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Perspective Analysis Of Pharmacists On Selling Generic And Branded Drugs

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Abstract

Pharmaceutical industry contributes to the welfare of humanity and provides significant socio-economic benefits to the society through creation of jobs, supply chains and community development. Indian Pharmaceutical industry is one of the world's largest and most developed, ranking fourth in terms of volume and thirteenth in terms of value. The country accounts for an estimated 10% of global production and 2% of world markets in pharmaceuticals. The pharmaceutical industry today produces bulk drugs under generic and branded in all major therapeutic groups. In the pharmaceutical industry, pharmacist plays an important role in the development and marketing of medications that promote and sales. Pharmacist is the bridge between doctors and patients who counsels and advice the patient to maximize the desired effect of the drugs and minimize the untoward/adverse effects of the drug. The basic duty of a pharmacist is to check prescriptions from physicians before dispensing the medication to the patients to ensure that the patients don't receive the wrong drugs or take an incorrect dose of medicine. In addition to this pharmacists also encourage the marketing strategies of drugs by promoting the purchasing behavior of buyers in branded and generic medicines. The study has selected Andhra Pradesh state as study area and three districts from each region of North Coastal Andhra, South Coastal Andhra and Rayalaseema were selected for data collection. A convenience quota sample of 300 pharmacists was selected randomly from the selected three districts. The questionnaire included 8 items on personal characteristics, 10 statements related to opinions of pharmacists about generic and branded medicines, and 9 items on influencing factors of buying behavior of customers' to purchasing medicine. A three-step analysis method was used to study the perceptions of pharmacists on generic and branded medicines, priority based rank analysis and estimation of influenced factors to purchase behavior in generic and branded drugs. Linear multiple regressions has applied to estimate the influenced factors of on purchase behavior in Generic and Branded drugs. In this model of regression 7 variables out of 9 explanatory variables are found significant. These are: age, marital status, education level, professional qualification, total years of service, monthly salary / income and monthly business turnover which are indicating significant influence in purchasing behavior of generic and branded drugs.

Keywords: Pharmacists, generic drugs, branded drugs, determining factors.

Introduction

India has a huge population and the demand for healthcare products is on the rise. This has led to the growth of the pharmaceutical industry in India. Since, customers in India prefer affordable healthcare products; majority of them is middle class and cannot afford expensive healthcare products. Therefore, pharmaceutical companies in India are focused on producing affordable drugs. Customers also prefer generic drugs over branded drugs. This is because generic drugs are cheaper than branded drugs (Statista.com). One of the major trends in the pharmaceutical market in India is the rise of contract manufacturing. Many pharmaceutical companies in developed countries are outsourcing the manufacturing of their drugs to India. This is because labor and production costs are lower in India. Another trend is the growth of the biopharmaceutical sector. Biopharmaceuticals are drugs made from living organisms. This sector is growing rapidly in India due to the availability of skilled labor and low production costs.

In India, a prescriptive drug refers to any branded medication that can only be sold with a prescription

from a qualified medical practitioner, as authorised by the regulating agency. On the other hand, non-prescriptive drugs or generics are commonly known as 'Over-The-Counter' drugs. Over-The-Counter (OTC) drugs are an essential part of the most widespread element of our healthcare system for self medication and self care. OTC products are treated as more of fast moving health care goods like FMCG. In India, pharmacists are permitted to legally sell over-the-counter (OTC) medications without a Registered Medical Practitioner's (RMP) prescription. Drugs are clearly divided into non-prescriptive and prescription-only categories. Prescription-only pharmaceuticals refer to medicines that are classified under Schedules H and X of the pharmaceuticals and Cosmetics Rules in India. However, there are certain over-the-counter medications that can be hazardous if ingested without medical supervision. These medications are now included in the rule's schedule G. Schedule K of the Drug and Cosmetic Regulation now contains the prescription medications that are allowed to be sold without a doctor's prescription in villages with less than a thousand residents. These are known as home remedies, and it is not appropriate to regularly sell them to customers.

In India, a prescriptive drug refers to any branded medication that can only be sold with a prescription from a qualified medical practitioner, as authorised by the regulating agency. On the other hand, non-prescriptive drugs or generics are commonly known as 'Over-The-Counter' drugs. Over-The-Counter (OTC) drugs are an essential part of the most widespread element of our healthcare system for self medication and self care. OTC products are treated as more of fast moving health care goods like FMCG. In India, pharmacists are permitted to legally sell over-the-counter (OTC) medications without a Registered Medical Practitioner's (RMP) prescription.

Generic and Branded drugs in India

Generic medications offer a comparable and economically efficient substitute for branded medications. The generic drugs include same active components and have the same potency as the branded medications (C.H. BP., 2016). According to the World Health Organization (WHO), generic medicine is defined as “a pharmaceutical product, usually intended to be interchangeable with an innovator product that is manufactured without a license from the innovator company and marketed after the expiry date of the patent or other exclusive rights” (Organisation WH, 2015). According to Stewart et al. (2014), generic medications must meet the same standards as brand-name medications for potency, safety, efficacy, quality, pharmaceutical dosage form, and administration method. However, they may differ in terms of experiments, colour, and shape. Therefore, before being approved, generic medications must pass the basic regulatory requirement of bioequivalence testing (Alemayehu, et al., 2018). An important reason why Indian companies undertake R&D primarily for generic drugs because of new drug development is a costly, time consuming and risky business. The activities can be broadly classified into pre-clinical and clinical stages. The objective of the pre-clinical stage is to develop a promising molecule which is safe in animal testing. At the clinical stage, the molecule is tested on humans and is developed for manufacturing and marketing (DiMasi, et al., 2003).

Market of Generic and Branded drugs in India

The financial strain on pharmaceutical budgets has led to a steady rise in the use of generic medications worldwide. Since generic medications are typically far less expensive than name-brand ones, there is potential for significant cost reductions in the healthcare system (King and Kanavos, 2009). Nevertheless, physicians express concerns about the quality and trustworthiness of generic pharmaceuticals (Biswas, et al., 2000) and also have reservations about the interchangeability of specific drug categories (Hassali, et al., 2010). Despite being bio-equivalents of their innovator counterparts and being produced in similar facilities following good manufacturing practices (Davit, et al., 2009), generic medicines are commonly perceived as inferior in terms of therapeutic efficacy and quality compared to branded products (Hassali and Stewart, 2004). The marketing strategies employed by makers of imported branded medications also contribute to the perception that generic medicines are of worse quality, as observed in nations in Central and Eastern Europe, as well as in independent countries that have arisen from the former Soviet Union (Joncheere and Paal, 2003). The goal of the current study was to evaluate the cost and quality of inexpensive generic (branded-generic) pharmaceutical items against their more costly popular brand (branded) counterparts produced by the same Indian pharmaceutical business.

Presently, the majority of medications in India are marketed and sold using a specific brand name, categorising them as branded drugs or branded-generics. Essentially, the Indian market lacks branded medications (which are typically associated with innovative products) due to the absence of product patents in India till January 2005. Many pharmaceutical companies in India produce two different kinds of goods for the same molecule: branded generics that they anticipate merchants to sell in the market and branded pharmaceuticals that they advertise and push through doctors. Reputable Indian producers or global corporations produce and market the so-called branded medications in India. On the other side, the producer does not advertise or promote branded-generic products. This category is similar to formulations that are called "generics" all around the world. No matter the firm, physicians and patients view all branded-generics in the same way.

Literature review

It is worth noting that consumer buying behaviour is studied as a part of the marketing and its main objective it to learn the way how the individuals, groups or organizations choose, buy use and dispose the goods and the factors such as their previous experience, taste, price and branding on which the consumers base their purchasing

decisions (Kotler and Keller, 2011). Hence, with reference to consumer buying behavior with reference to generic and branded drugs many researchers and authors have done waste research. Among those some are discussed here in this study.

Kumarswamy Gandla, et al. (2022) in their study on buying behavioural pattern of generic drugs and branded drugs reveals that branding will have more of an impact on how patients and doctors behave and think. Since, consumers have a lot of options for treatments and surgeries, scenario-based planning must be used more frequently, productivity gains from sales and marketing expenditures must be prioritised more intensely.

Ranjith RJP, et al. (2022) in their study on consumer's preference towards generic and branded drugs knowledge and attitudes about generic drugs were lacking because of doctors' recommendations and drug company advantages have been demonstrated to influence retailers. Therefore, the need of raising public awareness and understanding of generic drugs is sensible in drug usage.
Alam Reema, et al. (2022) studied on the roles of branding between generic and branded medicines to the buying behavior of Filipino consumers during the pandemic. This study found that branded medicines are the primary target of the consumers because they are the most widely used, so the perception of the consumers towards branded medicines is much safer compared to generic medicines.

Andrea Sestino and Cesare Amatulli (2021) studied to explore the role of perceived disease seriousness in consumers' preference for generic versus branded drugs by shedding light on new factors impacting consumer purchase behaviour for pharmaceutical products. It is found that consumers' intention to buy generic drugs is higher in the case of diseases perceived as less serious, while the intention to buy branded drugs is higher in the case of disease perceived as more serious.

Yuxi Tian, et al. (2020) studied on comparative effectiveness of branded vs. generic versions of antihypertensive, lipid-lowering and hypoglycemic substances, where they found generic medications offer substantial potential cost savings to health systems compared to their branded counterparts. The results of the study is favoring generic drugs was also present in a number of sub-analyses based on gender, prior disease status, and treatment discontinuation. In conclusion, generic medications were at least similar, and in some cases superior, to their branded counterparts regarding mortality and major cardiovascular events.

Mercy V. Torres (2020) studied on consumer behavior in buying medicine analysed by choosing between generic and branded medicine is a cost to the patient's mind due to its quality and effectiveness. This study determined the consumer behavior in buying medicines in terms of personal, social and marketing, and also determined the significant relationship between and among the profile of the respondents and the factors of consumer behavior in buying medicines. The study observed consumers prefer branded than generic medicines because of its safety, affectivity, market value, brand reputation, and other people's recommendations.

Pansare and Virendra (2019) studied a perceptional analysis of medical representatives towards branded and generic drugs. This study revealed that medical representations are important member for promotion of generic and branded medicines to doctors. From the survey, majority of the respondents agreed that pharmaceutical brands follow different strategies compared to the established rules of consumer brands. Therefore, pharmaceutical companies need to make aware about the efficacy of generic medicines to medical representatives.

Md. Moddassir Alam, et al. (2019) studied on patients' perceptions towards branded and generic medicines in an emerging economy. The study found that age of the patients is becoming more conscious to aware regarding the generic medicines, and there is an improvement in the acceptability of generic medicines. Thus, the measurement of patients' perceptions towards generic medicines becomes an important issue for various stakeholders of the medical world, such as: physicians, government, pharmaceutical companies and pharmacists.

In addition to the above cited studies there are many studied on purchasing behavior of consumers in generic and branded drugs done by various authors and researchers. Since, it is found that there is not particular study on perspective analysis of pharmacists on consumers' purchasing behavior of generic and branded drugs. Therefore, this stud has considered very important at present scenario of medical emergency of the world.

Need and significance

The Indian drugs market is segmented by diseases like cough, cold, flu, analgesics, dermatology, gastrointestinal, and products related to vitamins, minerals and supplements (VMS), and the distribution mostly depends on channels like hospital pharmacies, retail pharmacies, and other distribution channels). The high prevalence of self-medication indicates the high demand for generic drugs in India, which will drive the market in the country. However, self-medication was also seen to be based on income, occupation and education. On the other hand the

role of pharmacist is very important in marketing of any kind of drug, either it may be a generic or branded, because most of the buyers depend on the suggestions or advises of the pharmacist while purchasing a medicine/drug. Moreover, Andhra Pradesh is a medical hub, where so many government and corporate hospitals were established with sophisticated health facilities, and many people of surrounding states coming and getting treatment in these hospitals. In this context the present study has a great scope to investigate the buyer behaviour in generic and branded drugs market especially in Andhra Pradesh state. Hence, the research has to test the following hypotheses during its investigation with reference to the objectives of the study.

Statement of the problem

The role of pharmacist is very important in marketing of any drug, either it may be a generic or branded, because most of the buyers depend on the suggestions or advises of the pharmacist while purchasing a medicine/ drug. Moreover, Andhra Pradesh is a medical hub, where so many government and corporate hospitals were established with sophisticated health facilities, and many people of surrounding states coming and getting treatment in these hospitals. In this context the present study has a great scope to investigate the behaviour of pharmacists in selling generic and branded drugs especially in Andhra Pradesh state. Hence, the following objectives have been identified to study in the investigation.

Objectives of the Study

1. To elicit and analyze the perceptions of pharmacists regarding selling generic and branded drugs.
2. To examine the differences in the perceptions of various socio-demographic group pharmacists towards generic and branded drugs.
3. To study the influence of socio-demographic variables of pharmacists towards selling generic and branded drugs.

Methodology

The survey is conducted in six districts selecting two districts from each of the three regions of the state of Andhra Pradesh, which include Srikakulam and Vizianagaram districts from north coastal Andhra, West Godavari and Guntur districts from coastal Andhra region and Kurnool and Chittoor districts from Rayalaseema region with a total Pradhan Mantri Bhartiya Jan Aashaadha Pariyojna (PMBJP) population of 325 functional PMBJPs. The sample of PMBJPs from the selected districts chosen for survey based on purposive sampling method. Thus, out of the total population of 325 PMBJPs from the six districts the data was collected from 50 samples each from the selected districts with the help of a questionnaire. Regarding to the survey of pharmacists' perceptions and opinions, a structured questionnaire is used to collect data on the availability of branded and generic medicines and their preference of suggestions towards medicine during market the stock. To ensure the precision and dependability of the data collection, the researcher made personal visits to the designated PMBJP outlets.

Data analysis

Throughout the process of data analysis, author continued to re-read whole transcripts in order to maintain a sense of the contexts within which the data were constructed. The foremost step prior to analysis involved reduction of data into a form readable by the computer. SPSS-18 was used for data entry and variables were coded from the responses on the different items of the questionnaire. Thereafter the process of analysis initiated to describe the characteristics of a sample or the relationship among variable in the sample. The study extensively uses tabular data, frequencies, percentages etc as a part of the data analysis. Univariate tables were designed to explain the sample and scores were calculated to the perceptions with Likert's five-point-scale method to elicit the priority based rank analysis. In addition to that ANOVA test was done to find out the level of difference in the perceptions of pharmacists towards generic and branded drugs. Finally regression analysis has done to find out the influence of socio-demographic variables of pharmacists on their perceptions towards generic and branded drugs. Thus, the following tables represent the analysis of above discussed statistical tools.

Personal information of chemist

Table-1: Demographic details of the pharmacists/ chemists

Demographic profile	Variables	Frequency	Percentage
Districts	North Andhra	100	33.3
	Coastal Andhra	100	33.3
	Rayalaseema	100	33.3
Age	Less than 30 years	55	18.3
	30-40 year	173	57.7
	41-50 years	43	14.3
	Above 50 years	29	9.7
Gender	Male	191	63.7

	Female	109	36.3
Marital status	Married	106	35.3
	Un married	194	64.7
Level of education	Inter	86	28.7
	Degree	120	40.0
	Post Graduation	94	31.3
Professional Qualification	D.Pharm.	88	29.3
	M.Pharm.	124	41.3
	Nil	88	29.3
Total years of service	Less than 5 years	70	23.3
	6-10 years	81	27.0
	11-20 years	77	25.7
	Above 20 years	72	24.0
Monthly salary	Rs.10,000 to 15,000/-	50	41.0
	Rs.15,000 to 20,000/-	62	28.0
	Rs.20,000 to 25,000/-	71	15.0
	Above 25,000/-	117	48.0
	Total	300	100.0

Table-1 shows personal information of pharmacists of Generic and Branded Pharmaceutical Products. It shows that from North Andhra 33.3 percent, from Coastal Andhra 33.3 percent and 33.3 percent from Rayalaseema. The distribution of pharmacists' age noticed that 18.3 percent are in the less than 30 years age, 57.7 percent are in the age between 30-40 years, 14.3 percent of respondents are in the age between 41-50 years and 9.7 percent respondents are above 50 years. The gender distribution of chemists was shown that 63.7 percent of respondents are male and 36.3 percent are female. Marital status of the pharmacists revealed that 35.3 percent were unmarried and 64.7 percent were married. The distribution of level of educational among sample respondents observed that 28.7 percent are qualified intermediate, 40.0 percent qualified degree and 31.3 percent are qualified post-graduation. Whereas, te professional qualification of the chemist shows that 29.3 percent qualified D. Pharm, 41.3 percent qualified B. Pham and 29.3 percent has no professional qualification. Service years of chemists revealed that 23.3 percent are less than 5 years service, 27.3 percent are with 6-10 years service, 25.7 percent are with 11-20 years service and 24.0 percent are with above 20 years service in this field. The monthly salary of the pharmacists indicates that 41.0 percent are earning 10,000-15,000 rupees, 28.0 percent are earning 15,000-20,000 rupees, 15.0 percent are earning 20,000-25,000 rupees and 48.0 percent are earning above 25,000 rupees per month.

Perceptions of pharmacists on Generic and Branded drugs

This section deals with the perceptions of pharmacists who are selling the generic and Branded drugs at their outlets. Since, the data was collected from the pharmacists of above said drugs through a structured questionnaire and processed by SPSS software and the resulted outputs are presented by tables which are shown in the following and the analysis of the results shown in the tables are discussed. Hence, the data analysis and interpretation of the perceptions and attitudes of pharmacists about the consumer behaviour on purchasing of generic and branded drugs are presented in the following tables.

Table-2: Perceptions of pharmacists towards branded and generic drugs

Sl. No	Statements	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree	Total
1	Getting more margins when selling branded drugs	171 (57.0)	37 (12.3)	35 (11.7)	34 (11.3)	23 (7.7)	**300 (100.0)**
2	tting more margins when selling generic Drugs	156 (52.0)	42 (14.0)	39 (13.0)	40 (13.3)	23 (7.7)	**300 (100.0)**
3	uggest branded products to my consumers because they are safer to generic drugs.	76 (25.3)	93 (31.0)	40 (13.3)	40 (13.3)	51 (17.0)	**300 (100.0)**
4	uggest branded drugs over generic drugs as they are cheaper.	82 (27.3)	95 (31.7)	61 (20.3)	25 (8.3)	37 (12.3)	**300 (100.0)**
5	uggest branded drugs over generic drugs as they work efficiently.	59 (19.7)	91 (30.3)	45 (15.0)	81 (27.0)	24 (8.0)	**300 (100.0)**
6	ell branded drugs only when customer brings a prescription from doctor.	63 (21.0)	84 (28.0)	50 (16.7)	75 (25.0)	28 (9.3)	**300 (100.0)**
7	elieve that consumers are aware of the difference between branded and generic Drugs.	109 (36.3)	81 (27.0)	61 (20.3)	13 (4.3)	36 (12.0)	**300 (100.0)**
8	ell generic/ branded drugs only when the costumer insists.	73 (24.3)	85 (28.3)	67 (22.3)	42 (14.0)	33 (11.0)	**300 (100.0)**

9	elieve that branded and generic drugs have same efficacy and safety profile as they have same active ingredient in them.	52 (17.3)	50 (16.7)	74 (24.7)	95 (31.7)	29 (9.7)	**300 (100.0)**
10	chasing of branded and generic product depends on the socio-economic background	57 (19.0)	72 (24.0)	60 (20.0)	82 (27.3)	29 (9.7)	**300 (100.0)**

Table-2 represents the perception of pharmacists on branded and generic drugs Drugs. It is observed from the above data that 57.0 percent strongly agreed and 12.3 percent agreed that they are getting more margins when selling branded drugs, whereas, 11.3 percent disagreed with that and 7.7 percent strongly disagreed with that, and also it is observed that 11.7 percent of respondents were didn't say their opinion they were just neutral. It is noticed from the above data that 52.0 percent strongly agreed and 14.0 percent agreed that they are getting more margins when selling generic Drugs, whereas, 13.3 percent disagreed with that and 7.7 percent strongly disagreed with that, and also it is observed that 13.0 percent of respondents were didn't say their opinion they were just neutral. From the above table it has been observed that 25.3 percent strongly agreed and 31.0 percent agreed that they have suggested branded OTC products to their consumers because it was safer to generic Drugs, however, 13.3 percent disagreed with that and 17.0 percent strongly disagreed with that, and also it is observed that 13.3 percent was neutral. It is noticed from the above table that 19.7 percent strongly agreed and 30.3 percent agreed that they have suggested branded drugs over generic drugs because they are cheaper, whereas, 8.3 percent disagreed with that and 12.3 percent strongly disagreed with that, and also it is observed that 20.3 percent of respondents were neutral for that. While it is noticed from the above table that 27.0 percent strongly agreed and 31.7 percent agreed that they have suggested branded drugs over generic drugs because of work efficiently, whereas, 27.0 percent disagreed with that and 8.0 percent strongly disagreed with that, and also it is observed that 15.0 percent of respondents were neutral for that. While it has been observed from the above table that 21.0 percent strongly agreed and 28.0 percent agreed that they sell branded drug only when customer brings a prescription from doctor, whereas, 25.0 percent disagreed with that and 9.3 percent strongly disagreed with that, and also it is observed that 16.7 percent of respondents were neutral for that. While coming to the opinion of chemist about the believe of consumers that they are aware of the difference between branded and generic drugs, 36.3 were strongly agreed, 27.0 percent were agreed with that, 4.3 percent were disagreed, 12.0 percent were strongly disagreed with the above and 20.3 percent has no opinion about that. When it comes to selling of generic/ branded drugs only when the costumer insists, 24.3 were strongly agreed, 28.3 percent were agreed with that, 14.0 percent were disagreed, 11.0 percent were strongly disagreed with the above and 22.3 percent has no opinion about that. While it is observed from the above data 17.3 percent of respondents were strongly agreed and 16.7 percent were agreed with branded and generic drugs have same efficacy and safety profile as they have same active ingredient in them, but 31.7 percent disagreed with that, 9.7 percent were strongly disagreed with that and 24.7 percent have no opinion for that. From the above table it is also noticed that 19.0 percent of respondents are strongly agreed and 24.0 percent were agreed that purchasing of branded and generic product depends on the socio-economic background, whereas, 27.3 percent were disagreed, 9.7 percent were strongly disagreed with the above statement, while, 20.0 percent of respondents said no opinion about that.

Hence, the perceptions of pharmacists towards selling branded and generic drugs revealed that 69.3 percent agreed that they are getting more margins when selling branded drugs, whereas 66.0 percent opined that they will get more margins when the sell generic drugs. While 78.7 percent believed consumers are aware of the difference between branded and generic drugs, 79.3 percent suggest branded drugs over generic drugs as they are cheaper. Moreover, 74.9 percent sell generic/ branded drugs only when the costumer insists, 69.6 percent suggest branded products to their consumers because they are safer than generic drugs. It is found that 79.3 percent of the pharmacists suggest branded drugs over generic drugs as they work efficiently, 65.7 percent sell only branded drug when customer brings a prescription from doctor. Since, 63.0 percent felt purchasing of branded and generic product depends on the socio-economic background of the consumers, 58.7 percent believe branded and generic drugs have same efficacy and safety profile as they have same active ingredient in them.

Table-3: Perceptive score analysis of pharmacists towards branded and generic Drugs

Sl. No	Statements	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree	Total
	Scale Value (SV)	**5**	**4**	**3**	**2**	**1**	
1	Getting more margins when selling branded drugs	171	37	35	34	23	**300**
	Frequency x Scale Value	855	148	105	68	23	**1199-I**
2	tting more margins when selling generic Drugs	155	42	39	41	23	**300**
	Frequency x Scale Value	780	168	117	80	23	**1168-II**
3	uggest branded OTC products to my	76	93	40	40	51	**300**

	consumers because they are safer to generic Drugs.						
	Frequency x Scale Value	380	372	120	80	51	**1003-VI**
4	ıggest branded drugs over generic drugs as they are cheaper.	82	95	61	25	37	**300**
	Frequency x Scale Value	410	380	183	50	37	**1060-IV**
5	ıggest branded drugs over generic drugs as they work efficiently.	59	91	45	81	24	**300**
	Frequency x Scale Value	295	364	135	162	24	**980-VII**
6	ell branded drugs only when customer brings a prescription from doctor.	63	84	50	75	28	**300**
	Frequency x Scale Value	315	336	150	150	28	**979-VIII**
7	elieve that consumers are aware of the difference between branded and generic Drugs.	109	81	61	13	36	**300**
	Frequency x Scale Value	545	324	183	26	36	**1114-III**
8	ell generic/ branded drugs only when the costumer insists.	73	85	67	42	33	**300**
	Frequency x Scale Value	365	340	201	84	33	**1023-V**
9	elieve that branded and generic drugs have same efficacy and safety profile as they have same active ingredient in them.	52	50	74	95	29	**300**
	Frequency x Scale Value	260	200	222	190	29	**901-X**
10	rchasing of branded and generic product depends on the socio-economic background	57	72	60	82	29	**300**
	Frequency x Scale Value	285	288	180	164	29	**946-IX**
	Total score						**10373**
	Maximum Possible Score	5 (Maximum score points) 300 (number of respondents) X 10 (number of statements)					**15000**
	Percentage of score	Total score of pharmacists towards branded and generic Drugs/Maximum Possible Score X 100					**69.2**
	Average	Total score / Number of statements					**1037**

The Table-3 presents the perceptive score analysis of chemist towards branded and generic drugs. There are 10 statements and each one is carrying a score on the basis of perceptions of the respondents. Based on the perceptional score the ranks have been generated and the rank order analysis has been discussed in the following.

From this above table data, it can be understood that the 1st rank is given to the statement "Getting more margins when selling branded drugs", with a scale value of 1199. It is observed that 2nd rank has been given to the statement "Getting more margins when selling generic drugs", which is secured a scale value of 1168. The data reveals that 3rd rank is given to the statement "I believe that consumers are aware of the difference between branded and generic drugs", with a scale value of 1114, the 4th rank is given to "I suggest branded drugs over generic drugs as they are cheaper", which is carrying a scale value of 1060. It is found from the data that 5th rank is given to the statement "I sell generic/ branded drugs only when the costumer insists", with a scale value of 1023, the 6th rank is given to "I suggest branded products to my consumers because they are safer to generic drugs", with a scale value of 1003, It is noticed that 7th rank is given to the statement "I suggest branded drugs over generic drugs as they work efficiently", with a scale value 980. The data indicates that 8th rank is given to the statement "I sell branded drugs only when customer brings a prescription from doctor", with a scale value 979. The data shows that 9th rank is given to the statement "Purchasing of branded and generic product depends on the socio-economic background", with a scale value 946. And finally it is observed that 10th rank has been given to the statement "Purchasing of branded and generic product depends on the socio-economic background", which is secured a scale value of 946.

According to the scores of the 10 statements the total score obtained was 10373 and the average score is 1037. Hence, the statements are separated by more positive and less positive statements according to their individual scores.

Table–4: Perceptive score difference among various demographic group pharmacists on branded and generic drugs

Demographic profile	Variables	N	Mean	Std. Dev	Std. Error	f-value	p-value
Districts	North Andhra	100	32.08	4.905	0.49	28.385**	0.000
	Coastal Andhra	100	34.76	4.562	0.456		
	Rayalaseema	100	36.88	4.036	0.404		
Age	Less than 30 years	55	34.47	5.443	0.734	5.848**	0.001
	30-40 year	173	35.20	4.586	0.349		
	41-50 years	43	34.49	4.114	0.627		
	Above 50 years	29	31.17	5.607	1.041		
Gender	Male	191	34.69	4.922	0.356	0.550	0.583
	Female	109	34.37	4.908	0.470		
Marital status	Married	106	34.51	5.441	0.528	0.158	0.874
	Un married	194	34.61	4.610	0.331		
Level of education	Inter	86	33.87	5.390	0.581	3.461*	0.033
	Degree	120	35.48	4.781	0.436		
	Post Graduation	94	34.06	4.469	0.461		
Professional Qualification	D.Pharm.	88	33.77	4.806	0.512	1.838	0.161
	M.Pharm.	124	35.07	4.573	0.411		
	Nil	88	34.67	5.405	0.576		
Total years of service	Less than 5 years	70	33.90	5.662	0.677	2.579*	0.054
	6-10 years	81	35.84	4.485	0.498		
	11-20 years	77	34.10	4.244	0.484		
	Above 20 years	72	34.31	5.087	0.60		
Monthly salary	Rs.10,000 to 15,000/-	50	34.92	4.993	0.706	2.365	0.071
	Rs.15,000 to 20,000/-	62	35.84	4.564	0.58		
	Rs.20,000 to 25,000/-	71	33.70	4.803	0.57		
	Above 25,000/-	117	34.28	5.031	0.465		
	Total	300	34.57	4.911	0.284		

** Significant at 1% level, * Significant at 5% level.

The perceptive score differences among various demographic groups pharmacists on selling branded and generic drugs presented in the Table-4. It is observed that among various regional pharmacists the average perceptive score of Rayalaseema 36.88 found significantly higher than the average score of Coastal Andhra (34.76) and the average score of North Andhra (32.08), and their respective standard deviations are 4.036, 4.562 and 4.905. With these mean and standard deviation values the calculated f-value 28.385 is significant at 1% level because the p-value is 0.000. This infers that there is a significant difference among the pharmacists towards branded and generic drugs, where Rayalaseema pharmacists found high. The perceptive scores of various age group, shows that the average score of less than 30 years age group is 34.47, 30-40 years age group is 35.20, 41-50 years age group is 34.49 and above 50 years age group is 31.17 and their respective standard deviations are 5.443, 4.586, 4.114 and 5.607. With these mean and standard deviation values the calculated f-value 5.848 is significant at 1% level because the p-value is 0.001. This indicates that there is a significant difference among the respondents of various age groups on branded and generic drugs. According to the various gender group of respondents it is found that the average score of male group is 34.69 found higher than the female (34.37) and their respective standard deviations are 4.922 and 4.908. With these mean and standard deviation values the calculated f-value 0.550 indicates not significant because the p-value is 0.583. This infers that there is no significant difference among the respondents of various gender groups on branded and generic drugs. According to the various marital status groups it shows that the average score of unmarried (34.61) is higher than married (34.51) and their respective standard deviations are 4.610 and 5.441. With these mean and standard deviation values the calculated f-value 0.158 indicates not significant because the p-value is 0.874. This infers that there is no significant difference among the respondents of various marital status groups on branded and generic drugs. The perceptive score differences of various level of education,the data shows that the average score of Intergroup is 33.87, Degreegroup is 26.68 and Post Graduation is 27.94 and their respective standard deviations are 5.390, 4.781 and 4.469. With these mean and standard deviation values the calculated f-value 3.461 is significant at 5% level because the p-value is 0.033. This indicates that there is a significant difference among the respondents of various education groups on branded and generic drugs. The perceptive scores of various professional qualifications show that the average score of D. Pharm group is 33.77, M. Pharm group is 35.07 and 34.67 perceived with no professional qualification and their respective standard deviations are 4.806, 4.573 and 5.405.

With these mean and standard deviation values the calculated f-value 1.838 is not significant because the p-value is 0.161. This indicates that there is no significant difference among the respondents of various professional qualification groupstowards branded and generic drugs. The perceptive scores of total years of service group, shows that the average score of less than 5 years is perceived by 33.90, 6-10 years is perceived by 35.84, 11-20 years is perceived by 34.10 and above 20 years is 34.31 and their respective standard deviations are 5.662, 4.485, 4.244 and 5.087. With these mean and standard deviation values the calculated f-value 2.579 is not significant because the p-value is 0.054. This indicates that there is no significant difference among the respondents of various years of servicetowards branded and generic drugs. The perceptive scores of various monthly income group show that the average score of Rs.10,000 to 15,000/-income group is 34.92, Rs.15,000 to 20,000/-income group is 35.84, Rs.20,000 to 25,000/- income group is 33.70 and above 25,000 rupees income group is 34.28 and their respective standard deviations are 4.993, 4.564, 4.803 and 5.031. With these mean and standard deviation values the calculated f-value 2.365 is not significant because the p-value is 0.071. This indicates that there is no significant difference among the respondents of various monthly income groups towards branded and generic drugs.

1. Regression Analysis Model

In this model of regression the researcher estimated the attitude of pharmacists about generic VsBranded pharmaceutical products has taken dependent variable, where the opinions of pharmacists information about OTC products and difference between branded and generic OTC products have measured by index and taken as dependent variable and other demographic relative variables are taken as independent variables. Those independent variables are like age, gender, marital status, level of education, professional qualification, total years of service, monthly income, area of location and monthly turnover.

Total number of respondents in the selected area (N=300)

Multiple Regression Model: $Y=a+x_1b_1+x_2b_2+x_3b_3+x_4b_4+x_5b_5+$ ……..

Dependent Variable: Y = Attitude of pharmacists towards selling generic vs branded drugs

Independent Variables:

x_1 –> Age – Quantitative Variable, actual age of the respondents has considered

x_2 –> Gender – Dummy variable (1-Male, 0-Female)

x_3 –> Marital Status – Dummy Variable (1-Married, 0-Others (unmarried, divorced, etc.)

x_4 –> Level of Educational– Rank variable, where intermediate ranked as 1, graduation as 2, and post graduates have given rank with 3

x_5 –> Professional qualification – Dummy Variable (1-D.Pharm and M.Pharm, 0-Nil)

x_6 –> Years of Service – Rank variable, where <5 yrs ranked as 1, 5-10 yrs as 2, 11-20 yrs as 3 and >20 yrs as 4

x_7 –> Monthly salary – Quantitative variable measured by actual income levels of the respondent per month

x_8 –> Location of business – Rank variable, where near hospital ranked as 1, market square as 2, and main road as 3

x_9 –> Monthly turnover – Quantitative variable measured by actual monthly business turnover levels of the pharmacist / chemist

Table –5: Influence of socio-demographic features of Pharmacists on Generic and Branded drugs market

Regression Summary for Dependent Variable: Generic and Branded drugs market R= .99054769 R²= .98118473 Adjusted R²= .98014330 F(9,291)=942.15 p<0.0000 Std. Error of estimate: .40657						
	Beta	**St. Err. of Beta**	**B**	**St. Err. of B**	**t(271)**	**p-level**
Intercept			1.274	0.380	3.349	0.001
Age	0.017	0.009	0.061	0.031	1.969*	0.045
Gender	0.000	0.008	0.003	0.051	0.056	0.955
Marital status	0.037	0.009	0.241	0.057	4.243**	0.000
Education level	0.296	0.031	0.649	0.068	9.566**	0.000
Professional qualification	0.238	0.028	0.363	0.043	8.521**	0.000
Total years of service	0.019	0.009	0.076	0.038	1.996*	0.047
Monthly salary / income	0.261	0.039	0.413	0.062	6.664**	0.000
Area / location of business	0.042	0.048	0.059	0.067	0.884	0.377
Monthly business turnover	0.132	0.024	0.165	0.030	5.433**	0.000

*significant@1%level, **significant@5%level

Age is a quantitative variable estimated by age in number year is expected to be a significant relation with behavior of chemist towards Generic Vs Branded Pharmaceutical Products. In the regression analysis it is found significant at 5% level because the t-value is 1.969 and the p-value is 0.045. This can be inferred that the higher age group pharmacists are amore positive in Generic Vs Branded Pharmaceutical Products than the lesser age groups. This may be due to their experience in their business of pharmaceutical products.

Gender is a dummy variable and specifies the gender of the respondent. It takes value 1 for male and 0 for female respondents. It is found that there is no impact of gender of the respondents on their attitude towards Generic Vs Branded Products where the t-value 0.056 is not significant because the p-value is 0.955. This shows that there is no significant difference between male and female groups in their attitude.

Marital status is a dummy variable and specifies the marital status of the respondents. It takes value 1 for married and 0 for unmarried/divorce/separated/widow. It is expected to have a positive relation with attitude of pharmacists on Generic Vs Branded Products and indicate 1% significant, where the t-value 4.243 and p-value 0.00. This infers that the pharmacists who are married are found more positive towards Generic Vs Branded Pharmaceutical Products.

Educational level is a variable which has estimated by ranks on their literacy levels. Here intermediate qualified persons ranked as 1, degree qualified are ranked as 2 and Post-Graduation qualified persons given rank with 3. The literacy level is expected to have a positive significant relation with attitude of pharmacists towards Generic Vs Branded Pharmaceutical Products. Here the regression coefficient of t-value 9.566 indicates significant at 1% level because the p-value is 0.00. Hence it is expected that the attitude of pharmacists towards Generic Vs Branded Pharmaceutical Products determined by the level of literacy possessed by the respondent.

Professional qualification status is a dummy variable, where D.Pharm and M.Pharm qualified persons are ranked as 1 and nil qualified persons are ranked as 0. It is expected to have a positive relation with the attitudes of pharmacists towards Generic Vs Branded Pharmaceutical Products, where professional qualified persons are having positive attitude than nil qualified persons. Here the regression coefficient shows that t-value is 8.521 found significant at 1% level because the p-value is 0.00.

Years of service, which represents number of year the chemist involved or working in the pharma business. Here the regression coefficient of t-value indicates positive significance at 5% level with 1.996 and the p-value is 0.047. In this case the attitude of pharmacists on Generic Vs Branded Pharmaceutical Products shows more positive with more and more years of service in the current profession.

Monthly salary / income is an quantitative variable, where actual salary or the income acquired by the respondent is considered. Here the monthly salary of pharmacists is expected to be positive relation with their attitude towards Generic Vs Branded Pharmaceutical Products. In the above regression table the co-efficient of t-value 6.664 is indicate significant at 1% level because the p-value is 0.00. It shows that more the salary or income acquired by the chemist indicate more positive attitude towards Generic Vs Branded Pharmaceutical Products and vice versa.

Area / location of business is a rank variables, measured by location or area of the business that the chemist is performing. It is expected to have a positive significant relation with Generic Vs Branded Pharmaceutical Products. But the regression coefficient of t-value is 0.884 which is not found significant at any level because p-value is 0.377. This infers that area / location of the business does not determine the attitude of chemist towards Generic Vs Branded Pharmaceutical Products.

Monthly business turnover refers to the quantitative variable measured by actual monthly turnover the business of the chemist. This variable is expected to be a significant relation with the attitudes of pharmacists towards Generic Vs Branded Pharmaceutical Products, where the regression coefficient of t-value 5.433 indicates significant at 1% level because the p-value is 0.00. This infers that the more monthly turnover of the chemist indicates more positive attitude towards Generic Vs Branded Pharmaceutical Products and vice versa.

In this model of linear multiple regressions is best fit to measure the influence of social, economical and demographic variables of pharmacists on their attitude towards Generic Vs Branded Pharmaceutical Products. This is because the F-value in this regression is 942.15 which is satisfactorily significant at 1% Level. This model also explains R^2 at 98.01% of variation. In this model of regression analysis out of the total 9 explanatory variables as many as 7 variables are found to be significant, but two variables i.e. gender and area/location of the business are not significant. The significant variables are Age, Marital status, Education level, Professional qualification, Total years of service, Monthly salary / income and Monthly business turnover which are indicating significant at 1% level and 5% level.

Conclusion

As the healthcare industry continues to evolve, the role of the pharmacy channel in healthcare marketing has become increasingly crucial. Pharmacists and pharmaceutical sales personnel collaborate closely to share information about new drugs, clinical findings, and therapeutic advantages. You will develop knowledge of pharmaceutical corporations' marketing techniques as a pharmacy student, enabling you to comprehend how drugs are advertised to patients and healthcare professionals. Pharmacists play a crucial role in promoting patient adherence to medication regimens. They inform patients on the significance of adhering to recommended therapies, possible adverse effects, and how non-adherence affects health outcomes. This emphasis on patient adherence aligns with healthcare marketing efforts focused on promoting patient well-being and long-term health. In this study by analyzing the data, pharmacists can identify market trends of drugs, develop targeted healthcare marketing campaigns, and tailor interventions to specific patient populations. This approach contributes to improved patient outcomes and the overall effectiveness of healthcare marketing efforts. Since, the pharmacists

guide the patients in purchasing of drugs, this continuity of care strengthens patient relationships, enhances patient satisfaction, and supports healthcare marketing efforts by fostering loyalty and trust among patients.

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