that the medical factors are more important in influencing the OTC drugs' selection than social and marketing factors for smoking cessation and material supplement.

**Third:** The study also investigates the differences in the factors that contribute to the pharmacist's selection and recommendation of OTC drugs in respect to demographic aspects, which have not yet been investigated by the Lebanese studies (to the researcher's knowledge).

**Practical importance:**

Lebanon is a strong pharmaceutical market in the Middle East, (Innovator Pharma Licensing Reports, 2009; Lebanon Pharmaceutical and Health Care Report Q2, 2010). The country's pharmaceutical total market has grown by 0.4%, while OTC market has grown by 1.2% in 2007. In 2008, OTC market has grown by 1.3% compared to 3.1% for the total market, and in 2009 the Units Growth for OTC was 1.3% compared to 3.1% for the total market. This indicates that the growth of the OTC market is equal or even greater than the total pharma market (for 2007). Table 1 presents the comparison between OTCs and total pharma market performance.

The growth of the OTC drugs market and OTC drugs share of the total pharma market supports the results of many studies in less developed countries, which stated that almost any drug available on the market may be purchased over-the-counter, (Babu, 2008). The irrational use of pharmaceuticals, in particular self-medication with antibiotics has been

widely reported, which leads the World Health Organization to call attention to the dangers of self-medication (Kamat and Nichter, 1998).

As long as customers passively follow the advice of pharmacists as agents encouraging self-medication and medicine experimentation (Kamat and Nicher 1998), the pharmaceutical companies direct their marketing and promotional efforts to pharmacists. Thus, the results of the current research may help pharmaceutical companies to identify the most important factors that influence the pharmacist's selection of OTC drugs, which many help them in developing the appropriate marketing strategy. As a result, the current study may have implications for promotional strategies. The results of the current study considering demographic factors may be a meaningful basis for the segmentation of community pharmacy.

To achieve the research objectives, current research is organized as follows: Section 2 surveys the relevant literature. Section 3 describes the pilot study. Section 4 represents the research methodology, which includes research hypothesis, the proposed model, research sampling, and data collection procedure. Section 5 describes data analysis and hypothesis tests, and section 7 deals with research conclusion.

**2. Literature Review**

Although there has been an increase in the number and range of drug available over -the-counter, there is a paucity of research about the patients' attitude to use of OTC drugs as well as patients' attitude to doctors and pharmacists recommending OTC drugs.

Bradley *et al.*, (1998) concluded that about 24%

**Table 1. A comparison between OTCs and total pharma market performance**

2007	Units sold	Units Growth%	\$Value	Value growth %	OTC share of total Pharma market
<b>2007:</b>					
OTC drugs	39,611,982	1.2	172,158,885	3.3	36.744%
<b>Total Market</b>	62,142,192	0.4	441,198,539	5.1	
<b>2008:</b>					
OTC drugs	40,123,075	1.3	189,705,541	10.2	62,62%
<b>Total Market</b>	64,071,291	3.1	501,872,684	13.8	
<b>2009 :</b>					
OTC drugs	46,123,075	1,3	189,705,541	10.2	53,79%
<b>Total market</b>	74,580,124	3.1	501,872,684	13.8	

Source (Gezzini, 2010).

of the sample used OTC drugs regularly and there were positive attitudes toward doctors inquiring about prior OTC drugs use as well as to doctor's recommendations in consultations.

Customer's awareness, attitudes, and usage of OTC drugs among adults have been investigated by Prahalad (2007). The results obtained from the study indicated that the awareness level about OTC as a category was high and is considered to be safe. 50 % of the respondents did not know the side effects of the OTC drugs they took. 84% of the respondents believed that self-medication with OTC drugs is increasing in the society, and they prefer print and TV as the main media to receive information on the rational use of drugs from any pharmaceutical company.

Benefits of OTC medications as summarized by the Drug Manufacturing Association (US) stated that OTCs are safe, effective, dependable, affordable, and in many countries OTC medications are readily accessible.

Creyer *et al.*, (2001) indicated that during the last 20 years, about 600 drugs containing ingredients that were once available by prescription only, are sold as OTCs. The rapid proliferation of drugs being switched from prescription (RX) to over-the-counter (OTC) has raised many consumer behavior and public policy concerns.

Paninchukunnath (2007) specified the possible benefits and risks of switching from prescription to OTC. According to his study the benefits are:

1. Increased access.
2. Decreased frequency of visits to physicians, leading to lower healthcare costs.
3. Improved education of consumers.
4. Increased autonomy of patients.
5. Decreased cost to third party player.

While the possible risks are:

1. Inaccurate diagnosis.
2. Delay in obtaining needed therapy.
3. Use of suboptimal therapy.
4. Drug resistance.
5. Failure to follow label instructions (adverse effect, drug interactions).
6. Perceived loss of control by physicians.

In a review of literature concerning the behavior of the buyer and consumer of OTC drugs, Hustad *et al.*, (1979) proposed a simple model of the self-medication process. The model begins with the decision to treat or prevent. Prevention attempts to preserve a continuity of comfort by anticipating that a situation is likely to lead to symptoms. The first source of information is the perceived appropriateness of past solutions for the current

problem, word of mouth and advertising. If symptoms are unusual or severe, the doctor's recommendation provides an important legitimization of the drugs.

There are many factors contributing to the purchase of OTC drugs. Babu (2008) identified the most important factors for purchasing OTC drugs, are past experience, corporate image, brand identify, and the prior assumption of physicians.

### 2.1. Drugs marketing process:

The drugs marketing process is described in Fig. 1.

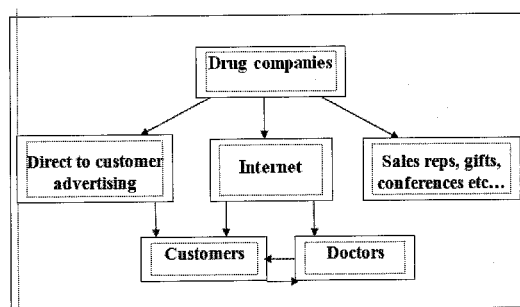


Fig. 1. Pharmaceutical Marketing Process. (Source: Buckley, 2005, p. 5)

According to Fig. 1, the promotion of prescription drugs is usually directed from the manufacturer to the prescriber, so that the power of prescribers are physicians, pharmacists and other with prescribing power, the promotion strategies were all essentially push focused.

In 1977, the Food and Drug Administration (FDA) decided to relax restrictions on Direct to Customer Advertising (DTCA) which increased the pull from customers.

FDA said that DTCA had to mention the drugs' side-effect, specify other sources of information about the drugs, and advise customers to consult their doctors and pharmacists (Buckley, 2005). According to Flynn (1999), the DTCA makes customers better informed and more sophisticated, as they have enough information about drugs and therapeutic options.

Mentzes *et al.* (2002) conducted a study to measure the influence of direct to customer pharmaceutical advertising and patients' requests on prescribing decisions. The results indicated that patients' requests for medicines are a powerful driver of the prescribing decision, which means that physicians prescribed requested products. Direct to customer advertising intrudes on the physician-patient relationship.

Spending on direct to customer advertising has

continued to increase in recent years, in spite of the criticisms leveled against it (Donohue *et al.*, 2007). Rosenthal *et al.* (2002) concluded that the use of direct to customer advertising has grown disproportionately to other forms of promotion, and physicians must assist patients in evaluating health-related information obtained through advertising. Brownfield *et al.* (2004) concluded that any American, who watches an average amount of TV, may be exposed to more than 30 hours of direct-to-customer drug advertising each year.

The effect of DTCA on customer decision-making was investigated by Frosch *et al.* (2007) the results confirm that advertising made some factual claims and a rational argument for the product use, but provides limited information about the causes of the disease or who may be at risk. Advertising shows characters that have lost control over their social, emotional or physical lives without the medication, and they minimize the value of health promotion through a life-style change.

In conclusion, the results confirm that DTCA have limited educational value and many oversell the benefits of drugs in a way that might be conflicting with promoting population health.

Creating pull may be achieved indirectly through the internet. Brown and Wang (2007) found that the web-based products ID system (Product Identification system) can provide a means for production validation and data-base marketing, enable interactive attracting communication and viral marketing, and collect customer information as well as feedback for research activities.

Ashman *et al.* (2008) presented a framework to understand how customers respond to eight areas of OTC healthcare. Their study focused on explaining customer process information about health-care, such as the information that currently is available on the internet. The study had divided customers into three segments. Those who want a quick fix, those who want a statement of benefit to them, and those who want a detailed explanation of how and why the product works. The study found that this segmentation applies to self-medication and shows the feasibility of creating a new type of database to understand the consumer mindset communication, viral marketing, and collect customer information and feedback for research activities.

Although DTCA plays an important role in the promotion, many studies argue that patients still need assistance from their physicians or pharmacists for evaluating the health-related information through directed advertising (Paninchukunnath, 2007)

One recent study was conducted by Wazaify *et al.*

(2008) to investigate the Jordanian population's attitudes towards the role of community pharmacy services, as well as the use and perception of OTC drugs.

The results indicated that the general public in Jordan trusts the pharmacist and his/ her important role as a health-care professional, who provides a wider range of good services. The study also indicated that there is a confusion and uncontrolled consumption among the general public in Jordan regarding OTC drugs.

The barriers to improve pharmacy practice have been discussed by Knapp (1979) as cognitive, situational, legal or attitudinal in nature.

The relevant factors determining the extent to which patients receive advice on prescription drugs have received considerable attention in the literature. Researchers have studied pharmacists' gender, workload, the pharmacy's environment, and pharmacist's attitudes toward counseling, perceptions of consumer demand as well as willingness to counsel for OTC products.

Many studies specified the determinants of OTC counseling. For example, Gannon (1993) found that 71% of the pharmacist sample specified more time to council, 52% reimbursement for counseling, 26% more information/ education on the products, 19% availability of specific counseling area and more encouragement from management (7%).

Hendry (1996) specified the determinants of OTC counseling, he concluded that 94% of the pharmacist sample indicated that the time and staff will lead to more involvement being reimbursed 76%, and expressed the need for more pharmacist education 64%, are the determinants of OTC counseling.

Bahari and Ling (2010) specified the factors that affect consumer satisfaction toward community pharmacy service in Malaysia such as; convenient hours, availability of OTC products, variety of products, pricing and the attitude of pharmacists.

Taylor *et al.* (2000) indicated pharmacist readiness to adopt new standards of practice involving OTC drugs. The data collected determined the pharmacist readiness to engage in a new standard of practices as well as the pharmacists' self-efficacy in their capabilities to do so. The study indicated that educational endeavors are needed to assist pharmacists with how to confidently and skillfully deal with some of the non-therapeutic issues of OTC counseling.

### 3. Research Problem

The problem of this research is to identify the factors that influence the pharmacist's selection of OTC drugs, and to measure the relative importance of

these factors on explaining the pharmacist's recommendations of OTC drugs.

#### 4. Research Objectives

According to the Lebanese Ministry of Health, all medicines are registered as ethical drugs, food supplements or multivitamins. No medicine is registered as OTC. What makes drugs an OTC is the positioning of this product in the customer's mind, which was created by the pharmaceutical companies and pharmacists (Gezzini, 2010).

Accordingly, to study the factors that affect the selection of OTC products requires specifying the conditions for which pharmacists recommend OTC, specifying the number of the available products for each condition, and the first line product would be recommended for each condition. Thus, the objectives of the current study are:

- 1- To identify the conditions for which pharmacists recommend OTC drugs.
- 2- To specify the number of the available OTC drugs for each condition in the Lebanese market.
- 3- To specify the first-line OTC drugs recommended for each condition.
- 4- To identify the factors that influence the pharmacist's selection of OTC drugs.
- 5- To specify the relative importance of each factor in explaining the pharmacist's recommendation of OTC drugs.
- 6- To specify the differences in the factors that contribute to the pharmacist's selection of OTC drugs in respect to locations and demographic aspects: qualification, years of experience, ownership.

#### 5. Pilot Study

A semi-structured interview was carried out with a sample of 30 pharmacists representing different socioeconomic areas (Beirut, Bekaa, North Lebanon, North Mount- Lebanon, South Lebanon, South Mount Lebanon, and Kesserwan/ Jbeil). The aim was to include different variables such as; location, years of experience, ownership and qualifications.

The objectives of the interview were to identify the conditions for which the pharmacists recommend OTC drugs and to discuss the factors that affect the selection of OTC drugs, as well as the rank of proprietary medicines that may be purchased over-the-counter.

The results of the pilot study supported the fact that in Lebanon, as in most less-developed countries, almost any drug can be purchased over the counter

(Price, 1989; Coel *et al.*, 1996; Vander Geest *et al.*, 1996), specifically in the Bekaa, South Lebanon, South Mount-Lebanon and North Mount – Lebanon sectors. Pharmacists mentioned a wide range of proprietary medicines that may be purchased over the counter for 24 conditions that could be treated by OTC drugs in an uncomplicated situation, with no other relevant problems. They also specified a wide range of the first line OTC for each condition and the factors that may contribute to their selection of OTC drugs. The data obtained from the pilot study was used to specify the conditions to be studied, and to develop the questionnaire.

#### 6. Methodology

##### 6.1. Research hypotheses:

Based on the revision of previous studies and the literature related to pharmaceutical marketing and OTC promotion, and the results of pilot study, the researcher formulated the following hypotheses:

- H1:** Product-related factors are positively related to the recommendation of OTC drugs.
- H2:** Patient-related factors are positively related to the recommendation of OTC drugs.
- H3:** Commercial-related factors are positively related to the recommendation of OTC drug.
- H4:** There are significant differences related to the influence of product-related factors, patient-related factors and commercial-related factors on the recommendations of OTC drugs.
- H5:** The relative importance of the factors that contribute to the selection of OTC drugs will vary according to pharmacy's locations and pharmacist's demographic aspects.

##### 6.2. Research variables and measures:

Table 2 represents the research variables and measurement items.

**Table 2. Research variables and measurement**

Variables	Measurement items
Independent variables.	
1 – Product-related factors.	11 items in section B1 in the questionnaire.
2- Patient-related factor.	6 items in section B2 in the questionnaire.
3- Commercial-related factors.	6 items in section B3 in the questionnaire.
Dependent variable.	
4-Recommendation of OTC drugs	3 items in selection C in the questionnaire.
5-Demographic factors.	5 questions in section D in the questionnaire.

All measures used in this study were estimated on a five-point Likert scale.

### 6.3. Proposed model

The model shown in Fig. 2 was prepared to test three groups of factors: product-related factors, patient-related factors and commercial-related factors. These groups of factors contribute to the recommendation of OTC drugs..

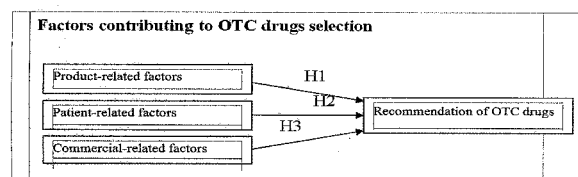


Fig. 2. Proposed Model: Factors Contributing to the Selection and Recommendation of OTC drugs.

### 6.4. Sampling:

Sampling includes population definition, specifying sampling frame, sampling units, determining sample type and sample size.

**Population** consists of all Pharmacists at all pharmacies in the seven major districts of Lebanon, which are Beirut, South Lebanon, South Mount-Lebanon, North Lebanon, North Mount-Lebanon, Bekaa, Kisserwan/Jbeil, during the period from December 2009 to August 2010.

**The sampling units** were pharmacies, while the sampling frame was a list of the total pharmacies in Lebanon, their phone numbers, their mail and e-mail addresses which are available at [www.yellowpages.com.lb](http://www.yellowpages.com.lb)

**The sample type** was a proportionate stratified random. The reasons for this type of sample are to get a more representative sample than might be expected under a stratified random sample. Also it reduced sampling error between strata with respect to the relative numbers selected (Nassirpour, 2004). This was true because the districts were homogeneous, and the population strata was known, so the researcher could draw a Proportionate stratified sample.

**Sample size:** The research specified the number of pharmacies, their phone numbers, their mail and e-mail addresses for each of the seven districts in Lebanon, as shown in Table 3. 50% of the total pharmacies were selected to conduct the research.

Table 3 shows the districts, the number of

pharmacies in each district and the number of selected pharmacies.

Table 3. Major Lebanese districts, number of pharmacies in each district, and the number Of selected pharmacies

Districts	Total number of pharmacies	% of selected pharmacies	Number of selected pharmacies
Beirut	327	29%	164
Bekka	89	0.7%	45
North Lebanon	171	15%	85
North mount-Lebanon	105	0.91%	53
South Lebanon	182	16%	92
South Mount-Lebanon	140	12%	70
Kesserwan / Jbeil	130	11%	65
<b>Total</b>	<b>1144</b>		<b>574</b>

According to Table 3, the total sample size was 574 pharmacies, which were randomly selected from the pharmacies list of each Lebanese district.

### 6.5. Sample profiles:

Characteristics of the pharmacists sample are shown in Table 4.

Table 4. Sample profiles

1- Purchasing budget	Frequencies	Percentage
10%	55	0.9.5
20%	103	0.18
30%	140	0.24.3
40%	117	0.20.3
50%	96	16.8
Others	63	0.11
<b>Total</b>	<b>574</b>	
<b>2- Qualifications:</b>		
- Bachelor degree	323	0.56
- Postgraduate	251	0.44
<b>Total</b>	<b>574</b>	
<b>3- Years of Experience</b>		
0 - 4	196	0.34
5 - 9	198	0.34.5
10 - 14	106	0.18.5
15 - 19	42	0.073
20 - 24	21	0.037
25 - 29	4	0.007
30 - 35	7	0.012
<b>Total</b>	<b>574</b>	
<b>4-Ownership</b>		
- Owners	354	0.617
- Employees	220	0.383
<b>Total</b>	<b>574</b>	

## 7. Data Collection

A self-administrated questionnaire was developed to collect data by 10 sales representatives working in 7 different districts in Lebanon. The questionnaire is developed according to results of the pilot study and literature review (e.g. Kennedy and Moody, 2000; Krska and Kennedy, 1996). The questionnaire was divided into four sections:

The first section (A) concentrates on the conditions treated with OTC drugs, the number of the available products for each condition and the first line OTC products recommended by the pharmacists for each condition.

In the second section (B) the researcher was interested in finding the factors that affect the selection and recommendation of OTC drugs. The respondents were provided with a list of three groups of factors, and were required to rate each one using a 5-point Likert type-scale. Part B (1) was for product-related factors, B (2) was for patient-related factors and B (3) was for commercial-related factors.

In the third section (C), the recommendation of the selected OTC drugs was measured using a 5-point Likert scale. The selected OTC drugs were the first line products recommended by the pharmacists in section (A).

In the last section (D), demographic aspects were measured, including pharmacies location, pharmacists' qualifications, years of experience, and ownership, as well as the OTC purchasing budget.

To measure face-validity, four academic researchers at the Faculty of Pharmacy, Beirut Arab University, evaluated the questionnaire. Based on their feedback and comments, several items, conditions and words were modified. Appendix A represents the questionnaire and appendix B represents the 24 conditions treated by OTC drugs, the range of available products for each condition, and the first-line products for each condition and their frequencies.

## 8. Results

### 8.1. Construct validity

Construct validity, specifically convergent and discriminate, was assessed using factor analysis, principle component analysis and Cranach's a-Value (Straube *et al.*, 2004).

According to Churchill (1979), all items that do not load properly (less than 0.5 and those with cross loading greater than 0.4) could be dropped from the instrument. Item 2 had a cross loading on the patient dimension greater than 0.4, so that item 5 had a low

loading on the product dimension, and item 12 had a low loading on the patient dimension, items 6, 7, 9, and 10 had a low loading on product the dimension and a high cross-loadings on the patient dimension. Similarly, item 12 had a high cross-loading on the commercial dimension, and item 13 had a low-loading on the patient dimension and high cross-loading on promotion dimension. As such, items 2, 5, 6, 7, 9, and 10 are removed from the product dimension, and items 12 and 13 are removed from the patient dimension. The final loadings and cross-loading matrix is shown in Table 5. As shown in Table 5 all item loadings are greater than 0.5 (as recommended by Churchill, 1979; Hair *et al.*, 1995). So the instrument demonstrates construct validity.

**Table 5. Principle component analysis of the revised 15- item survey**

	Component		
	1	2	3
V1	<b>0.508</b>	0.301	0.079
V2	<b>0.798</b>	0.188	0.087
V3	<b>0.773</b>	0.299	0.141
V4	<b>0.709</b>	0.039	0.250
V5	<b>0.803</b>	0.164	0.168
V6	0.238	<b>0.531</b>	0.154
V7	0.220	<b>0.756</b>	0.161
V8	0.181	<b>0.739</b>	0.242
V9	0.123	<b>0.763</b>	0.197
V10	0.258	0.071	<b>0.566</b>
V11	0.124	0.335	<b>0.758</b>
V12	0.030	0.380	<b>0.765</b>
V13	0.071	0.319	<b>0.823</b>
V14	0.134	0.299	<b>0.797</b>
V15	0.263	0.035	<b>0.752</b>

The Cranbachs' a- value is used to measure the within construct validity (Straube *et al.*, 2004). As shown in Table 7, Cranach's a-Value ranged from 0.769 for the patient dimension to 0.852 for the commercial dimension which presents good internal consistencies and well passed the thresholds recommended by Nunnally (1978). Thus the study's instrument passed the test of construct validity.

Discriminate validity was assessed using the



**Table 6. Discriminate validity**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	
Product dimension		<b>0.771</b>			
Patient dimension	552**		<b>0.775</b>		
Commercial dimension	524**	0.532**		<b>0.7901</b>	
OTC Recommendation	0.558	0.555**	0.465**		<b>0.8347</b>

1. \*\* Correlation is significant at the 0.01 level.
2. Bold elements (the square root of average variance).

**Table 7. Synthesis result for factor analysis and reliability**

Dimensions (Concepts)	KMO	Test of Bartlett	Number of items	Cronbach's Alpha	Cumulative % variance
1-Product	0.821	X <sup>2</sup> =1528.190 P=0.000	5	0.818	59.462
2-Patient	0.769	X <sup>2</sup> =619.822 P=0.000	4	0.769	60.147
3-Comercial	0.861	X <sup>2</sup> =1955.101 P=0.000	6	0.852	63.596
OTC Recommendation	0.685	X <sup>2</sup> =495.010 P=0.000	3	0.778	69.674

technique suggested by Fornell and Larcker (1981). This requires that the correlation between items in any two constructs should be lower than the square root of the average variance shared by items within a construct.

Table 6 shows that the square root of the average variance shared by items within a construct, for all constructs was greater than the correlations between the construct and any other construct in the model, confirming criteria for discriminante validity suggested by Fornell and Larcker (1981).

In addition to the above, the researcher realized a factor analysis for each variable of the study model. Table 7 shows a synthesis of results for both factor analysis and reliability.

As shown in Table 7, all variables present good internal consistencies. The above results, therefore, confirm that the research instrument encompassed satisfactory construct validity.

**8. 2. Hypotheses tests:**

Multiple regression analysis is used to test the hypotheses. At this stage the researcher used a full model multiple-regression analysis. The results show that independent variables explained 40.80% of the variance in the recommendation of OTC drugs.

The product dimension was an important predictor of recommendation of OTC drugs (R=0.558; R<sup>2</sup>=0.311; adjusted R<sup>2</sup>=0.310 and

P=0.000). It positively influenced OTC recommendation (B=0.281; T=7.162 and sig=0.000). Thus, as predicted H1 was supported.

Similar to the product dimension, the patient dimension plays an important role in the increase of OTC recommendation (R changed to 0.631; R<sup>2</sup>=0.399; adjusted R<sup>2</sup>=0.397 and P=0.000). The result supported that the patient dimension positively influenced OTC recommendation (B= 0.304; T=7.496; sig=0.000). Hence, as predicted, H2 was supported.

The commercial dimension had a positive effect on OTC recommendation. (R changed to 0.641; R<sup>2</sup>=0.410; adjusted R<sup>2</sup>=0.407 and P=0.000, B= 1.124; T=3.362 and S=0.001). Thus H3 was supported.

The three factors contribute by 40.7% to explain the variance of OTC recommendation.

The research proves that OTC recommendation was significantly and positively influenced by all factors. Table 8 shows the full model multiple regression results.

Stepwise regression analysis is also used to test H4 in order to specify the relative importance of the factors in explaining OTC recommendation. The results indicated that the product-related factor is the most important dimension in explaining OTC recommendation, then the patient dimension and the last dimension was the commercial.

Thus H4 was supported. Table 9 shows the results of the step-wise regression.

**Table 8. Multiple regression results for the full model**

Variables	B	Standard Error	Standardized coefficients		
			Beta	T	Sig.
1-Product	0.218	0.036	0.317	7.162	0.000
2-Patient	0.304	0.041	0.308	7.496	0.000
3-Commercial	1.124	0.037	0.135	3.362	0.001
Constant	1.120	0.131		8.549	0.000
R=0.641 R <sup>2</sup> =0.410 Adj. R <sup>2</sup> =0.407 F Value=11.301 F-Sig.=0.000					

**Table 9. Stepwise regression results**

Step	1	2	3
Constant	1.5817	1.0979	0.9966
<b>Product Dimension</b>	0.535	0.354	0.309
T- value	16.27	9.54	7.93
P- value	0.000	0.000	0.000
<b>Patient Dimension</b>		0.341	0.295
T- value		8.85	7.25
P-value		0.000	0.000
<b>Commercial Dimension</b>			0.125
T- value			3.37
P- value			0.001
S	0.759	0.713	0.706
R-sq	0.31.68	0.39.93	0.41.11
R-Sq(adjusted)	0.31.56	0.39.72	0.40.80
Mallows (c-p)	91.1	13.3	4.0

### The relative importance of the factors that contribute to the selection of OTC drugs:

#### Location:

One-way analysis of variance is used to measure the difference in the factors that contribute to the selection of OTC drugs among Lebanese districts. The results indicated that there are significant differences in the product-related factor and patient related factor, while the differences are not significant for the commercial-related factor. Table 10 shows the results of the ANOVA Test.

As shown in Table 10, Beirut pharmacists had the highest value in the product -related factors that contribute to the selection of OTC drugs, followed by North Mount Lebanon, South Mount Lebanon, Kesserwan/ Jbeil, North Lebanon, Bekaa and South Lebanon.

In conclusion, there is a wide variation in the contribution of product-related factors and patient-related factors to the selection of OTC drugs,

according to the geographic location. The results were statistically significant ( $P=0.000$ ), while the differences in the contribution of commercial-related factors to the selection of OTC drugs according to the geographic location were found to be not statistically significant  $P=0.077>0.05$ .

#### Qualifications

The results of the T-test indicate that there is a significant difference between university graduates and post-graduates with regard to the product-related factors, and to the selection of OTC drugs. Post-graduate pharmacists scored a mean of =4.290, while university graduates scored a mean of 3.63, T-value=9.15 and P-value=0.000.

Similarly, the commercial-related factors mean was 3.601 for post-graduate pharmacists and 3.35 for university-graduate pharmacists, and a T-value=-2.95 and P-value=0.003, which means that the difference is significant at 0.05.

For the patient-related factors, there is no

Table 10. The results of the ANOVA Test

	Locations	Mean	St Dev	F-value	P-value
<b>1-Product-related factors</b>				19.75	0.000
	- Beirut	4.3227	0.6411		
	- Bekaa	3.5844	0.6984		
	- North Lebanon	3.5951	0.7284		
	- North Mount Lebanon	3.8385	0.8088		
	- South Lebanon	3.4567	0.9350		
	- South Mount Lebanon	3.6736	0.9789		
	- Kesserwan/ Jbeil	3.6580	0.5363		
<b>2-Patient-Related Factors</b>				5.05	0.000
	- Beirut	3.6209	0.6356		
	- Bekka	3.2778	0.7604		
	- North Lebanon	3.6882	0.4232		
	- North Mount Lebanon	3.8376	0.3671		
	- South Lebanon	3.4033	1.3279		
	- South Mount Lebanon	3.7819	0.6171		
	- Kesserwan/ Jbeil	3.8347	0.5696		
<b>3-Commercial- Related Factors</b>				1.91	0.077
	- Beirut	3.5945	0.7262		
	- Bekka	3.7212	0.6997		
	- North Lebanon	3.4176	0.8066		
	- North Mount Lebanon	3.7484	0.3890		
	- South Lebanon	3.4292	1.2907		
	- South Mount Lebanon	3.4534	1.2901		
	- Kesserwan/ Jbeil	3.4645	0.6702		

significant difference between the university-graduate mean at 3.564 and post-graduate pharmacists mean at 3.39 with a T-value= -2.3 and P value= 0.018.

### Years of experience

ANOVA Test results indicated that there are no significant differences in product selection depending on product-related factors, patient-related factors or commercial-related factors in accordance with the years of experience. Table 11 shows the results of the ANOVA test.

### Ownership

The results of the T-test indicated that there are significant differences in the factors that affect the selection of OTC drug in accordance with Ownership; Table 12 indicates the results of the T-test.

As shown in Table 12, owners are more affected by the three factors than employees.

## 7. Conclusion

In the light of the findings of the pilot study, there is a wide range of OTC drugs on the Lebanese Market; moreover any product can be purchased over-the-counter.

The results of the empirical study indicate that

24% of the sample size allocated 30% of the total budget for OTC drugs on the Lebanese Market.

Consistent with prior researches, and the present study, it was found that there are many factors that contribute to the pharmacists' selection of OTC Drugs (Kennedy & Moody 2000; Emmerton and Benrimo; 1994; Chappell and Barnes; 1984; Roins *et al.*, 1998; Kraska and Kennedy, 1996).

According to the results of the stepwise regression analysis, product-related factors are the most important dimension that contributes to the pharmacists' selection and recommendation of OTC drugs, followed by patient-related factors and finally commercial-related factors. As Kennedy & Moody (2000) maintained, the clinical and patient-related factors had the greatest influence on OTC decisions, while the economic factors did not compromise the quality of the recommendations.

With respect to the differences in factors that contribute to the selection of OTC drugs among Lebanese districts, Beirut pharmacists depend more on product-related factors while South Mount-Lebanon place more emphasis on patient-related factors, and North Mount-Lebanon pharmacists depend more on commercial-related factors for OTC selection.

**Table 11. The results of the ANOVA test**

	Years of Experience	Mean	St. Dev	F- value	P-value
Product- related factors	0-4	3.8316	1.0007	2.37	0.027
	5-9	3.7963	1.0671		
	10-14	4.0770	0.8802		
	15-19	4.1290	0.5013		
	20-24	4.3917	0.7728		
	25-29	4.5000	0.7071		
	30-35	4.9762	0.6627		
Patient- related factors	0-4	3.6974	0.7245	1.31	0.249
	5-9	3.2437	1.1862		
	10-14	3.6346	0.5166		
	15-19	3.4758	0.7289		
	20-24	3.7500	0.5590		
	25-29	4.1667	0.5164		
	30-35	3.6000	0.1443		
Commercial- related factors	0-4	3.439	0.923	0.68	0.685
	5-9	3.257	1.249		
	10-14	3.308	0.593		
	15-19	3.688	0.740		
	20-24	3.467	1.037		
	25-29	3.806	0.819		
	30-35	3.398	0.751		

**Table 12. The results of the T-test**

	Mean	St-Dev	SE mean	T-Value	P-value
<b>1-Product-related factors</b>					
<b>Owners</b>	4.0141	0.600	0.032	3.54	0.000
<b>Employees</b>	3.69	1.37	0.094		
<b>2-Patient- related factors</b>					
<b>Owners</b>	3.60	0.646	0.034	3.96	0.000
<b>Employees</b>	3.24	1.24	0.085		
<b>3-Commercial-related factors</b>					
<b>Owners</b>	3.636	0.834	0.044	5.14	0.000
<b>Employees</b>	3.16	1.18	0.081		

With respect to the ownership, the results indicated that owner pharmacists depend on the three groups of factors, as the means were statistically greater than those of the employee pharmacists, which is logical, because owners are decision makers, while employees are influencers in the decision-making process.

University graduate pharmacists rated the contribution of product-related factors and patient-related factors less than post-graduate pharmacists, but no significant differences are found concerning the pharmacist's years of experience in this respect.

Research findings suggest that pharmaceutical companies should consider all factors when designing their marketing strategy. They should place more emphasis on product-related factors which include; ingredients of the product, range of doses, the presence of side-effects, the brand image and confidence in the product manufacturers, as well as patient-related factors which include patient's preferences, patient's feedback, patient's age and patient's demand. While they should place less

emphasis on the commercial-related factors, according to the study results, when developing their promotional mix.

Considering the target group of pharmacists, pharmacies location, as well as the pharmacist's qualification and ownership appear to be the best suited strategies for market segmentation, which may help pharmaceutical marketing managers to match the marketing strategy with the pharmacists target group.

Further researches are needed in order to examine other factors that may influence the pharmacist's selection and recommendation of OTC drugs. Cross-cultural difference may influence the selection of OTC drugs, so the research should be conducted in other Arab countries in order to access generalizabilities of the results. More specific analysis for the items underlying each dimension to specify the most important items in each dimension is also required.

Research is also needed to specify the sources of information that pharmacists depend on when they

make OTC purchasing decision. Further replicated studies are needed for other groups of pharmacists in Lebanon, in order to assure that commercial-related factors have lowest relative importance in the selection of OTC drugs, as the results of the current study indicated. The results in this respect may not represent the truth. The pharmacists may want to show a high level of honesty when selecting OTC drugs.

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## **Appendix A**

### ***Questionnaire***

***Dear Pharmacist:***

I am conducting a study into the factors influencing pharmacists' selection of over the counter drugs. Kindly contribute by answering the questions that follow as clearly as possible. Your name, the pharmacy's name and the pharmaceutical company's name are not required.

***Thank you***  
**The researcher**  
**Associate professor**  
**Dr: Nabila Abass**

**Section A:**

Kindly specify the number of the available product of OTCs and the first line product you would recommend for each of the following conditions in an uncomplicated situation, with no other relevant problems.

<b>Conditions treated with OTCs</b>	<b>Number of the available products for each condition</b>	<b>The first-line OTC product you would recommend for each condition</b>
Pain		
Hair treatment (Baldness, hair loss, antidandruff)		
Motion sickness		
Fever		
Headache		
Flatulence		
Minor scrapes, bums, wounds		
Contraceptives		
Vaginal irritation		
Common cold/ cough		
Worm treatments		
Diarrhea		
Constipation		
Diagnostic tests (pregnancy, blood glucose tests)		
Skin treatment (demulcents, anti fungal)		
Vitamins, minerals & nutritional substances		
Nicotine replacement and therapies		
Nausea/ Vomiting		
Personal care (mouth wash, tooth paste, body lotion)		
Eye care		
Ear care		
Spasm		
Weight reduction		
Allergy		

**Section B:**

Kindly tick the box that best represents the degree to which you agree with the statements below, there is no right or wrong answer.

KEY: select 5 for strongly agree; 4 for agree; 3 for neutral; 2 for disagree and 1 for strongly disagree.



**B1- I Select OCT products depending on the following factors:**

1-Active ingredients	5	4	3	2	1
2-The evidence of the product efficacy	5	4	3	2	1
3-Range of doses form	5	4	3	2	1
4-Presence of side effects of the products	5	4	3	2	1
5-Convenience to patients	5	4	3	2	1
6-Succesful self use of the products	5	4	3	2	1
7-Cost of the products	5	4	3	2	1
8-Brand image	5	4	3	2	1
9-Products availability	5	4	3	2	1
10-Duration of relief	5	4	3	2	1
11-Confidence in product manufacturer	5	4	3	2	1

**B2:**

1-Patient's concurrent medication	5	4	3	2	1
2-Patient's social status	5	4	3	2	1
3-Patient's preferences	5	4	3	2	1
4-Patient's feedback	5	4	3	2	1
5-Patient's age	5	4	3	2	1
6-Patient's demand	5	4	3	2	1

**B3:**

1-Company/ employer instructions	5	4	3	2	1
2-Profit from products	5	4	3	2	1
3-Financial pressure of excess stock	5	4	3	2	1
4-Direct incentives to pharmacists to promote products (Bonus, Discount...)	5	4	3	2	1
5-Perpackage reimbursement offer to pharmacists	5	4	3	2	1
6-Item provided by pharmaceutical companies to pharmacists (e.g. equipment, diagnostic tests machines)	5	4	3	2	1

**Note:**

The selected OTCs are the first line products you recommend to your patient in section A.

**Section C:**

1- I will recommend the selected OTCs to my patients frequently	5	4	3	2	1
2- I will recommend the selected OTCs to my patients in the future	5	4	3	2	1
3- I will recommend my patients to switch from other brands to the selected OTCs products	5	4	3	2	1

**Section D:**

- 1- The purchasing budget of OTCs out of the total budget is  
10% - 20% - 30% - 40% - 50% - other (specify).....
- 2- Pharmacy's location: .....
- 3- Qualifications:
  - University:
  - Postgraduate:
- 4- Years of experience: (Specify).....
- 5- Ownership:
  - Owner:
  - Employee:

Appendix B

Conditions Treated by OTC Products, the range of available products and the first line products for each condition and their frequencies

1-Pain	2-Hair Treatment		3-Motion Sickness		4-Fever	
	Range of OTC products=140	Range of OTC products=98	Range of OTC products=293	Range of OTC products=127	First line products	Frequencies
First line products	First line products	First line products	First line products	First line products	First line products	Frequencies
Norgesic	7	24	294	Volaren	21	
Rovangaine	2	3	14	Profinal	128	
Diclogesic	10	99	18	Brufen	4	
Celebrex	6	72	7	Profenid	21	
Brufen	14	9	39	Panadol	126	
Profenid	12	53	3	Febrectol	62	
Brexin	2	4	1	Voldic	6	
Feldene	5	7	12	Adol	21	
Profinal Xp	19	5	7	Tylenol	20	
Diantalvic	56	7	3	Solpadiene	3	
Relivin	4	2	1	Paracétamol	16	
Volaren	16	33	10	Aspirin	15	
Doloraz	8	48	1	Diclogesic	6	
Airtal	4	1	7	Diantalvic	10	
Mobic	5	1	12	Volaren	4	
Ketolac	1	41	3	Uniflu	1	
Voldic	19	9	15	Fendol	5	
Rapidus	3	21	19	Cataflam	1	
Panadol	141	4	3	Doloraz	4	
Surgam	3	1	3	Divido	3	
Relief	11	5		Toprec	1	
Advil	52	3		Mobic	1	
Solpadéene	12	2		Olfen	1	
Tramal	5			Rapidus	1	
Adol	3					
Algophere	4					

Continue Pain							
Febrectol	9						
Toprec	5						
Paraxon	6						
Zaldiar	3						
Paracetamol	11						
Dortixina	1						
Ibuprofen	1						
Roferac D	2						
Robacet	1						
Proxen	14						
Nopain	16						
Oifen	18						
Dafalgan	1						
Muscero	1						
Tylenol	4						

Conditions							
5-Headache	6-Flatulence		7-Minor Scraps.		8-Contraceptives		
	Range of OTC products=256	Range of OTC products=76	Range of OTC products: 9	Range of OTC products=111	First line products	Frequencies	
First line products	Frequencies	First line products	Frequencies	First line products	Frequencies	Frequencies	
Panadol	257	Deflat	81	Oxygène	2	Microgynon	49
solpadiene	69	Spasfon	48	Bepanthene	10	Yasmine	116
Advil	45	Méphygastril	61	Betnarate	3	Belara	44
Relief	31	Flatam	28	Banocin	3	Marvelon	44
Diantalvic	14	Regula	6	Bessline oitment	1	Cerazette	5
Rapidus	10	Arko charcoal	5	Fenestil	1	Diane 35	26
Algoephene	1	Disflatyl	20	Clofen	1	Condons	17
Voltairen	8	Duspatalin	9	Zcta	6	Gracial	24
Paracetamol	13	Pankreoflat	25	Baneocin powder	2		
Proxen	251			contractubex	2		
Tylenol	13						
Ibuprofen	1						
Aspirin	3						
Profinal	16						
Spasfon	1						
Profend	1						
Dafalgan	10						
Adol	1						
Panadol Actifast	4						
Zaldiar	2						
Cataflam	2						
Doloraz	2						
Toprec	6						
Voldic	1						
Divido	1						
Brufen	1						
Solpadiene	1						

Conditions						
9-Vaginal Irritation	10-Common Cold/ Cough		11- Worm Treatment		12-Diarrhea	
	Range of OTC products=72	Range of OTC products:79	Range of OTC products:15	Range of OTC products=130	First line products	Frequencies
First line products	First line products	First line products	First line products	First line products	First line products	Frequencies
Intimo A/Ha Malva	Adol cold	Panadol/ cold & sinus	Inderal	Lomotil	Lomotil	131
Fémic	46	57	Intetrix	Erecefuryl	Erecefuryl	84
Polysynax	15	15	Spasfon	Flagyl	Flagyl	100
Lomexin	73	80	Zocor	Normix	Normix	42
Bétaïne	13	45		Imodium	Imodium	75
Beesline	5	44		Metrolagy	Metrolagy	3
Isoderm	1	8		Furoxyl	Furoxyl	8
Septivon	10	64		Motilat	Motilat	4
Flumazine	5	1		Motilium	Motilium	4
Travocort	54	7		Intetrix	Intetrix	2
Cyteal	5	47		GES powder	GES rehydration powder	2
Canestene vaginal ovule	3	6		Ultra leveure	Ultra leveure	1
saforelle	7	1				
Jana PH8	2	5				
Lomexin	3	2				
Diane 35	1	2				
Biafine	3	1				
Alkagin	3	2				
Travogen	3	2				
Daktacort	2	3				
Myxen	2	1				
Azonit D	44	5				
Depot	1	9				
Summer's Eye	9	8				
Miconaz	7					
K-Y	8					
Gyno Daktarin	3					
Albothyl	5					



13-Constipation		14-Diagnostic Tests		15-Skin Treatment		16-Vitamins	
Range of OTC products	Frequencies	Range of OTC products	Frequencies	Range of OTC products	Frequencies	Range of OTC products	Frequencies
Fleet enema	1	Clear blue	213	Nizoral	19	Geriatric pharमतon	62
Forlax	3	One touch	32	Dermovate	34	Multicomplex	21
Ortisan	2	Accu-Check	94	Canestene	16	Gerimax	138
Bekunis	3			Daktacort	20	Vitaday forte	8
Flagyl	4			Miconaz	5	Eurofer	2
Glycerin suppositories	7			Betnavate	31	Pediavit	7
Normase	9			Azonit	65	Zincovit	1
Movicol	10			Daktarin	17	Centrum	39
Regula	113			Elocom	19	Dynamisan	8
Mucinum dupalac	16			Flunazol	38	Foreval	7
Delcolax	147			Diflucan	24	Health aid	14
Ricin	4			Lomexin	9	V2 plus	16
Contalax	6			Advantan	2	Quantum	8
Soflax	27			Forzimox	9	Cell life	1
Correctol	9			Roaccutane	9	Mason	11
Lactulose	3			Topidic	8	Multiplus	1
Prunasine	2			Curacne	3	Natural wealth	1
				Dalacin	2	Cal-C-Vita	31
				Lamisil	30	Omega 3	2
				Quadrierm	5	Caltrate	5
				Neutrogena	1	Life plan	4
				Sudo crème	3	Energizer	2
				Lotiderm	7	Vitarmony	8
				Ducray	5	Well kid	2
				Fenistil	1	Ultivit	2
				Travocort	3	Vitamin C	5
				Eclaran	4	Polyvital	13
				Radian cream	1	Multivital	2
				Voltaren	2	Alvital	11





Conditions							
17-Nicotine replacements Range of OTC products=176		18-Nausea/ Vomiting Range of OTC products=242		19-Personnel Care Range of OTC products: 124		20-Eye Care Range of OTC products=99	
First line products	Frequencies	First line products	Frequencies	First line products	Frequencies	First line products	Frequencies
Nicotinelle gum	94	Motilat	27	Cdgate	52	i-Care	21
Nicorette	205	Motilium	244	Nivea	54	Reffresh plus	62
Champrix	29	Forcotitium	7	Crest	95	Tobrex	17
		Primperan	150	Sanogyl	22	Artelac	26
		Nauzex	19	Listerine	125	Reffresh Tears	17
		Gravol	39	Sensodyne	74	Tears Natural	31
		Intetrix	2	Fluocaril	39	Systane	7
		Dogmatil	2	Jonshon	36	Tobradex	100
		Zofran	7	Clip	56	Pedfort	3
		Navidoxine	19	Lacalut	13	Sofradex	11
				Garnier	6	Gentadexa	27
				Ideal	1	Spersallerg	18
				Vaseline	27	Blink	12
				Septivon	1	Voltarén	4
				Close Up	6	Betoptic	3
				Aqua fresh	14	Timolol	1
				Signal	16	Sulfachlor	1
				Oral-B	17	Naphcon A	6
				Dove	7	Fucithalimic	3
				Gum	2	Genteal	3
				Beesline	5	Thera-Tears	15
				Tahiti	1	Hylo-comod	1
				Neutrogena	1	i-drop	3
				Trachisan	4	Preservision	3
				Palmolive	2		

Continue Personal Care	
Victoria's Secrets	1
Eludril	4
Elgydium	7
Bétadine	1
Arthrodon	3
Parodontax	2
Rinsidin	1
Astera	11
Zordyl	4
Clean & clear	1

21-Ear Care		22-Spasm		23-Weight Reduction		24-Allergy	
Range of OTC products=101		Range of OTC products: 113		Range of OTC products=82		Range of OTC products=112	
First line products	Frequencies	First line products	Frequencies	First line products	Frequencies	First line products	Frequencies
Cerulise	84	Spasmomen	24	Zotream	26	Telfast	16
Otisedol	102	Spasfon	114	Magrim Diet	37	Restamin	5
Otipax	88	Buscopan	97	Slimming capsules	21	Zyrtec	113
Sofradex	28	Spasmonal	69	Slim light	43	Loratidine	27
Cetraxal	15	Scopinal	39	Via ananas	21	Panadol sinus	5
Gentadexa	8	Spasmo-digestin	55	Xtreme	21	Nasonex	1
oflox	3	Parascone	54	Reductil	80	Adol sinus	4
Voltaren	1	Metospasmyl	5	Xenical	83	Finalerg	50
Cidomycin	1	spasmocibalgin	3	Slim diet	1	Aertus	38
Acerumen	11	Panadol	3	Super slim	17	Ebastel	7
Audi-Clean	14	Rofenac	1	Magrim-power	6	Histamed	53
Waxol	2	Muscerol	21	Ultra slim	42	Fenistil	80
Polydexa	8	Voltaren	3	Acai Boost	6	Claritine	56
		Pankreoflat	2	Starvex	4	Atarax	14
				Xenical	4	Lorine	13
				Kilo-off	4	Frenaler Cort	4
				Seven slim	1	Calamine	4
						Xyzal	5
						Alergical	1

العوامل التي تسهم في قيام الصيدلي بالاختيار والتوصية  
باستخدام الأدوية سهلة المنال  
"دراسة تطبيقية في لبنان"

نبيلة عباس إبراهيم

أستاذ مساعد بقسم إدارة الأعمال

كلية التجارة - جامعة الإسكندرية

( قدم للنشر في ٢١/٧/١٤٣٢هـ، وقبل في ١٩/١/١٤٣٣هـ )

الكلمات المفتاحية: اختيار الأدوية سهلة المنال، التوصية باستخدام الأدوية سهلة المنال، التسويق، مندوبي المبيعات.

ملخص البحث. استهدفت الدراسة الحالية تحديد العوامل التي تسهم في اختيار الصيدلانية للأدوية سهلة المنال (التي تشتري مباشرة من الصيدلية وبدون وصفة الطبيب)، وتوصية المرضى باستخدامها، كما قامت الدراسة باختبار تأثير الخصائص الديموغرافية للصيدلانية (سنوات الخبرة، ملكية الصيدلية، المؤهلات العلمية للصيدلي، وموقع الصيدلية) على اختيار هذه النوعية من الأدوية. ولتحقيق ذلك أجرت الباحثة دراسة استطلاعية على عينة قوامها ثلاثون صيدلياً، وذلك بغرض تحديد الحالات التي يصفون فيها هذا النوع من الأدوية، وعدد العلامات المتاحة من كل نوع، وكذلك تحديد أول منتج يقومون بوصفه للمريض في كل حالة من هذه الحالات. بالإضافة إلى مناقشة العوامل التي تسهم في اختيار الأدوية سهلة المنال.

وقد استخدمت الباحثة نتائج الدراسة الاستطلاعية في إعداد قائمة الاستقصاء والتي تم ملؤها بواسطة ٥٧٤ صيدلياً يمثلون ٥٠٪ من الصيدليات الموجودة في الجمهورية اللبنانية، وذلك من خلال عشرة أشخاص يعملون كمندوبي مبيعات لشركات الأدوية في سبع مناطق تغطي جميع أنحاء الجمهورية اللبنانية.

وقد استخدمت الباحثة تحليل العامل، ومعامل ألفا لقياس صدق وثبات قائمة الاستقصاء، وتوصلت إلى ثلاث مجموعات من العوامل التي تسهم في اختيار الصيدلانية للأدوية سهلة المنال، وهي عوامل ترتبط بالمنتج ذاته، وعوامل ترتبط بالمرضى، وعوامل ترتبط بالترويج الذي تقدمه شركة الأدوية، وتفسر هذه العوامل في مجملها حوالي ٤١٪ من التباين في التوصية باستخدام هذا النوع من الأدوية، وباستخدام تحليل الانحدار المتعدد توصلت الدراسة إلى اختلاف الأهمية النسبية لهذه المجموعات الثلاث من العوامل في التأثير على التوصية باختيار الأدوية سهلة المنال.

كما أسفرت النتائج عن وجود اختلافات جوهرية فيما يتعلق بالأهمية النسبية للعوامل التي تسهم في اختيار الأدوية سهلة المنال بالنظر إلى متغير المناطق الجغرافية وملكية الصيدلية والمؤهلات العلمية للصيدلانية، في حين لم توضح النتائج وجود مثل هذه الاختلافات فيما يتعلق بسنوات الخبرة في هذا الخصوص، ولقد قدمت الدراسة بعض التوصيات لشركات الأدوية وكذلك الباحثين في هذا المجال.