

# Determinants of over the Counter (OTC) Purchasing Behavior of Medicines in the Pharmaceutical Industry

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## Abstract:

Over the counter, medicines denote directly sold to the consumer without a prescription from the medical practitioner and which may be sold directly by the medical shops to the consumer. OTC has significantly increased the revenue in the total Indian drug market. The buying decision has more triggered in OTC market by several factors and out of which the essential consideration to be: own previous experience, advice of the pharmacist and the information stated on the prospectus, television advertisements and other promotional campaigns. The analysis was conducted with a sample of 417 consumers out of the total response from 600 respondents. The study wants to measure if there are changes in the purchasing behaviour of individuals compared to the consultation with the professional practitioners. The most important conclusion of this paper emphasizes that both for uneducated and employed persons, the purchasing decision of OTC has determined by two essential factors: the recommendation by the experts (physicians or pharmacists) and their assessment or previous personal experience and information stated on the prospectus or television advertisements or promotional campaigns. Also, it has noted that the influencing level of economic factors like brand, price and promotion are lower in the illiterate category.

**Keywords:** Over The Counter (OTC), buying behaviour, purchasing decision

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## 1. INTRODUCTION

Presently India has contributed to the 10% of growth in the global pharmaceutical market and secured fourth place in the global pharmaceutical market. The Indian market for over-the-counter medicines (OTCs) is worth about \$940 million and is growing 20 per cent a year, or double the rate for prescription medicines.

The pharmaceutical market has divided into drugs, that can be bought without a prescription, so-called OTC products ("over the counter"), and into drugs that are only available on prescription, so-called Rx products. Guido et al. add to the definition of OTC drugs that they are "those medicines that, after being used for a given period after the date of patent expiration, are judged safe enough to be self-administered by patients"<sup>1</sup>.

The enlargement of the range and the increased availability of non-prescription drugs has led to the creation of wrongly perceived ideas by consumers. Many believe that these products can be used in any dose, anytime and by anyone.

OTC medications have widely viewed by medical professionals as both safe and effective when used appropriately. Additionally, OTC medicines provide benefits to consumers in the form of savings stemming from fewer doctors' visits, less time away from work and relatively lower cost than prescription drugs <sup>2</sup>.

## 2. LITERATURE REVIEW

Most research to date has focused on consumer purchasing patterns for prescription drugs, showing that financial incentives and physician influence play essential roles in consumer buying patterns of prescription drugs. Studies investigating patients' perceptions of generic prescription drugs found that regardless of a physician's decision to recommend a generic or brand name prescription drug, physicians served an essential function in consumers' decision making about which type of medication to purchase<sup>3-6</sup>

Increased awareness and use of generic OTC drugs may result in substantial cost savings for consumers and help curb rising drug costs.<sup>7</sup> A 2005 health economic study investigating the potential cost savings for the substitution of generic versus brand name prescription drugs based on data collected from 1997 to 2000 indicated that generic replacements could have contributed up to \$5.9 billion in savings for populations younger than age 65 years and \$2.9 billion for people older than 65 years.<sup>8</sup> Although these findings were exclusively for prescription drugs, it would be of benefit to conduct similar studies investigating potential cost savings in the OTC drug market.(Kathiravan,Mahalakshmi(2019) investigated their examination, impacting factors

on consumer online impulse buying .the scientist utilized S-O-R model,(Stimulus-Living being Reaction model)to depict the system of online impulse buys with the assistance of these flashes. In one of the examination led by Gangai and Agarwal(2016), it was uncovered that the normal identity qualities have a tremendous association with impulsive obtaining conduct that is psychoticism by virtue of male and female.

Mohiuddin Babu, (2008)<sup>9</sup> saidthat In Bangladesh, almost all types of medicines are very available. Day by day, the demarcation line between prescribed and nonprescribed drugs is getting blurred despite the non-promotional activities of the pharmaceutical companies. The tendency to purchase and sell OTC drugs bears the risk of circulation for unauthorised medicines among the mass people. Amongst the most important factors for buying an OTC drug, experience, corporate image and brand identity, prior assumption of physician's prescription, awareness about the medicines are mentionable ones. In rural areas, where the physicians are not very easily accessible, people have to rely on their experience and own knowledge about the disease. Brand identity grows among the mass people just through personal experience and Word of Mouth Marketing. There are some brands which are like grocery items to us. Govt. in Bangladesh has restricted the boundary of OTC drugs.(Kathiravan, Mahalakshmi, & Palanisamy, 2019) there is a substantial and unexpected want to purchase an item absent much consideration, which one didn't mean to buy before entering the store .

Referring to their own previous experience,many researchers suggest that last information or knowledge provides underlying reasons for repeat purchase or brand switching decisions. Also, Shohel et all underline that direct experience with the product, price range and brand reliance are essential determinants of repetitive purchase behaviour on OTC drugs <sup>10</sup>.

Regarding the price, studies confirm that a relationship exists between consumers' postpurchase experience and subsequent price-sensitivity, and whether before or after, purchase experience will affect price sensitivity<sup>11</sup>. Likewise, customer loyalty to a particular product increases their tolerance for price<sup>12-13</sup>.

Promoting influence on the purchase decision is another factor studied. Singh emphasises that consumer behavioural intentions have nevertheless influenced by a heightened awareness of specific branded drugs. Consumers feel empowered by the information provided in direct-to-consumer advertising, and they are concerned about governmental attempts to regulate prescription drug advertising<sup>14</sup>.

### 3. STATEMENT OF THE PROBLEM

OTC has recognised as a separate market segment in the drugs industry, and many countries consider them quite safe. In many countries taking medicines by the consumers without any intervention of a physician or licensed specialist. Many of them have purchased from numerous locations, including airport shops, gas stations or grocery stores. Rules vary considerably from country to country. The enlargement of the range and the increased availability of non-prescription drugs have led to the creation of wrongly perceived ideas by consumers. Many believe that these products can be used in any dose, anytime and by anyone. Hence, the researcher has attempted to study the determinant of Over The Counter (OTC) purchasing behaviour of medicines.

### 4. OBJECTIVES

The following are the primary objectives of this study to attain an effective solution.

- To find out the factors influencing to determine the OTC buying behaviour of consumers
- To know the profile of OTC buyers

- To offer valuable suggestions to the consumers for better health-related decisions

## 5. Research methodology

The research methodology is the complete arrangement of conducting the study. The research methodology is the blueprint of the research study. It is the flow of methods of research activities starts from the problem identification to solution identification for the problem.

### 5.1 Research Design

**Descriptive research** is describing the characteristics of the variables in this study. In this type of researcher does not have any control over the variables and researcher reports the actual outcome of the study without any manipulation.

For this research study, both primary and secondary data have used. Primary data collected through well-structured schedules to the consumers who have experience of self-medication. Secondary data have collected from various journals, books, magazines and already published government sources related to the Over The Counter buying behaviour of Consumers.

### 5.2 Sample Design

Nature of the population for this study is infinite. So, non-probability sampling may apply for this study. The researcher has adopted Snowball sampling, which is non-random sampling techniques. This technique allows the researcher to find the respondents and medical shops to get the reference to get a response from the known circle. The sample size for this study has calculated based on the population parameter, and it has estimated through the trial survey.

### 5.3 Sample size calculation

The sampling error occurred, and it has controlled by selecting the adequate size. The

researcher has specified the precision in respect of estimation concerning the population parameter. In this case, the researcher's desired accuracy is  $\pm$  five i.e. The valid values mean should not be less than 95%. Researcher accepts that the acceptable rate of error (e) is equal to 5%.

The researcher uses the following formula for deciding the required sample size for this study.

$$n = z^2 \times \sigma_p^2 / e^2$$

Here, n= size of the sample

z= the value of standard variate at a given confidence level. Here the confidence level is 95% and assumed to be a normal distribution. So, the table value under the normal curve is 1.96.

e= acceptable error

$\sigma_p$ = Standard deviation of the population calculated by taking functional variables of the respondents as the key source for deciding sample size.

Hence, the sample size required for this study is

$$n = (1.96)^2 \times (0.511)^2 / (0.05)^2; n = 3.84 \times 0.216 / 0.0025 = 401.08$$

So, 401 respondents required for this present study. Finally, researcher decided to take over the lower limit of sample size as **417 samples out of 600 respondents**. Inferential statistics, KMO, Chi-square and exploratory factor analysis, were applied based on the requirements of analysis.

## 6. Analysis and discussion

### 6.1 Socio-economic profile of the respondents

Table 1

Variables	Classifications	Frequency	Per cent
Gender	Male	279	66.91
Age group	31-45 Years	176	42.21
Marital status	Married	256	61.39
Residential location	Rural	174	41.73
Educational Qualification	Graduation	149	35.73
	Illiterates	152	36.45
Occupation	Salaried in private sector	203	48.68
Monthly income	Rs.15001-Rs.30000	170	40.77
Family Size	4 Members	149	35.73
Earning members in the family	One member	168	40.29
Interest in self-medication	Yes	417 (out of 600)	69.5
Frequency of using self-medication	Regularly	168	40.29
Reason for self-medication	Time-saving	178	42.69
	Increasing consulting charges	221	53

From the above table 1 infers that the socio-economic profile of the consumers in the OTC market. Majority of 66.91 per cent of the respondents are male who regularly consumes the medicine in the OTC market. 42.21 per cent of the respondents is in the age group of 31-45 years

who periodically consume the medication in the OTC market. Married respondents forming 61.39 per cent have regularly consumed medicine in the OTC market. Significantly, 41.73 per cent of the respondents in the rural area have commonly consumed the drug in the OTC market. 72.18 per



cent of the respondents who periodically consume the medicine in the OTC market are graduates and illiterates. Majority of the graduates are using OTC for lack of time to consult with medical practitioners, and the majority of the illiterates are concerning about the cost they are going for OTC market. A critical portion (48.68 per cent) of the respondents are salaried and working in private sector enterprises. 40.77 per cent of the respondents are receiving income from Rs.15001 to Rs.30000. 35.73 per cent of the respondents having four members in their family, and they bought medicines for them also in the OTC market. 40.29 per cent of the respondents is having only one earning member in their family. 69.5 per cent of the respondents only taken for this study out of 600 responses received. 40.29 per cent of the respondents who regularly consume the medicine in the OTC market. Majority of 95.69 per cent of the respondents who use to buy medicine in OTC market due to lack of time and increasing consulting fees of medical practitioners.

## 6.2 Exploratory factor analysis for identifying determinants of over the counter (OTC) purchasing behaviour of medicines

The constructs validity has investigated by using Bartlett's Test of Sphericity and the Kaiser-Mayer-Olkin measure of the sampling adequacy for analysing the strength of association among factors. The Kaiser-Mayer-Olkin measure of sampling adequacy (KMO) was first computed to determine the suitability of applying variables analysis. It also assesses whether the data is appropriate to conduct variables analysis. The values of KMO differ from 0 to 1, and KMO overall should be .60 or higher to perform factor analysis. The Bartlett test of sphericity showed that the correlation matrix has significant correlations ( $p = 0.000$  for all variables), which indicated perfect overall sampling adequacy (Hair

et al. 1998). The result of KMO and Bartlett's Test of Sphericity have presented in Table 2

**Table 2**  
**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.885
Bartlett's Test of Sphericity	Approx. Chi-Square	7257.85
	Df	865
	Sig.	.001

Table 2 depicts the results of the Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's Test of Sphericity. Kaiser-Meyer-Olkin test used to measure the sampling adequacy with a minimum of 0.6 required to decide that the current sample is enough or not for attempting factor analysis. Kaiser-Meyer-Olkin value for this study is excellent for based on the samples for determining factors influencing retention and performance of faculty members (0.885). Hence, it is acceptable to attempt the factor analysis statistically.

Bartlett's test of sphericity indicates the goodness of the overall fitness of the model, and it measures whether a given correlation matrix is an identity matrix, which would suggest that the variables are unrelated. The significance level gives the result of the test. Minimum values (less than .05) indicate that there are probably significant relationships among the given variables. An amount higher than about .10 or so may suggest that data are not suitable for factor analysis. In this case, the significance level has a minimum value, i.e. .001, which is less than .05, thus suggesting that the variables are highly correlated and attained goodness of fit.

**Table 3**  
**Total Variance Explained**

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	21.608	43.213	43.213
2	16.882	33.766	76.979
3	9.405	18.811	95.79

Table 3 revealed that the three components had extracted for identifying determinants of over the counter (OTC) purchasing behaviour of medicines with the overall influence of 95.79%. It has observed that the Perceived value of information has the highest level of control based on the eigenvalue is 43.21%, Brand of OTC products has 33.77% of the variance and Self-confidence has the influence of 18.81%.

Importance will be given to identifying determinants of over the counter (OTC) purchasing behaviour of medicines based on the level of influence between each variance of the factors.

Principal Component Analysis was used for extracting the factors. This method is widely accepted and used for formulating the theory. In this method, factors are obtained based on the highest level of significance on the lowest level of influence. Varimax with Kaiser Normalization used for rotating variables and based on the rotation applied to decide the loading of variables into factors. Rotation converged with the 18 iterations.

**Table 4**  
**Variables loaded in Perceived value of information**

Variables	1	2	3
Previous own experience	.887		
Reference is given by friends and relatives	.930		
Advertisement is given by the company	.900		
Information found in the promotional literature	.869		

Table 4 shows that the Perceived value of information has the highest level of influence based on the eigenvalue is 29.21% and highly useful for identifying determinants of over the counter (OTC) purchasing behaviour of medicines. In the total of four variables loaded to determine the Perceived value of information.

**Table 5**  
**Variables loaded in Brand of OTC products**

Variables	1	2	3
Brand Name		.829	
Efficacy		.940	
Packaging		.820	
Pricing		.885	
Promotional Offer		.865	

Table 5 shows that Brand of OTC products has the highest level of influence based on the eigenvalue is 17.77% and highly useful for identifying determinants of over the counter (OTC) purchasing behaviour of medicines. In the total of five variables loaded to determine Brand of OTC products.

**Table 6**  
**Variables loaded in self-confidence**

Variables	1	2	3
Confident about defining the health issue			.974
Knowledge about the compositions required in the medicine			.801
Frequently wonder to the selection of medicine for the health issue			.981
Frequently satisfied for taking self-medication			.830

Table 6 shows that self-confidence has the highest level of influence based on the eigenvalue is 12.81% and highly useful for identifying determinants of over the counter (OTC) purchasing behaviour of medicines. In the total of twelve variables loaded to determine self-confidence.

## 7. FINDINGS

- Majority of 66.91 per cent of the respondents are male who regularly consumes the medicine in the OTC market.
- 72.18 per cent of the respondents who periodically consume the drug in the OTC market are graduates and illiterates. Majority of the graduates are using OTC for lack of time to consult with medical practitioners, and the majority of the illiterates are concerning about the cost they are going for OTC market.
- 69.5 per cent of the respondents only taken for this study out of 600 responses received. 40.29 per cent of the respondents who regularly consume the medicine in the OTC market.
- Majority of 95.69 per cent of the respondents who use to buy medicine in OTC market due

to lack of time and increasing consulting fees of medical practitioners.

- Exploratory factor analysis has extracted three components for identifying determinants of over the counter (OTC) purchasing behaviour of medicines with the overall influence of 95.79%. It has observed that the Perceived value of information has the highest level of control based on the eigenvalue is 43.21%, Brand of OTC products has 33.77% of the variance and Self-confidence has the influence of 18.81%.

## 8. SUGGESTIONS

- The consumer must be aware about the ingredients used in the medicine before going to buy it from the OTC market.
- Must aware of side effect may possible for taking overdoses
- Must consult medical practitioners for health-related issues and reduce medicines to buy from OTC market

## CONCLUSION

Demographic profile of the respondents has a significant impact on determining the consumer to choose OTC market for purchasing for their drugs. Significant findings of this study are 95.69 per cent of the respondents who use to buy medicine in OTC market due to lack of time and increasing consulting fees of medical practitioners. The perceived value of information has the highest level of control based on the eigenvalue 43.21% to determine the consumer to go for the OTC market. The researcher would like to suggest the consumers; they must consult medical practitioners for health-related issues and reduce medicines to buy from the OTC market.

## References

- [1] Guido, G., Pino, G. and Frangipane, D. (2011) The role of credibility and perceived image of supermarket stores as valuable providers of over-the-counter

- drugs. *Journal of Marketing Management*, 27: 207-24.
- [2] Bower A, Grau L S and Taylor V A (2013) Over-the-counter vs prescription medications: are consumer perceptions of the consequences of drug instruction non-compliance different?. *International Journal of Consumer Studies* 37: 228–233
- [3] Himmel WA, Simmenroth-Nayda A, Niebling W, et al. What do primary care patients think about generic drugs? *Int J Clin Pharmacol Ther* 2005;43:472Y479.
- [4] Hellerstein JK. The importance of the physician in the generic versus the trade-name prescription decision. *Rand J Econ* 1998;29:108Y136.
- [5] Decollogny A, Eggli Y, Halfon P, et al. Determinants of generic drug substitution in Switzerland. *BMC Health Serv Res* 2011;11:17.
- [6] Shrank WH, Liberman JN, Fischer MA, et al. Physician perceptions about generic drugs. *Ann Pharmacother* 2011;45:31Y38.
- [7] Rizzo JA, Zeckhauser R. Generic script share and the price of brand-name drugs: the role of consumer choice. *Int J Health Care Finance Econ* 2009;9:291Y316.
- [8] Haas JS, Philips KA, Gerstenberger EP, et al. Potential savings from substituting generic drugs for brand name drugs: medical expenditure panel survey, 1997Y2000. *Ann Intern Med* 2005;142:891Y897.
- [9] Mohiuddin Babu, M (2008). Factors contributing to the purchase of OTC drugs in Bangladesh. An empirical study. The internet journal of third world medicine.
- [10] Shohel M, Tasnuva I, Al-Amin MM at all (2013) Investigation of Consumer Attitudes, Intentions and Brand Loyal Behavior on the OTC Drugs in Bangladesh. *British Journal of Pharmaceutical Research* 3(3): 454-464
- [11] Hsieh, A.T. and Chang, W.T. (2004) The effect of consumer participation on price sensitivity. *Journal of Consumer Affairs*, 38 (2):282-296.
- [12] Aaker, D.A. (1991) *Managing Brand Equity: Capitalising on the Value of a Brand Name*. The Free Press, New York.
- [13] Samuelsen, B. and Sandvik, K. (1997) The concept of customer loyalty. In Arnott et al., (eds.) *EMAC Proceedings, Annual Conference, European Marketing Academy, Warwick* pp. 1122-1140. Quoted in: Delgado-Ballester and Munuera-Aleman (2001).
- [14] Singh T and Smith D (2005) Direct-to-consumer prescription drug advertising: a study of consumer attitudes and behavioural intentions. *Journal of Consumer Marketing* 22(7):369 - 378
- [15] Kathiravan, C. Mahalakshmi, P (2019). Exploring the impulse buying behaviour of e-retail business in current scenario. (march).
- [16] Kathiravan, c., mahalakshmi, p., & palanisamy, v. (2019). Online impulse buying behavior of consumer triggered by digital marketing. (2), 648–653. <https://doi.org/10.35940/ijrte.b1124.0782s619>