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Physicians' Medicinal Practices Adopted by Consumers & Medical Representatives - Factor Analysis

A. Suresh Kumar and Dr.S. Fabiyola Kavitha

Abstract--- *An Indian Pharmaceutical Industry today is in the front rank of India's science-based industries with wide ranging capabilities in the complex field of drug manufacture and technology. A highly organized sector, the Indian Pharmaceutical industry is estimated to be worth $ 4.5 billion, growing at about 8 to 9 percent annually. It ranks very high in the third world, in terms of technology, quality and range of medicines manufactured. From simple headache pills to sophisticated antibiotics and complex cardiac compounds, almost every type of medicine is now made indigenously.*

Keywords--- *Physicians' Medicinal Practices, Consumers & Medical Representatives.*

I. INTRODUCTION

Pharmaceutical companies typically direct their marketing efforts toward physicians and, as of late, directly to consumers (patients). The marketing efforts directed at physicians comprise personal selling through medical representatives (detailing); sampling (provision of drugs at no cost); physician meetings and events; and advertisements in medical journals. Since 1997, a change in the legal environment that allowed direct-to-consumer advertising (DTCA) has resulted in a 350 per cent increase in expenditures for such advertising between 1999 and 2015. However, the biggest chunk of marketing expenditure is directed toward detailing. Historically, detailing has been the pharmaceutical industry's primary promotional instrument. Nowadays, more than 60 per cent of the marketing costs of pharmaceutical enterprises account for the communication with physicians. The role of physicians in deciding the therapy is still dominant, but in some areas (OTC market, patient groups) patients have more and more power to choose between the products. Other important target customers are the pharmacists, hospitals, wholesalers, governmental forces and so on. The study was conducted for 60 consumers of pharmaceutical products and the data and information was analyzed by using various statistical techniques. It is very important to adopt by the consumer of pharmaceutical products.

II. SAMPLE SIZE

The study was conducted via structured questionnaire from 60 consumers of pharmaceutical products and the data and information was analyzed by using various statistical techniques**.**

A. Suresh Kumar, Research Scholar, Bharath Institute of Higher Education and Research, Chennai, Tamilnadu, India.
E-mail: emalsuresh@rediffmail.com
Dr.S. Fabiyola Kavitha, Associate Professor, SRM Trichy Arts and Science College, Trichy, Tamil Nadu, India.

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III. DATA ANALYSIS

The researchers collected data from 60 respondents using random sampling method as sample design. Samples were drawn from consumer of pharmaceutical products. All pertinent information required for the study is collected from both primary and secondary sources.

IV. STATISTICAL TECHNIQUES

The data and information collected would be analyzed by using different marketing research techniques like Chi-Square Test and Factor Analysis based on the nature and availability of data and information.

V. RESULTS

1. Use of Pharmaceutical Products by Consumers

The distribution of use of pharmaceutical products without advice of the doctor by the consumers was analyzed and the results are presented in Table 1.

Table 1: Distribution of Use of Pharmaceutical Products by consumers of Pharmaceutical Products

Use of Pharmaceutical Products	Frequency	Per Cent	Chi Square Value	Sig
Yes	24	40.00	0.02	0.03
No	36	60.00		
Total	**60**	**100.00**		

The results indicate that about 60.00 per cent of consumers don't use the pharmaceutical products without advice of doctors while the rest of 40.00 per cent use the pharmaceutical products without advice of doctors.

The Chi-square value of 0.02 is significant at five per cent level indicating that there is a significant difference among use of pharmaceutical products without advice of the doctor by the consumers.

2. Physicians' Medicinal Practices - Factor Analysis

In order to identify the medicinal practices adopted by the consumers, the factor analysis has been employed. The principal component method of factor analysis was carried out with Eigen value greater than one through varimax rotation and the results obtained through rotated component matrix are presented in Table 2.

There are four independent groups were extracted which account for a total of 62.30 per cent of variations on the 10 variables. The each of four factors contributes 17.81 per cent, 15.86 per cent, 14.94 per cent and 13.69 per cent respectively.

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Table 2: Physicians' Medicinal Practices Adopted by the Consumers-Factor Analysis

Medicinal Practices	Rotated Factor Loadings on			
	Factor I	Factor II	Factor III	Factor IV
I reach for medicines at the first sign of illness	-0.621			
I use medicines only if the illness is quite service				0.838
Non-prescription medicines are totally safe to use		0.564		
Non-prescription medicines can have dangerous side effects			0.801	
The effect of incorrect use of non-prescription medicines can be as serious that of prescription medicines			0.805	
Non-prescription medicines can sometimes mask serious health problems	-0.675			
Some non-prescription medicines interfere with the natural healing process of the body		-0.565		
With continual use, some non-prescription medicines lose their effectiveness	0.559			
Some non-prescription medicines may cause dependency or addiction if taken for a long period of time	0.627			
Non-prescription medicines should be used frequently to relieve minor health problems				-0.548
Eigen Value	2.39	1.46	1.20	1.06
% of Variance	17.81	15.86	14.94	13.69
Cumulative % of Variance	17.81	33.67	48.61	62.30

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations.

Source: Primary & Computed Data

Factor-I: From the table, it is inferred that out of 16 satisfaction variables four variables have their high, relatively tightly grouped factor loadings on factor-I.

This factor consists of:

- I reach for medicines at the first sign of illness (-0.62)
- Non-prescription medicines can sometimes mask serious health problems (-0.68)
- With continual use, some non-prescription medicines lose their effectiveness (0.56)
- Some non-prescription medicines may cause dependency or addiction if taken for long period of time (0.63)

Hence, this factor is named as **"RISK".**

Factor-II: is formed with:

- Non-prescription medicines are totally safe to use (0.56)
- Some non-prescription medicines interfere with the natural healing process of the body (-0.57)

These variables are named as **"SAFE".**

Factor-III: This factor includes:

- Non-prescription medicines can have dangerous side effects (0.80)
- The effect of incorrect use of non-prescription medicines can be as serious as that of prescription medicines (0.81)

These three variables are named as **"SIDE EFFECTS".**

Factor-IV: This factor is formed with:

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- I use medicines only if the illness is quite severe (0.84)
- Non-prescription medicines should be used frequently to relieve minor health problems (-0.55)

Hence, this factor is named as **"FREQUENT".**

3. Reliability

The medicinal practices variables were measured using a five point scale and the reliability coefficient is presented in Table 3.

Table 3: Cronbach's Alpha Reliability Coefficient

Variables	No. of Items	Cronbanch Alpha
Medicinal Practices	**10**	**0.82**

The Cronbanch's alpha of the scale is 0.82 indicating that each measure demonstrated acceptable internal consistency.

VI. CONCLUSION

The results show that 60.00 per cent of consumers don't use the pharmaceutical products without advice of doctors.

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