

PEOPLE'S EXPECTATIONS IN HO CHI MINH CITY WHEN BUYING OVER – THE – COUNTER DRUGS TO SELF – TREATMENT

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ABSTRACT

This objective is to study determinants of people's expectation in Ho Chi Minh city when buying over – the counter drugs to self – treatment. With a directly surveyed dataset of 403 citizens over 18 years old who purchased medicines for self-treatment, and using the quantitative method by exploratory factor analysis (EFA), the study found factors affecting people's expectations when buying over – the – counter (OTC) drugs to heal themselves are past purchase and use of non-prescription drugs, experience treating common diseases with OTC drugs, seeking information behavior when intending buying non-prescription drugs, the impression of the-over-counter medications and the impression of pharmacist at pharmacy by Ho Chi Minh city (HCMC) citizens.

Keywords: *Buying the-over-counter to treat themselves, Expectations, The-Over-Counter.*

1. Introduction

Recently, health problems have risen a significant concern to the government and communities, especially in big city such as HCMC which accounts for 6.6% population of Vietnam, and lands in the most important economic center in South of Vietnam. The city is the key economic center with high growth rate which creates a huge contribution to the national GDP (1/3 GDP), and has numerous top health and hospital centers in Vietnam. In developed countries, for example America, Canada, Australia and Japan, non-prescription medicine buying has brought remarkable advantages to the economy, it helps hospitals offload services, reduces cost for the community as well as improves the citizen's knowledge about health treatments. Besides, the Ministry of Health from those developed countries also promulgate and implement a list of non-prescription

medicines (drugs that citizens are allowed to buy without doctor's prescription). In Vietnam, the government starts enacting penalties concerning about selling prescription drugs to buyers without doctor's prescription, this is a proof of showing that Vietnamese government has risen an attention in controlling the selling and buying activities of patients for prescription and non-prescription medicines as well. Furthermore, health administrators are conducting programs in order to educating the citizens in using, buying and selling prescription and non-prescription medicines for specific circumstances.

The number of health-care facilities, clinics, private hospitals and especially pharmacies has increased significantly. From common symptoms such as flu, sore throat and stomach ache to serious diseases which could cause a huge trouble to patient's life

namely hypertension, osteoarthritis and respiratory infection, most of the patients and their relatives tend to buy medicines from pharmacies for self-treatment rather than following the doctor's prescription and instruction. The problem is prescription-compulsory medicines for instance antibiotic and hypertension and corticoid could be bought from random pharmacies without doctor's prescription, the same situation goes for drugs that contain high amount of substance which buyers could take at any amount they want (this is extremely dangerous with vulnerable objects such as kids) as long as they can afford them. Using medicines without professional instruction has increased the number of drug resistance cases, and the foreseeable consequence is effects on people's health and more seriously the patient's life could be endangered. Hence, which reasons for people's expectations when buying over – the counter drugs to self – treatment? How to measure factors influence people's expectations in order to suggest policy implications for government, firms and individuals to improve people's life quality?

By defining the desires of patient in self-treatment and analyzing factors that impact on those desires is the major purpose of this research. The results of finding are that factors affecting people's expectations when buying over – the – counter (OTC) drugs to heal themselves are past purchase and use of non-prescription drugs, experience treating common diseases with OTC drugs, seeking information behavior when intending buying non-prescription drugs, the impression of the over-counter medications and the impression of pharmacist at pharmacy by Ho Chi Minh city (HCMC) citizens.

The research will be divided into several parts including introduction as part 1, base theory and research model as part 2, part 3 will present the technical research, analyzing the research's result as part 4, and after all is

conclusion and recommendations.

2. Literature review and research model

2.1. Concepts

Self-care: a form which is not held by the operation of health organizations, and health-care but by individuals, relatives, friends and colleagues. It includes self-treatment, self-appointment, it is the healthcare resource of the healthcare system, self-decide and self-perform for themselves and relatives. Focusing on major areas, for instances disease prevention, treatments for common diseases, minor injuries, disease control and rehabilitation (WHO, 1994).

Self-treatment: this is a form included in self-care, self-medication to cure common disease for example colds, flu, pain relief, runny nose, allergies, smoking cessation, stomachache, digestion, dry skin and topical medications for muscle pain. Products used for this kind of self-treatment are non-prescription medicines (WHO, 1994).

Non-prescription medicines: are medicines that are allowed to buy, sell and use without requiring doctor's prescription (Pharmaceutical Law 34/2005/QH11). According to Kohler (2012), "special products are products have distinctions in characteristics or brands which buyers willing to purchase with special efforts" which are quite similar to products as medicines. Kohler mentioned about medicine such as Aspirin, based on the fact, the medicine is also a kind of product create its own brand. Hence, in the product's distinction, Kohler pointed out that medicines are items or products could be differentiated based on its characteristics such as size, form, content and physical structure. Moreover, in order to managing medicines and food, Kohler showed that the Food and Drug Administration (FDA) has established a regulation which require the medicine label to implement information about protein levels, fat, starch, calories contained in the product, Vitamin's components and natural active

ingredients which need clarifying the percentage.

Customer's expectation when buying non-prescription medicines: consumers can buy non-prescription medicines from pharmacies and even grocery stores and supermarkets in countries such as America, Canada and Japan. "When buying medicines, consumer's expectations tend to rely on the efficient, effective, quality, cost, safety, information on the drug's package and side effects", Hellen (2006) Hassel, Rogers, and Noyce (2000). This showed that there are several differences in customer's expectation namely safety level, efficiency and effectiveness. According to this research, consumers tend to believe that prescription medicines will come with a higher level in efficiency rather than non-prescription ones.

2.2. Factors affect consumer's expectation in buying non-prescription medicines for self-treatment

Past purchasing and using non-prescription medicines: this is the action formed when citizen bought and used non-prescription medicines for self-treatments, and this will effect to their next purchases as well as their expectations on deciding to purchase non-prescription medicines for future self-treatments. This factor is similar to post purchase behavior of consumers (Kohler, 2005). The similar conclusion from this issue has been verified by Helen (2006), DIRC (2002) (DIRC stands for Drug Information and Resource Centre) throughout research experiments in Canada, or NCPIE (2002) (NCPIE stands for National Council on Patient Information and Education) in The United States. Taylor (2002) also made assessments based on past purchasing and using non-prescription in the community with consumer's expectations on buying non-prescription in next purchases.

The experiences in vetting common diseases by using non-prescription medicines:

These are knowledge, and experiences which gained throughout getting common diseases. This experiment will study respectively in detail 9 symptoms which could be vet by using cold medicines, pain relievers, antihistamines (treatment of allergies), sleeping pills, medication for smoking cessation, laxatives (treatment of gastrointestinal diseases), medications for dry skin and skin medicines for muscle tenderness. This factor helps assessing the necessary level in using non-prescription medicines for curing common diseases.

Information seeking behavior when intending to purchase non-prescription medicines: this behavior occurs when patients rise demand on using non-prescription medicines for treatment and ask for advices from acquaintances, relatives, or look up information from newspaper, radio, and internet so that they could make a decision in where to purchase, which kind of medicines are preferred, and which kind of brands are more reliable (Kotler 2005; NCPIE, 2002; DIRC, 2002).

Consumer's impressions to non-prescription medicines: this is the perception of consumers toward non-prescription medicines focusing on the safety, effectiveness, side effects and drug's instructions. Both positive and negative impressions will effect on the desire of purchasers when they intend to buy medicines. In fact, this is the important factor which leads directly to consumer's behavior in whether purchasing non-prescription medicines for self-treatment or using prescription medicines following doctor's instructions (MacKeigan, 1989; Helen, 2006).

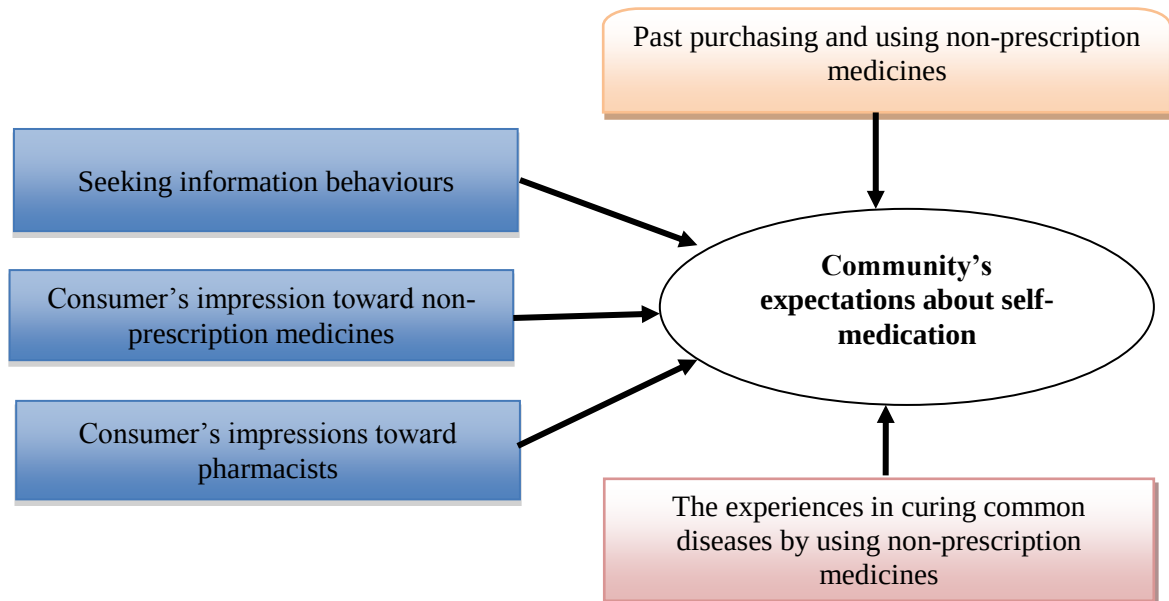
Consumer's impressions to pharmacist at pharmacies: this is the perception of consumers occurs based on pharmacist's skills such as service attitudes, instructions, knowledge about products, certificate, ability, and responsibility. This feeling will directly impact on consumers, or on their feelings

toward service's quality, also on the consumer's expectations when buying non-prescription medicines for self-treatment. Giving instructions to patients, and purchasers is the pharmacist's responsibility, in case if those instructions and services are provided professionally, it will rise positive impressions

to consumer's expectations (FIP, 1996).

2.3. Research Model

Based on studies of Helen (2006), NCPIE (2002), Taylor (2002) and DIRC (2002), the research model used to study community's expectation in HCMC could be proposed as following:



3. Methodology and research data

Research methods: The study used quantitative methods focus on following contents: analysis descriptive statistics, exploratory factor analysis (EFA) and regression analysis based on survey data by questionnaires.

The scale and design of survey panel: Scales and questionnaire surveys mostly based on theory and previous studies, the quantitative research is made through 20 objects purchasing medicines in pharmacies located in HCMC so that the questionnaire survey could be adjusted to fit with the human condition, study's areas, and study's period. The research uses Likert scale which is divided into 5 levels from strongly disagree, disagree, not sure, and agree to strongly agree respectively from level 1 till level 5 on the scale. The measurements are combined between measurements of Helen (2006),

NCPIE (2002), Taylor (2002) and DIRC (2002) and measurements designed by qualitative research.

Research data: The research objects are citizens over 18 years old who purchased medicines for self-treatment. The sample is put into formal study with a sample size of 403. In order to achieve this sample size, 420 questionnaires were generated with 412 answer sheets were recovered. After screening and validity checking, there were 403 samples left for handling accounted for 97.8% of collected samples, and 96% of established questionnaires.

4. Analyzing the research's result

4.1. Statistical and describing samples according to their characteristics

The study showed that group 1 (from 18 to 35 years old) are majority which made up 91.6% in total 3 study groups, following is middle-age group (from 36 to 64years old),

and least is old group which over 65 years old took 0.2%.

Low income group (under 5 million VND per month) made up 41.2% which is also the majority group, following by average income group (5 to 10 million VND per month) with 34.5%, next is the group which earns 10 to 15 million per month with 16.6%, the other two high income (15 to 20 million VND) and very high income group (over 20 million) made up to 3.7% and 4% respectively.

Most of the interviewees have certain educational qualification, the proportion of university graduates and postgraduates makes a majority with 63%.

The percentage of citizens who is single is surveyed accounted for 72%, the remaining 28% are married with the self-treatment's proportion up to 82%. 47.9% of surveyed

citizen agree that self-medication is effective. The not - sure - group is quite large with 38.5% of total while that of disagree group makes up 10.7% of total. The rest are strongly disagree and strongly agree groups which accounted for 1% and 2% respectively.

Most of the citizens who interviewed have “normal” health (60.5%). 15% citizens stated that they have good health, while 10.2% of interviewee admitted that their health is bad. The rest includes 8.7% of people who think their health is very good and 5.2% of them believe that they are extremely healthy.

4.2. Description Statistics of variables in the model

Results are summarized from the statistics used for describing variables in the model represented more accurately in the following Table 1.

Table 1. Descriptive statistics of the variables in the model

Variables	Symbol	Minimum	Maximum	Average	Standard deviation
Past purchasing and using non-prescription medicines (QMS)					
Knowledge of non-prescription medicines	QMS1	2	5	4.24	.570
Usually purchasing non-prescription medicines	QMS2	2	5	4.19	.499
Usually coming to pharmacies for any reasons	QMS3	2	5	4.17	.584
Often buying more than one type of non-prescription medicines at a time	QMS4	2	5	4.12	.720
Regularly use a combination of different non-prescrip drugs for self-treatment	QMS5	2	5	4.15	.637
No side effects when using non-prescription drugs	QMS6	2	5	4.24	.606
Experiences in treating common illnesses with non-pres medicines (KNB)					
OTC medicines required for cold	KNB1	2	5	4.23	.656
OTC medicines are required for headache	KNB2	2	5	4.25	.653
OTC medicines required for muscle soreness	KNB3	2	5	4.23	.649
OTC medicines required for skin diseases	KNB4	2	5	4.21	.680
OTC medicines required for constipation	KNB5	2	5	4.24	.636
OTC medicines required for gastric and reflux	KNB6	2	5	4.20	.761

Variables	Symbol	Minimum	Maximum	Average	Standard deviation
OTC medicines required for inflammatory pain recurrence	KNB7	2	5	4.18	.728
OTC medicines required for allergic and sore eyes	KNB8	2	5	4.19	.726
OTC medicines required for insomnia	KNB9	2	5	4.17	.726
seeking information behavior when intend to buy non-pres medicines (HTT)					
Concern about information on the medicine's package for the first time purchasing	HTT1	2	5	4.04	.666
Concern about information on the medicine's package for the first time using	HTT2	2	5	4.04	.668
Concern about information and instruction from doctor when purchasing non-pres medicines	HTT3	2	5	4.02	.712
Concern about information and instruction from pharmacists when purchasing non-pres medicines	HTT4	2	5	4.08	.642
Regularly requiring pharmacist's advisory when purchasing non-prescrip medicines for self-treatment	HTT5	2	5	4.02	.717
Concern about friend's information and advisory when intend to purchase non-pres medicines for self-treatment	HTT6	1	5	4.04	.662
Concern about relative's information and advisory when intend to purchase non-pres medicines for self-treatment	HTT7	2	5	4.07	.567
Concern about mass media (internet and newspaper) when intend to purchase non-pres medicines for self-treatment	HTT8	2	5	4.11	.598
Self-decide to buy medicines for self-treatment	HTT9	2	5	4.08	.608
Perception of non-prescription medicine of HCM citizens (CNT)					
Perception of safety level of non-prescription medicines	CNT1	2	5	4.02	.642
Always careful when buying non-prescription medicines for self-treatment	CNT2	2	5	3.97	.687
Concern about side effects of non-pres drugs	CNT3	2	5	3.95	.674
Regularly using non-prescription drugs to the recommended dose (attached on the package)	CNT4	1	5	4.00	.673
Witnessing the more effective when combining non-prescription and prescription drugs	CNT5	1	5	3.98	.758

Variables	Symbol	Minimum	Maximum	Average	Standard deviation
Regularly using non-prescription drugs when getting more than one disease at the same time as (cold and stomachache)	CNT6	1	5	3.96	.747
Perceived effectiveness of non-prescription drugs better than prescription ones	CNT7	2	5	3.92	.651
Perceived effectiveness of imported non-prescription drugs better than domestic ones (medicines produced by Vietnam)	CNT8	1	5	3.97	.717
Perception of pharmacists at pharmacies in HCMC (CND)					
Pharmacists care about patient, and purchaser's health status.	CND1	1	5	4.06	.789
Pharmacist spend times to instruct patients and purchasers	CND2	1	5	4.02	.825
Pharmacists are reliable	CND3	1	5	4.11	.784
Pharmacists are always ready to help citizens	CND4	2	5	4.13	.741
Pharmacists are friendly	CND5	2	5	4.08	.684
Pharmacists encourage about safety in using non-prescription medicines	CND6	1	5	4.11	.753
Pharmacists have good knowledge, help patients with good therapy	CND7	1	5	4.13	.766
Pharmacists help residents in choosing best non-prescription medicines	CND8	2	5	4.17	.650
Pharmacist are too busy	CND9	1	5	4.14	.724
HCM community's expectation when purchasing non-prescrip medicine for self-treatment (KV)					
Purchasing high quality non-prescription medicines	KV1	2	5	4.10	.613
Purchasing non-prescription medicines with highly effective (fast symptom relief medication)	KV2	2	5	4.23	.669
Purchasing non-prescription medicines with high safety	KV3	1	5	4.22	.711
Information on the medicine's package is clear and full	KV4	2	5	4.22	.689
Non-prescription drugs with less side effects	KV5	2	5	4.11	.703
Non-prescription drugs with reasonable price	KV6	2	5	4.15	.651
Pharmacies have good consulting services, and professional customer support	KV7	2	5	4.02	.700
Non-prescription drugs have long effectiveness (long duration of drug's effects)	KV8	1	5	4.29	.778

Throughout 403 observations collected, it shows that each citizen evaluates differently about measurement's concepts. Assessment points are ranged from 1 to 5 for the observed variables, the standard deviation is lower than 1 indicates that the dispersion is not too large, and quite centralizing. Each of the observed variables will indicate influences to community's expectations in HCMC when purchasing non-prescription medicines for self-medication to the research model.

Observed variables have average value of 3.92 or higher. Specifically, the variable of feelings about non - prescription medicines tend to be higher than that of prescription ones. This variable is used to measure perception's elements of community about non-prescription medicines. Highest variable accounted at 4.25, and this one is used to evaluate the feeling about the necessary in using headache medicines. On the other hand, this variable is implied to evaluate assessment's elements of the community about the necessary in using non-prescription medicines to cure common diseases, and the average value of this factor is also highest (4.21). These information has proved that based on the community's experiences,

headache is the disease which needs non-prescription medicines for self-treatment. However, according to the above table, the value of variables is accounted averagely at 4.24.

4.3. The reliability of the scale (Cronbach's alpha)

The scale of "past purchase activities" element and using medicines of HCMC citizens (QSM) includes 6 observed variables with Cronbach's alpha coefficient is 0.771. The experience in curing common diseases with non-prescription medicines (KNB) includes 9 observed variables with Cronbach's alpha coefficient is 0.909. The seeking information behavior when intending to purchase non-prescription medicines for self-treatment is 0.884. While the Cronbach's alpha coefficient of consumer's impression of non-prescription medicines element is 0.893, and that of consumer's impression about pharmacists at pharmacy is 0.857. The last one is the community's expectation when purchasing non-prescription medicines for self-treatment which has Cronbach's alpha coefficient at 0.765. The detail is performed in the Table 2.

Table 2. Results of testing the scale Cronbach's alpha variables

Element's names	Observed variables	Symbol	Cronbach's alpha	The correlation coefficient of gross	Alpha coefficient without variables
Past purchasing and using non-prescription medicines (QMS)	Knowledge of non-prescription medicines	QMS1	0,771	.493	.743
	Usually purchasing non-prescription medicines	QMS2		.624	.717
	Usually coming to pharmacies for any reasons	QMS3		.498	.742
	Often buying more than one type of non-prescription medicines at a time	QMS4		.485	.750

Element's names	Observed variables	Symbol	Cronbach's alpha	The correlation coefficient of gross	Alpha coefficient without variables
	Regularly use a combination of different non-prescrip drugs for self-treatment	QMS5		.533	.733
	No side effects when using non-prescription drugs	QMS6		.502	.741
Experiences in treating common illnesses with non-pres medicines (KNB)	OTC medicines required for cold	KNB1	0,909	.721	.897
	OTC medicines are required for headache	KNB2		.775	.893
	OTC medicines required for muscle soreness	KNB3		.744	.896
	OTC medicines required for skin diseases	KNB4		.719	.897
	OTC medicines required for constipation	KNB5		.660	.901
	OTC medicines required for gastric and reflux	KNB6		.646	.903
	OTC medicines required for inflammatory pain recurrence	KNB7		.626	.904
	OTC medicines required for allergic and sore eyes	KNB8		.686	.900
	OTC medicines required for insomnia	KNB9		.653	.902
Seeking information behavior when intend to buy non-pres medicines (HTT)	Concern about information on the medicine's package for the first time purchasing	HTT1	0,884	.610	.874
	Concern about information on the medicine's package for the first time using	HTT2		.643	.871
	Concern about information and instruction from doctor when purchasing non-pres medicines	HTT3		.561	.878
	Concern about information and instruction from pharmacists when purchasing non-pres medicines	HTT4		.543	.879

Element's names	Observed variables	Symbol	Cronbach's alpha	The correlation coefficient of gross	Alpha coefficient without variables
	Regularly requiring pharmacist's advisory when purchasing non-prescription medicines for self-treatment	HTT5		.451	.888
	Concern about friend's information and advisory when intend to purchase non-prescription medicines for self-treatment	HTT6		.680	.868
	Concern about relative's information and advisory when intend to purchase non-prescription medicines for self-treatment	HTT7		.826	.858
	Concern about mass media (internet and newspaper) when intend to purchase non-prescription medicines for self-treatment	HTT8		.749	.863
	Self-decide to buy medicines for self-treatment	HTT9		.715	.865
Perception of non-prescription medicine of HCM citizens (CNT)	Perception of safety level of non-prescription medicines	CNT1	0,893	.713	.876
	Always careful when buying non-prescription medicines for self-treatment	CNT2		.695	.877
	Concern about side effects of non-prescription drugs	CNT3		.710	.876
	Regularly using non-prescription drugs to the recommended dose (attached on the package)	CNT4		.600	.886
	Witnessing the more effective when combining non-prescription and prescription drugs	CNT5		.658	.881
	Regularly using non-prescription drugs when getting more than one disease at the same time as (cold and stomachache)	CNT6		.703	.876

Element's names	Observed variables	Symbol	Cronbach's alpha	The correlation coefficient of gross	Alpha coefficient without variables
	Perceived effectiveness of non-prescription drugs better than prescription ones	CNT7		.608	.885
	Perceived effectiveness of imported non-prescription drugs better than domestic ones (medicines produced by Vietnam)	CNT8		.684	.878
Perception of pharmacists at pharmacies in HCMC (CND)	Pharmacists care about patient, and purchaser's health status.	CND1	0,857	.586	.842
	Pharmacist spend times to instruct patients and purchasers	CND2		.661	.834
	Pharmacists are reliable	CND3		.628	.837
	Pharmacists are always ready to help citizens	CND4		.563	.844
	Pharmacists are friendly	CND5		.591	.841
	Pharmacists encourage about safety in using non-prescription medicines	CND6		.616	.839
	Pharmacists have good knowledge, help patients with good therapy	CND7		.572	.843
	Pharmacists help residents in choosing best non-prescription medicines	CND8		.573	.843
	Pharmacist are too busy	CND9		.442	.855
HCM community's expectation when purchasing non-prescription medicine for self-treatment (KV)	Purchasing high quality non-prescription medicines	KV1	0,765	.469	.740
	Purchasing non-prescription medicines with highly effective (fast symptom relief medication)	KV2		.414	.749
	Purchasing non-prescription medicines with high safety	KV3		.511	.732
	Information on the medicine's package is clear and full	KV4		.474	.738

Element's names	Observed variables	Symbol	Cronbach's alpha	The correlation coefficient of gross	Alpha coefficient without variables
	Non-prescription drugs with less side effects	KV5		.478	.738
	Non-prescription drugs with reasonable price	KV6		.465	.740
	Pharmacies have good consulting services, and professional customer support	KV7		.401	.751
	Non-prescription drugs have long effectiveness (long duration of drug's effects)	KV8		.501	.734

All of the alpha's coefficients are higher than 0.7, while the correlation between variables and total measurement of variables is greater than 0.3 which means that the questionnaires are appropriate and qualified to be used in Exploratory factor analysis (EFA).

4.4. Exploratory factor analysis (EFA)

Analyzing consortium of 41 observed variables to measure the impact of these factors influence the expectations of people purchasing prescription drugs to self-treatment. The result indicates in the third table (Coefficient of KMO and Bartlett's test) of Eigenvalue's coefficient. The outcome of factor analysis results in measurement variables which have a good converging value with 5 factors extracted from 41 observed variables.

Table 3. Coefficient of KMO and Barlett testing

Coefficient Kaiser – Meyer – Olkin (KMO)		0,935
Testing barlett	Chi squared	7699,880
	Df	820
	Sig.	0,000

The result of Kaiser-Meyer-Olkin's index is quite high (KMO =0.935 with the level of Sig = 0.000), KMO and Bartlett's test describes variables which correlated with each other within the overall review. As a result, the Ho's hypothesis (variables are not

correlated with each other within the overall review) is denied. That is why the result of factor analysis is appropriate with the data collected.

The outcome of exploratory factor analysis EFA extracted from 41 observed variables is 5 factors. This result is fit to the conceptual model which is used in the study. The load factors are greater than 0.5, the "too busy Pharmacist" variable (CND9) has the load factor at 0.497. However, this load factor only centralizes at "perception of pharmacists" factor and distinct from other factor so this variable will be kept for using. The other observed variables are also important and practically significant. The difference of each observed variables and load factors are greater than 0.3 which means the distinction between factors is still guaranteed. Quantities Eigenvalue are all greater than 1, and the total variance extracted achieved 53.749% (over 50%) which means that 5 extracted factors could be used to explain for 53.749% of data's variation.

Thus, observed variables in 5 scales are all important and practical significant, as a result the factor's names still remain unchanged.

4.5. Analysis of regression

Table 4. The relevance of the model

Model	R	R square	R square adjusted	Estimate error standard deviation	Durbin - Watson
1	0,643	0,413	0,406	0,32739	1,672

With $R^2 = 0.413$, the multiple linear regression has been built appropriately with data collection at 41.3%. On the other hand, approximately 41.3% of the difference of community's expectations when purchasing non-prescription medicines for self-treatment could be explained by the distinction of 5 elements namely past purchasing and using

drugs, seeking information behavior when intending to buy medicine, the experiences in assessing the necessary of self-medication to cure common diseases, the comments when using non-prescription medicines, and comments about pharmacists at pharmacies of HCM citizens.

Table 5. Testing the suitability of the model

Model		sum of squares	Df	Mean squares	F	Level of significance (Sig.)
1	regression	29.996	5	5.999	55.972	.000 ^b
	surpluss	42.552	397	.107		
	Sum	72.548	402			

F value of the model equals 55.972 which correspondents to observed significance level of Sig equal 0, so the HO hypothesis is denied. Besides that, combining

expressions in the model can explain the change of the dependent variables. The result is fit to the multiple linear regression model and the overall which means it could be used.

Table 6. Results of regression

Model		Non standardized coefficients		Standardized coefficients	Value	Significance (Sig.)	Partial correlation coefficients	Collinearity Statistics	
		B	Standard deviation	Beta				Tolerance	VIF
1	Constant	1.234	.202		6.092	.000			
	QMS	.088**	.045	.086	1.975	.049	0,099	.775	1.290
	KNB	.087***	.035	.107	2.448	.015	0,122	.766	1.305
	HTT	.113***	.041	.124	2.765	.006	0,137	.731	1.368
	CNT	.101***	.040	.125	2.539	.011	0,126	.613	1.633
	CND	.327***	.042	.394	7.830	.000	0,366	.583	1.716

The VIP results of independent variables in the model are greater than 1 and smaller than 2, so there will be no phenomenon of multicollinearity between the independent variables.

4.5. Discussion of regression results

Based on the study's results, the age group from 18 to 35 is majority, proportion of study subjects had university degrees and postgraduate accounting for 63%, dominating in income's group is low income group (less than 5 million VND per month) accounting for 42.2% following by average income group (between 5 and 10 million VND per month) with 34.5%, and almost all of individuals who surveyed have used non-prescription medicines in the most recent 6 months (82.4%), the proportion of participated men and women does not have much differences with 54.6% and 45.5% respectively. Recently, medicine's market is expanding rapidly, the number of pharmacies in HCMC increases promptly. These improvements create advantages for community in self-medication and self-treatment, especially to young citizens (18 to 35) with the number of women exceeds that of men in purchasing medicines. It is foreseeable, based on the fact that Vietnamese population is young population, day by day the self-medication for self-treatment becomes more and more necessary.

Self-assessment scale reliability and factor analysis, 41 observed variables are defined to measure the independent variables 8 observed variables are used to measure the dependent variables. There are 5 groups of factor defined after regression analysis, this study method is useful for understanding the influents of factors above to the community's expectations in purchasing non-prescription medicines for self-treatment as well as the significance of each elements.

Past purchasing and using non-prescription medicines of HCM citizens: Beta

coefficient equals 0.086, proving that past purchases and uses non-prescription medicines have less influents to the community's expectation than other factors. In this element, citizens appreciate their understanding about non-prescription medicines and it seems like there is no side effects when they use those drugs. Even though other observed variables is less than these 2 factors, those variables are all greater than 4.00 (in descriptive statistics) which means that most of citizens are rated from agree to very agree that they usually go to pharmacies to buy more than one type of non-prescription medicines and combine them for their self-treatment. This result is appropriate to Taylor's study (2002) about trends in self-treatment issues, it is also consistent with research on attitudes and beliefs about the use of non-prescription drugs (NCPIE, 2002). This result is also consistent with the fact, and buying behavior theory. Buying medicines usually or non-usually, using medicines in combination or monotherapy, or getting side effects all effect to community's expectations in purchasing nonprescription medicines for self-treatment.

Experience in curing common diseases by using non-prescription medicines also impacts on community's expectations when purchasing non-prescription medicines for self-treatment with Beta coefficient of 0.107. Although this element is not the most influential factor, experience in treating common illnesses play a significant part when people get sick and desire to seek for illness's information, or using non-prescription medicines is compulsory for curing, or unnecessary or unsure. In this element, people assessed that headache is the illness that requires non-prescription medicines the most; however, other common disease are also assessed at a high level based on the necessary's level. With the coefficient average

is over 4.00 (in descriptive statistics), this proved that majority of citizens agree or extremely agree in using non-prescription medicines for curing common illnesses. This result is similar to the study of Helen (2006) mentioned the expectation of Canadian people about non-prescription medicines in pharmacies, beside this also is consistent to buying behavior theory, experience in curing common illnesses which directly relate to community's expectation about self-treatment and self-medication.

Seeking information behavior when intend to purchase non-prescription medicines for self-treatment: Beta coefficient equals 0.124, seeking information behavior when purchasing non-prescription medicines for self-treatment also influents to purchaser's expectation about non-prescription medicines. This is quite popular to citizens when they are desired to buy non-prescription medicines for self-treatment, especially, when it is the first time they buy non-prescription medicines for self-medication. The research results also showed that majority of people are interested in the mass media (magazines, newspapers, internet, and advertise) of non-prescription medicines, they look up information about those medicines when they intend to buy them for self-medication. Besides that, a study in Canada of Helen (2006) proved that the majority of people received information about non-prescription medicines from pharmacists, this partly reflects the current shortage of pharmacists to satisfy demand to be advised of purchaser and paralleling to that is the improvement of media which is gaining trust of people.

People's Perceptions of non-prescription medicines have significant impacts to the expectations of HCMC citizens to purchase non-prescription medicines for self-treatment (Beta=0.125). Before purchasing non-prescription medicines for treating common illnesses, it is sure that citizens equipped basic

knowledge about non-prescription medicines, along to perceptions of those medicines and these are factors influenced to their decisions on purchasing non-prescription medicines. Mainly people usually feel safe about non-prescription medicines. This is one of the main reason why non-prescription medicines are sold at pharmacies and advertised on mass media. The result is appropriate to the study about attitude and trust of citizens about using non-prescription medicines (NCPIE, 2002), or the expectations of citizens on purchasing non-prescription medicines at pharmacies of Helen (2006), as well as research on perception and practice of self-medication issues of Heller (1992).

Perception of pharmacists at pharmacies: the factors that most strongly influence people's expectations when buying non-prescription medicines for self-treatment (Beta = 0.394). HCMC's citizens is affected by perception of pharmacists at pharmacies factor because they expect to be received useful advices from pharmacists in purchasing best medicines for their self-treatment, this could be expressed based on the average coefficient of this variable with 0.417 the highest among "perception of pharmacists" factor. This proved the importance of pharmacist to citizens in HCMC. However, there is a difference compare to studies made in Canada. In Canada, studies have shown that Canadians feel "friendly pharmacist" dominate most of their perception of the pharmacists when buying non-prescription drugs (Helen, 2006). On the other hand, this study is quite similar to studies about marketing part of pharmacists in choosing non-prescription medicines for citizens (Bradley, Riaz, Tobias, 1988). This may be due to the universal knowledge of health, health awareness, culture or to issues of policy, law and pharmacy are different from countries which lead to the difference in people's perception.

5. Conclusion and recommendations

5.1. Conclusion

Five factors including the past purchase and use medicines of people, experiences in treating common illnesses by using non-prescription medicines, seeking information behavior when intend to purchase non-prescription medicines, perception of non-prescription medicines, and perception of pharmacists at pharmacies have differently influenced on the citizen's expectation when purchasing non-prescription medicines for self-treatment in HCMC. All of the factors have positive impacts on the citizen's expectations when purchasing drugs. Because of those factors' positive impacts, citizen's intentions in purchasing non-prescription medicines increase rapidly. As a result, this will lead to economic efficiencies, and business's efficiency in the pharmaceutical sector. Moreover, this may help government in giving policies on healthcare to residents as well as administrators in planning business strategy in order to constantly improve the quality of health and quality of life for people.

5.2. Recommendations

Pharmaceutical companies, and pharmacies need to improve the promotion of products through panels, promotion programs, and preferences focusing on the age group from 18 to 35. Furthermore, they should enhance the quality's services, promotion programs for drug purchasers, and supports to residents when they buying medicines, combine with showing medicine's study, giving detail

advices to consumers in order to gain trusts and satisfy resident's expectations when they intend to buy non-prescription medicines for self-treatment.

Newest medicine's information should be updated gradually on the product's package, manufacturers have to attach instruction sheets in the final products, educating, training, and equipping pharmacists with best and newest knowledge are also required. Besides that, regular updates to newest and common diseases are necessary, redesigning reasonably consultant accommodations. Last but not least, full and detailed instructions should be given to patients, and purchasers about non-prescription so that they could make reasonable choices.

Administrators and healthcare departments should create and establish supportive policies to residents so that they could be easily equipped basic knowledge about self-treatment by using non-prescription medicines as well as prescription ones. Health education sections should be operated in residential areas and residents are encouraged to participate into these sections. Reputable doctors and pharmacists should be invited to give useful advices about prevent and treat common diseases. Moreover, sponsors from pharmaceutical companies should be mobilized not only to obtain funds for the programs but also to help in organizing charity care programs included counseling.

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