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Post-COVID Emergent Trends in Consumer Buying Behaviour for Pharma-OTC Sector

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Abstract

Good health is a fundamental human necessity, and access to quality healthcare is vital for a nation's development. Article 21 of the Indian Constitution guarantees the right to life and liberty, but providing optimal public healthcare, especially in rural areas, remains challenging for a rapidly growing population. In this context, self-medication and Over-The-Counter (OTC) products play a crucial role. OTC products, including medicines and personal care items like sanitisers, nutrient supplements, and pregnancy kits, can be purchased without prescriptions.

The COVID-19 pandemic has been a global health crisis and an unprecedented socio-economic challenge, deeply impacting industries worldwide. However, the FMCG and pharmaceutical sectors have thrived due to the essential nature of their products. The pandemic has accelerated growth in the OTC segment, creating new opportunities for pharmaceutical companies. This research aims to explore emerging consumer behaviour trends in the pharma-OTC category post-COVID-19 and provide strategic recommendations for companies to capitalize on these trends.

Chapter-I
INTRODUCTION

Overview:

Good health is one of the basic necessities and fundamental of being a human. Access to good healthcare facilities to its citizens is essential for development of any nation. Article-21 of the Indian constitution guarantees protection of life and personal liberty to every citizen. However, being world's fastest growing nation in terms of population, it is difficult for the government as well to ensure optimum healthcare facilities at public level, especially to people living in rural neighbourhood. In such scenario, the role played by self-medications, become very important in ensuring good health of the people. The pharmaceutical and healthcare industry has taken an effort to counterbalance this requirement by providing the necessary medicine which can be used to treat the minor ailments without the recommendation from a registered medical practitioner (McKinsey Report, 2015), such medicines forms the part of a segment which is known as Over-The-Counter or OTC Pharma products.

These Pharma OTC (Over the Counter) or simply called OTC products include drugs, medicine and other products sold directly to a consumer without a requirement for a prescription from a healthcare professional, as opposed to prescription (Rx) drugs, which may be supplied only to consumers possessing a valid prescription. It also involves other personal products such as sanitary pads, sanitizers, nutrient supplements, pregnancy test kits, birth-control products, etc.

Classification of OTC Products:

The OTC product market can be further divided under various categories, on the basis of different criteria;

A. **Classification of OTC products based on primary medical sciences:**

1	Allopathic	Based on modern medicinal science, most popular & widely used
2	Ayurveda	Ancient Indian sciences based mostly on herbal medicines
3	Unani	Perso-Arabic traditional medicine, now practiced in South-Asia
4	Homeopathy	Pseudo-scientific system of medicines, gained popularity in 19th century

B. **Classification of OTC products based on their route of administration:**

1	Oral tablet	syrup, capsule, powder, etc taken internally
2	Topical	Ointments, cream, liquids that are applied to the ski
3	Parenteral	Sterile solutions that are injected intravenous or intramuscular
4	Others	such as eye drop and surgical dressings

(Source: Journal of Scientific and Industrial Research, March 2002)

C. **Classification of OTC products based on therapeutic effectiveness for a particular ailment:**

1	Analgesics	class of drugs that are designed to relieve pain without causing the loss of consciousness.
2	Cough, Cold and Allergy	Cold medicines can treat symptoms to make you feel better, but they do not shorten a cold
3	Gastro-intestinal	These medicines slow down the action of the intestine and reduce the number of bowel movements or helps to regulate amount of HCl in stomach
4	Vitamins, Minerals and Supplements	provide nutrients either extracted from food sources or that are synthetic in order to increase the quantity of consumption
5	Dermatological and Allergies	Antihistamine pills and liquids work well for treating allergy symptoms
6	Lifestyle OTCs	Cholesterol Reduction, Eye & Ear Care, Home Diagnostics, Obesity Treatments, Oral Care, Sedatives & Sleep Aids / Stimulants, Sexual Health, Smoking Control, Urinary Products

2. OTC-Industry and COVID-19 Pandemic

The on-going coronavirus (COVID-19) pandemic is defining the global health crisis of our time and the greatest challenge we have faced since World War Two. Since its emergence in Asia late in 2019, the virus has spread to every continent except Antarctica.

But the pandemic is much more than a health crisis, it's also an unprecedented socio-economic crisis. Stressing every one of the countries it touches, it has the potential to create devastating social, economic and political effects that will leave deep and long-standing effects. When all other industries and sectors are recovering from a major hit in terms of growth and even struggling for existence, a few sectors including FMCG and pharmaceutical industry have been able to survive and flourish because of the nature of their product.

Similarly, with the new practices and changing consumer behaviour (as an outcome of this pandemic), the OTC industry which was growing at a very small pace has got a sudden boost. From the perspective of a management student, we can identify many growth opportunities for the pharmaceutical companies and other players in this industry.

Due to less regulation (compared to Rx-products), and more freedom of promotion & advertisement, there is a face-level deceptive similarity between the fabric of Fast-Moving Consumer Goods (FMCG) marketing and Over-The-Counter products (OTC) marketing.

Through the course of this research we want to understand and explore a consultant's perspective on emerging trends in consumer buying behaviour for pharma-OTC Category post COVID-19 outbreak and proposing the strategic recommendations for the companies to profit from these trends.

Chapter-II

REVIEW OF LITERATURE

Introduction

The Pharma OTC market comprise of over the Counter markets which includes those medicines and products which are being sold without a medical prescription of a Registered Medical Practitioner. These medicines and products are manufactured and sold under the Consumer Healthcare Segment of these pharma companies. Some of the top OTC brands in India includes Dabur Honitus, Pain-relief balms like- Moov, Zandu, Iodex, etc; Vicks Vaporub, Cofsils, Nicotex, ORS and, Revital. The current forecast for growth of Pharma-OTC industry (adjusted for the effects of COVID pandemic and recession), according to Euromonitor, the revenue in the Indian OTC Pharmaceuticals market which currently stands at **INR 142.85bn** in **2020** is projected to reach **INR 207.35bn** by **2025**. The market is expected to grow annually by **7.7%** CAGR 2020-25, (Euromonitor, 2020). OTC currently contributes roughly around 21% of total pharmaceutical sales in India and is expected to be amongst **top 5** in terms of market size globally by 2030. Hence, the consumer healthcare segment (Pharma- OTC market) in the Indian Pharmaceutical Industry has a huge potential for growth and is one of the emerging markets which could be tapped for market development in the near future for pure play OTC products.

Passport

Market Sizes | Historical/Forecast

Geography	Category	Data Type	Unit	Current Constant	2019	2020	2021	2022	2023	2024	2025
India	OTC	Retail Value RSP	INR million	Current Prices	136,175.9	142,853.6	153,577.8	165,450.8	178,340.0	192,291.8	207,348.2

Research Sources:
Consumer Health: Euromonitor from trade sources/national statistics

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Indian Pharma-OTC Sector: Current Trends

"The Indian Pharmaceuticals market is witnessing dynamic changing trends such as large acquisitions by multinational companies in India, increasing investment by domestic and international players in India, deeper penetration into the rural markets, growth and availability of healthcare and incentives." (Gupta, 2013).

As stated by (Cheriyan & Tamilarasi , 2019) a compilation of different research and market evaluations has proposed the following as key market drivers for the Indian OTC pharma industry in next few years:

a) Shift-in consumer attitude towards self-medication.
b) Rise in geriatric population.
c) Rapid shift from Rx (prescription based) to OTC (self-medication).
d) Liberalization of OTC Drugs sale.
e) Affordability of OTC drugs.

However, a major drawback for the growth of OTC pharma market could be because of the question on authenticity of such products which arises due to lack of proper regulations so far in India for this market (Cheriyan & Tamilarasi , 2019). In fact, a recent example could be how Patanjali a long-time trusted brand for herbal and ayurvedic OTC products, faced a backlash because of its Immunity booster product called "Coronil" which was falsely marketed as a treatment against novel Corona- virus. As a result, it also invited law-suits and heavy penalties from the Madras High court for the same. Not to mention how it might have impacted the overall credibility and trust of Patanjali brand for the Indian consumers.

In the initial stages phase, only the alternative drug companies were exploring the OTC segment however, with advent of public acceptance and success of initial brands, allopathic pharmaceutical majors are also making efforts to capitalise on the trend. "The consumer healthcare segment, synonymously used for the OTC segment, is basically concentrating on the health and nutrition-based products. Herein lays the greatest benefit for companies, since OTC promotion allows for free play in marketing and brand building, as in the Fast-Moving Consumer Goods (FMCG) sector, with three times more consumer reach" (Verma, 2009).

A study by R.K. Srivastava, 2007 reveals that around 35% of the market share is vested in the hands of top Multinational Pharmacy companies like Cipla, Lupin, Sun Pharma, GlaxoSmithKline, etc. which are coming up with new and innovative strategic initiatives to develop their OTC portfolio as an additional and reliable source of revenue. In initial days of marketing of a pharma OTC-product, doctors used to play a significant role, and some still rely on it (e.g.- *Sensodyne toothpaste TVC highlighting on the fact that it is highly recommended by dentists for sensitivity condition*), however since, these products are not regulated against direct promotion to the customers/consumers(as in case with Rx drugs), the marketers can bank upon the advertising creativity to emotionally appeal to their target audience about the benefits

of the product. Revital *(Jeeo Jee bhar ke)*, Vicks (*Vicks ki goli lo, khich khich dur karo*) have done amazing work in terms of occupying the position in the mindsets of consumers with their emotional and functional appeal.

According to a survey around 73% respondents in rural India buys OTC products (Cheriyan & Tamilarasi , 2019). This high level of acceptance for OTC products (like lozenges, cough syrups, ointments, etc.) as much as for any other FMCG brand is partly because of their strategic selection of retail and kirana stores along with pharmacies for distribution; and partly because the rapidly increasing population of India, the country has become a home to enormous population of young- adults who have high level of health-awareness about self-medication as preventative medicine deems to be more economic and convenient option over the increasingly high costs associated with visits to healthcare professional and hospitals (Crossley, 2003). Ironically, even if the proportion of older people have declined significantly declined over the past few decades, the actual number has increased and with changing environmental and food, etc. factors, they are more prone to health issues associated with old age like joint-pain, gastro-intestinal problems related to indigestion, constipation, head-aches, fatigue etc. for which OTC is preferred alternative to deal with instead of consulting a doctor (Verma, 2009).

To understand better about what influence the buying behaviour for OTC products across different demographics it is imperative to understand it from the perspective of Consumer Behaviour.

Consumer Behaviour for Pharma-OTC Products

The term consumer behaviour is defined as the behaviour that consumers' display in searching for purchasing, evaluating and dispensing of products and services that they expect will satisfy their needs. The discussion about marketing in the modern times are centred around need for consumer orientation and to be concerned about needs and expectations of the consumer, hence it is desired to understand the Consumer behaviour for successful marketing of their product and driving the revenues. (Pujari, Sachan, Kumari, & Dubey, 2016).

There are various factors that determines consumer behaviour:

f) Cultural factors: Culture fundamentally shapes a person’s beliefs, wants and behaviour
g) Social factors: Social factors include reference groups, family, peers, social status, etc.
h) Personal factors: it includes age, lifestyle, occupation, income, personality and self-concept, etc
i) Psychological factors: perception, attitudes, values, motivation, interest and opinions, etc.

The consumer buying decision is a five-stage process:

It is important to realize that not all buying decisions include all the five-steps, nor all decision processes, which once initiated ultimately lead to purchase, the customer might terminate the process at any of the above stages. Situational influence like circumstances, time, location, etc. can also affect the consumer buying decision at any of the five stages depending on the nature, shortening, lengthening or terminating the buying process.

Talking in particular about consumer behaviour for OTC products, (Pujari, Sachan, Kumari, & Dubey, 2016) conducted a research and found that people prefer self-medication beyond the expectations, similarly they do follow family and friend’s advice, while looking for the appropriate product, meanwhile internet /advertisements and literature etc. also likely to influence their purchase decision for OTC products. Even for common ailments it was interesting to note that people bypass the physician’s

prescription and 20% are likely to go with the branded option available. And again, pharmacist's advice is inconsiderate in front of home remedies. Hence it is clear, that the consumer typically goes with a pre-determined choice for purchasing an OTC product and if not available, then he'll either go for a home remedy or a brand that he/she might consider trusted because of good recall from advertisement or recommendation from someone. However, for the healthcare supplements, the consumers still prefer to get advice from their dietician/practitioner and will involve some pre- research through internet, online reviews and word-of-mouth.

Also it is important to note that consumers today are more aware about the OTC brands and products to make an informed choice compared to a decade ago, and also because these products enjoy a good market share; hence in coming future, as the number of drugs will be getting off-patent and enter the generic production, more safer alternatives would be developed and hence, the consumer's likelihood to purchase OTC products will further increase (Cheriyan & Tamilarasi , 2019).

Changing Consumer Behaviour as a result of COVID, and effect in OTC market:

Since COVID-19 pandemic is an on-going scenario many things are uncertain and we are yet to see how things will roll-out and how much affect it is going to make on consumer behaviour in OTC- market and overall. Hence, there are very a smaller number of preliminary studies that are available on the topic, a few will be reviewed in this section as follows:

A recent study by (McKinsey & Company, 2020) as COVID-19 Consumer Pulse surveys, conducted globally between June 15 and June 21, 2020 have given very good insights on how consumer behaviour has changed and shaped as a result of pandemic. The COVID-19 pandemic has affected the consumer behaviour in five key ways:

a.) Shift to value and essentials- consumers are more mindful of their spending and limiting to strictly essentials in near future as an impact of economic downturn which has hampered the income across all segments.

b.) Flight to digital omnichannel presence- most categories saw >10% increase in online customer base, moving to e-tail, e-commerce and D2C.

c.) Shock to loyalty- for certain products and brands COVID caused supply chain disruption, leading to consumers who couldn't buy their preferred product at preferred retailer, change their shopping behaviour, more open to trying new brands and channels now.

d.) Health and "Caring" economy: Consumers tend to buy from companies that offer healthy and hygienic packaging and care for their employees. The actions that businesses will take during pandemic, are going to have lasting impact.

e.) Homebody economy- unwillingness to go out in market to shop/ avoiding crowded place, ease of shopping from comforts of home

The similar research cited that while most other categories have shown a major negative-growth in the customer's intent to spend, however personal care products (sub-group of which is healthcare products) has shown a positive intent to spend more in near future, only category to show this trend in India apart from essential category products. Similarly, for consumers' intent to continue online purchase in post-COVID scenario for OTC category in particular is more than 50%, one of the two categories (other being fitness and wellness) to show a more than 50% trend.

A similar kind of study published under an article by (Mehta, Saxena, & Purohit, 2020) where they have studied The New Consumer Behaviour Paradigm amid COVID-19 and whether it is permanent or transient; has revealed that "external and internal drivers of consumer behaviour such as personality,

type, brand image, status, self and self-concept which earlier used to be prominent drivers have become inconspicuous during lockdown days. Further, discussion with consumers specified that economic order quantity of only essential products is the new driver in behaviour followed by recycle and reuse of products, as the households have become small consumer unit of production, consumption, co-creation and cooperation."

They have made a few recommendations such as mobilising the resources at speed and scale to the central focal point of business to respond to the behaviour changes of the consumers while rewiring, as they call it "The COVID Generation", to realign present new conscious younger generations to new life principles and build a new segment of consumers who are very concerned with their personal health and healthcare.

Research Gaps Identified:

1. No doubt there has been a lot of thorough research undertaken in terms of Consumer behaviour for Pharma OTC products, however these research findings are scattered and not pointing in a particular direction that can help companies to decide their strategy for their healthcare business and subsidiaries.
2. Most of the research available are done between 2000-2012, and since then, India has seen a lot of changes in terms of socio-economic-political factors, with changing government, sentiments, policies, etc. Hence, new research in the area is needed to justify the emerging new trends and old research are proving obsolete in newer context.
3. Limited studies that exist on Indian context on over the counter medicines are general studies about consumer behaviour. There are no theoretical approaches or significant implications or testing of any consumer behaviour models in those studies.
4. The onset of Pandemic has even made a very significant irreversible impact on the consumer behaviour and how they make purchase as highlighted by McKinsey's preliminary analysis report, however, a more detailed study in terms of Pharma-OTC sector can reveal actual and better insights for the approach companies can take instead of taking a blanket/one-fit-for-all approach.
5. Even though independent studies about "the Consumer behaviour for OTC-products", "Consumer behaviour trends post OTC" and, "Pharma OTC- sector in India" exists, there are a very little or no-resources to connect the dots and present a shared insight involving all three concepts.
6. The limited already existing research talks only from marketing perspective on how to attract the consumers, by understanding the consumer behaviour however the direct reference to its implication on how businesses operate in terms of strategy and day-to-day operations has not been studied. It will be good to have an insight from the consultant's perspective on how the pharma- OTC industry is going to evolve post-COVID and what all strategic changes the businesses could adopt to maximise from the opportunity.

Scope of Study:

By undertaking this study, we will try to step-by-step analyse and get answers to following research questions:

- **External Analysis:** industry analysis for Pharma-OTC sector, current trends contrasting with pre-COVID trends available and coping mechanisms during lockdown (Secondary research)
- **Internal Analysis:** with focus on a few companies in Indian OTC market, their business models and strategies, competitive advantages, and value chain analysis (Secondary research)
- Understanding the consumer buying behaviour for purchase of OTC products, and change in

preferences/buying behaviour post-COVID (Primary research: surveys, on-field observations, in-depth interviews)

- Understanding the consumer perception for effect of Ayurvedic components/branding on likeliness to purchase OTC products
- Understanding the importance attributed to different factors such as Brand, Price, channel, etc. by an Indian consumer while purchasing a pharma-OTC product.
- **Analysis of the data:** Quantitatively and qualitatively establishing relationship between changing consumer preferences and trends with OTC buying behaviour
- **Conclusion:** Report the findings from the research and give recommendations from Consultant's perspective on what changes OTC companies can implement in terms of their business strategy to maximize the opportunities that Pharma-OTC sector presents to them.

Limitations of the Study:

- It will just consider the Indian rather than global scenario for consumer behaviour and changes in pre- and post- COVID.
- For post-COVID data, extensive primary study and research could be conducted but to understand the consumer behaviour for pre-COVID we'll have to rely on secondary research and there is limited to no data available to justify trends in pre-COVID scenario
- The Indian OTC is a highly unregulated market is likely to see many new regulations in terms of bills and regulatory authorities in near future which might remain out of scope of current study.
- There will be some level of study on ayurvedic products and increasing demands but homeopathic and prescribed drugs will be out of the scope of study because of irregular and limited data available about them.
- The general stigma associated with the COVID-positive patients and families with such patients is not considered as a factor to influence intentions for OTC purchase in order to keep the scope of the study broader.
- The online-medicines and consultation services through apps like Net Meds, etc. focusses majorly on providing prescription-based medicines (and not the OTC products) hence are kept out of the scope of this study.

Chapter-III
RESEARCH METHODOLOGY

Research Flow:

Following all the sequential and systematic steps of field surveys, this research analysis was conducted. A comprehensive literature review of existing research work in the domain of pharmaceutical industry and consumer behaviour choices, was done in order to understand their findings and limitations which helped to identify the gaps for further research. Based on this extensive literature review, research objectives were formulated which further helped in developing research hypotheses. Furthermore, research methodology was finalized by developing research instruments in the form of structured questionnaire for primary research which included surveys, and in-depth interviews.

Research Design:

In order to obtain answers to a specific research problem, research design is an organized and structural method of research investigating acts as a blueprint for measurement and analysis of data (Creswell, 2014). The purpose of this research design is to identify the new emerging trends and changes in

consumer behaviour for purchase of OTC- products and medicines after the COVID-19 outbreak. Hence, the type of research design chosen for this study was Descriptive research design. Since the purpose of the research is quite clear, hence a confirmatory research based on the findings of literature review was conducted to gather insights for answering "what" and "how" of the research questions.

Research Objectives:

The primary objective of this research was to identify trends in consumer buying behaviour for pharma-OTC Category post COVID-19 outbreak and proposing the strategic recommendations for the companies to profit from these trends.

Based on the above primary objective following secondary research objectives has been developed:

Objective 1	To analyse the impact of COVID-19 outbreak on consumer awareness about healthcare products and self-medication
Objective 2	To examine the effect of brand name on consumer buying behaviour while purchasing pharma-OTC products mainly analgesics, self-medicated drugs and healthcare supplements in post-COVID scenario
Objective 3	To analyse the impact of demographics and social factors on consumer decision making process for pharma-OTC products mainly analgesics, self-medicated drugs and healthcare supplements
Objective 4	To understand the consumer perception/opinion for purchase of Ayurvedic self-medication from branded companies for products like Ashwagandha, Chyawanprash, Kadha Khabar-Surah-Kudineer, etc. after the outbreak of COVID-19 pandemic

Research Hypotheses:

To achieve the above-mentioned research objectives, following hypotheses have been developed which will be tested using data gathered during primary research:

	Hypothesis	Type
Hypothesis 1	COVID-19 pandemic had an impact on awareness about self-healthcare amongst consumers	Descriptive
Hypothesis 2	COVID-19 has influenced people to prefer self-medication over doctor's prescription for common ailments	Descriptive
Hypothesis 3	Consumers below age of 35 and with low chances of chronic diseases are more likely to prefer self-medication for common ailments	Correlation
Hypothesis 4	Reduced consumer spending as a result of COVID-19 pandemic has a relationship with price sensitivity for pharma-OTC consumers	Correlation
Hypothesis 5	Consumers are more likely to expect a favourable outcome for using an OTC product of a well-known brand than an unknown brand	Comparison

Hypothesis 6	The OTC products for common ailments which have Ayurvedic branding or ingredient(s) are more likely to be purchased than products which have neither.	Correlation
Hypothesis 7	Ayurvedic OTC supplements (like Chyawanprash) are more likely to be purchased than allopathic OTC supplements	Comparison
Hypothesis 8	Younger consumers (age <35) are more likely to purchase healthcare supplements on e-commerce platforms.	Correlation
Hypothesis 9	If a self-medication is recommended by a pharmacist then consumer is more likely to purchase.	Descriptive
Hypothesis 10	Consumer's awareness about brand of an OTC product is more dominant than any other factor in driving purchase intention	Comparison/ Descriptive

Area of Study:

For the purpose of surveying, we have targeted the population based on demographic segmentation. The primary consideration was consumers with age group of 18 and above and educational qualification of at least 12th standard because we wanted the consumers who are aware about OTC products and could exercise their knowledge and understanding of self-medication to make an informed purchase decision. Secondarily, we have considered responses across different age-groups (18-25, 26-35, 36-50, 50+) corresponding to different lifestyles, fitness, occupation and income bracket.

The survey was conducted in the National Capital Region of **Delhi** which is a metropolitan mega-city/UT, where people from different parts of the country have come for educational and occupational purposes. The following data about the UT is available by Census 2011:

Description	2011
Approximate Population	1.68 Crores
Actual Population	16,787,941
Male	8,987,326
Female	7,800,615
Population Growth	21.21%
Percantage of total Population	1.39%
Sex Ratio	868
Child Sex Ratio	871

Sources:
https://www.census2011.co.in/census/state/delhi.html
https://www.education.gov.in/sites/upload_files/mhrd/files/statistics-new/Population2011.pdf

Sampling technique:

A. For large-scale survey

- As per census website, people in age group 0-18 in Delhi: **5,845,480**
- Hence the population above 18= 16,787,941-5,845,480 = **10,942,461**
- Average Literacy rate of Delhi is 81.86%, hence Literate population, above 18 years of age,
  = N (Total target population) = 81.86% of 10,942,461
  N = 8,957,499
- For an adequate study, we will consider Confidence Level of 95%, and margin for error (precision rate) will be 5%

$$n = N \times \frac{\frac{Z^2 \times p \times (1-p)}{e^2}}{\left[N - 1 + \frac{Z^2 \times p \times (1-p)}{e^2}\right]}$$

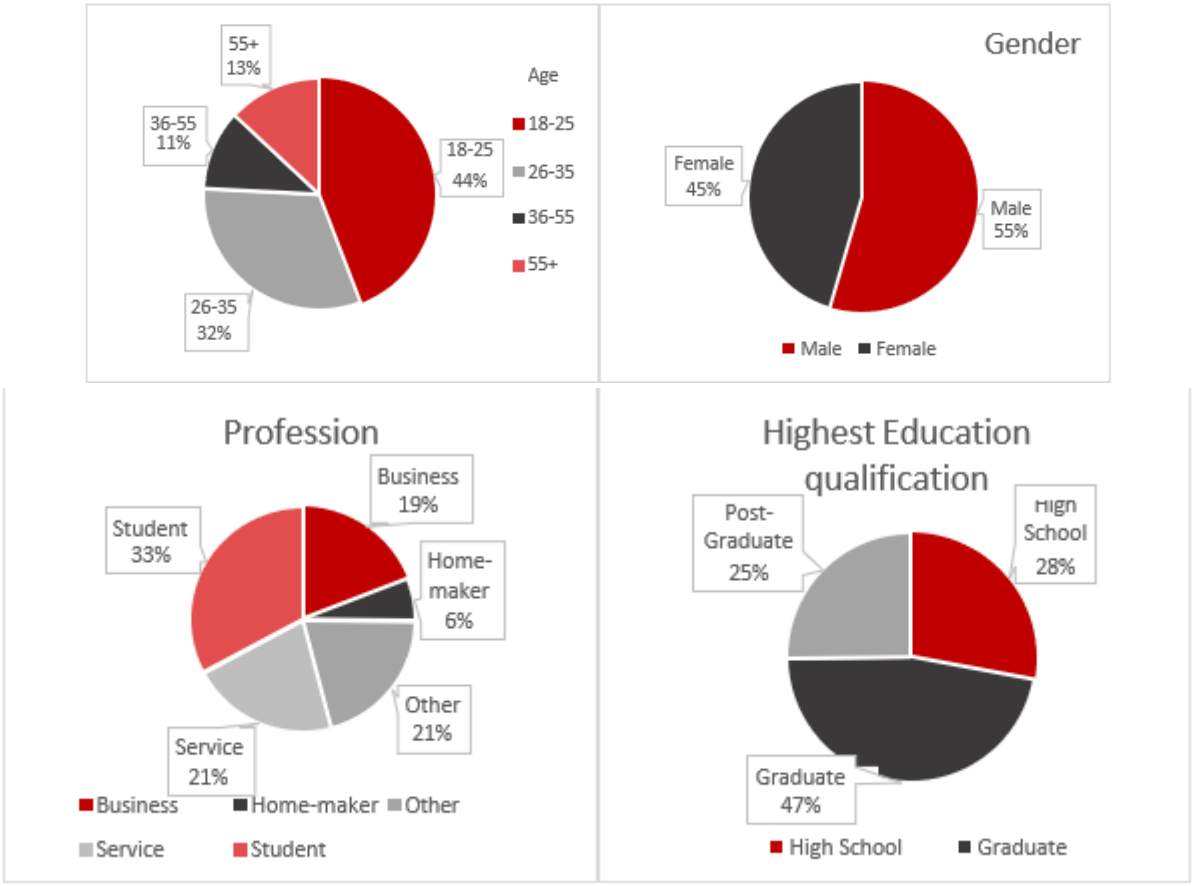
- The formula for determining the sample size as per (Kothari, 2004) is:

Here,

- n- Sample Size
- N- Population size (calculated above)
- z- standard variation at given confidence level, In this case at 95% confidence level, the value of **z= 1.96**
- e- precision rate or margin of error, **e= 0.05** (5%) in the given case
- p- sample proportion and q=(1-p),

To obtain most conservative sample size, we need to maximize the value of "n" and it will be achieved when we take value of **p=0.5** and **q**= 1-0.05 **= 0.05**

Hence, determined **Sample Size for the study (n) = 385**
To account for errors in response submission we considered 15 more responses. Therefore, we collected **405** responses for the survey.
A snapshot of response summary is enclosed below:



Research Instruments:
Questionnaire for Survey:

S.No.	Section	Questions
1	Demographics	Age: 18-25, 26-35, 36-50, 50+ Gender: Male/Female/ Others Profession: Student/ Business/ Services/ Home-maker/Agriculture/ Retired persons/ Others No. of members in household: <2, 2-4, >4 Highest Education Qualification: High School/ Graduate/ Post- Graduate/ Others Monthly Income: <10,000/ 10,000-34,999/ 35,000-49,999/ 50000-74,999/ 75,000+ Any chronic disease? (Y/N)
2	Impacts of COVID-19	Do you feel more aware about self-healthcare after COVID-19 outbreak? Y/N Have you started using any immunity booster products post COVID-19 outbreak (Ayurvedic or Allopathic)? Y/N

		What all healthcare supplements are you aware about (Multiple Choice)? Whey Protein/ Multi-Vitamin tablets (Revital, etc.)/ Mass-gainer/Pro-biotic Drinks (Yakult)/ Milk-based Energy-drink mix (Boost, etc.)/ chyawanprash/ others What all healthcare supplements do you use (Multiple Choice)? Whey Protein/ Multi-Vitamin tablets (Revital, etc.)/ Mass- gainer/Pro-biotic Drinks (Yakult)/ Milk-based Energy-drink mix (Boost, etc.)/ chyawanprash/ NONE Do you feel COVID-19 had an impact on your monthly savings? (Y/N) How do you identify a change in your spending behaviour, post- COVID 19? (More conservative, price-sensitive/ more liberal, brand loyalist)
3	Behavioural Study	Rank your preference for action you'd take (Home Remedy/ A tired & tested OTC drug or topical/ OTC recommended by pharmacist/ visit a doctor/ resting and do nothing) in following situations: Headache Common Cold Gastric Disorder/indigestion Knee/back pain Allergy/Rashes/other skin related problem Reason for self-medication: To prevent inconvenience caused by COVID protocols to visit doctor Advice from a family member/ friend Advertisement of the desired product/Online reviews Previous positive results of the use of product

		Generic convenience of self-medication over visiting a doctor Which amongst following is likely to have the best effect for sore throat: Vicks/ Strepsils/ Cofsils/ Ascoril (Doctor's recommended) Which immune-booster are you more likely to purchase: ur Chyawanparash/ Himani Sona Chandi Chyawanprash/ Baidyanath/ Zandu Chyawanprash/ any allopathic product recommended by doctor Which OTC analgesic/remedy will you prefer (Rank): Patanjali Divya Swasari (Branding, Content) Dabur Honitus (Branding, content) Kadha Khabar-Surah-Kudineer (Content) Himalya Koflet (Branding) Benadryll (None) Reasons for the above ranking (Multiple choices): urvedic content/ Ayurvedic branding/ Brand-name/ positive outcomes in Previous-use/ advertisement or recommendation/ other
4	Purchase-decision study	How important is the following factor for the purchase of an OTC product (Rate)? Price Brand Packaging Positive- results from previous encounter Recommendation from family member/friend Recommendation from pharmacist Prescription by a doctor Online reviews Do you trust the advice of your pharmacist while purchasing a self- medication drug? Y/N Where would you like to purchase daily healthcare-supplements from: Pharmacy/ E-commerce/ Kirana shop/ Modern trade stores

Chapter-IV
DATA ANALYSIS AND INTERPRETATION

Overview:

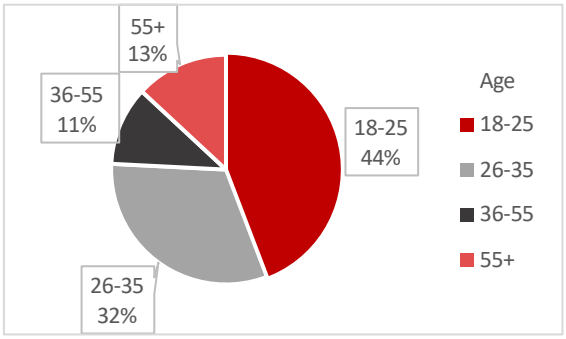
This section will provide with in-depth analysis of data and its interpretation which was collected as a part of this research, using the research instrument (questionnaire) discussed in research methodology. In total 405 valid responses were collected from Delhi-NCR region using JotForms.com- an online survey platform, which helps to create interactive survey questionnaire in the form of flash-cards. We imported the excel file (.csv) in IBM SPSS Statistics 25 software which helped us to interpret the data in descriptive statistics in terms of frequencies and percentage, and also helped to correlate and compare different factors using cross-tabulation, chi-square test analysis, etc.

Demographic Profiles of the Respondents:

Age

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	18-25	179	44.2	44.2	44.2
	26-35	128	31.6	31.6	75.8
	36-55	45	11.1	11.1	86.9
	55+	53	13.1	13.1	100.0
	Total	405	100.0	100.0	

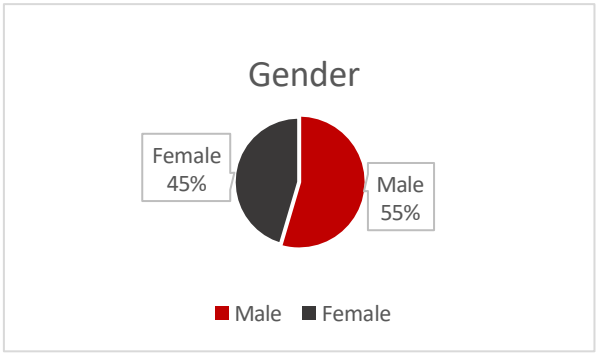
Table-1



Gender

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	Female	184	45.4	45.4	45.4
	Male	221	54.6	54.6	100.0
	Total	405	100.0	100.0	

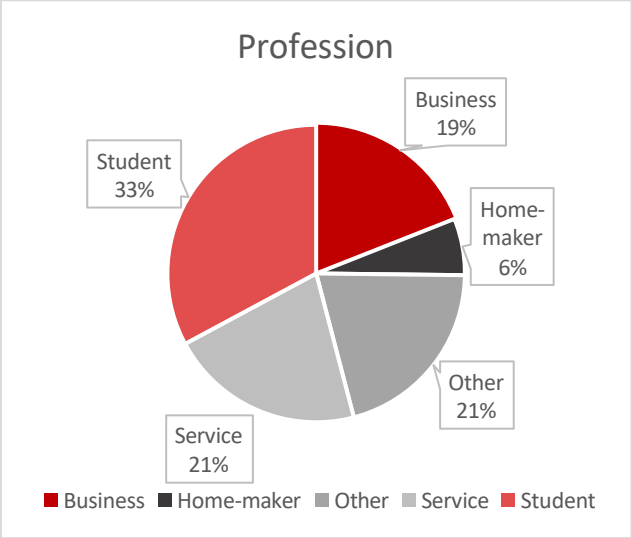
Table-2



Profession:

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	Business	77	19.0	19.0	19.0
	Home-maker	25	6.2	6.2	25.2
	Other	84	20.8	20.8	46.0
	Service	86	21.2	21.2	67.2
	Student	133	32.8	32.8	100.0
	Total	405	100.0	100.0	

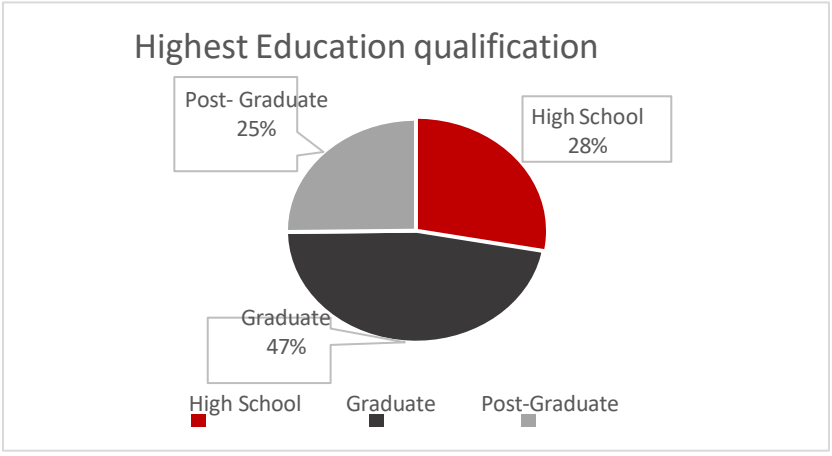
Table-3



Highest Qualification:

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	Graduate	190	46.9	46.9	46.9
	Post Graduate	102	25.2	25.2	72.1
	High School	113	27.9	27.9	100.0
	Total	405	100.0	100.0	

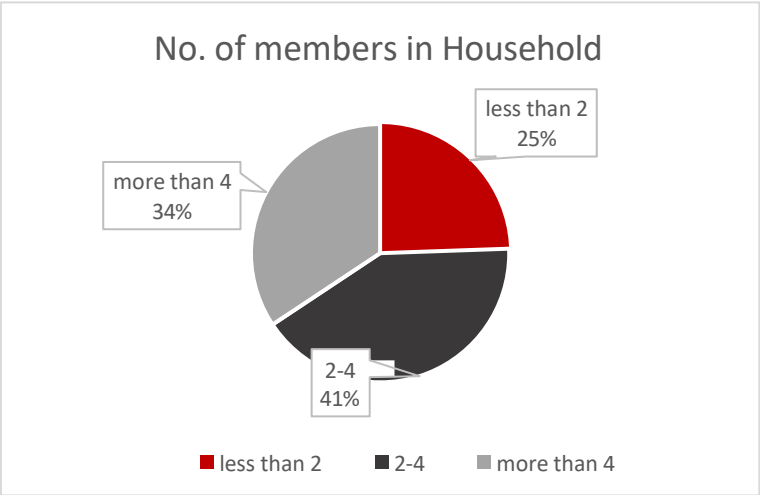
Table-4



No. of members in Household:

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	less than 2	99	24.4	24.4	24.4
	2-4	167	41.3	41.3	65.7
	more than 4	139	34.3	34.3	100.0
	Total	405	100.0	100.0	

Table-5



All the responses were fully filled in the survey forms; hence we were able to gather 405 valid responses. The demography of respondents is in consistency with that of National Capital Region. Furthermore, all the respondents are of the age group 18 and above with minimum educational qualification of High School so that they have understanding of self-medication and what is meant by Pharma OTC products and can exercise their knowledge & free-will to make an OTC purchase. The direct impact of demographic factors hasn't been taken under the scope of study of this research paper, however their link to different other parameters such as for example- Impact of "no. of household members" on Savings after the COVID-induced lockdown and its effect on the purchase behaviour of the respondent has been taken into consideration later in this paper.

Impact of COVID-19 Pandemic on Self-Health Care Awareness

A study done through descriptive analysis in IBM SPSS, yielded following output:

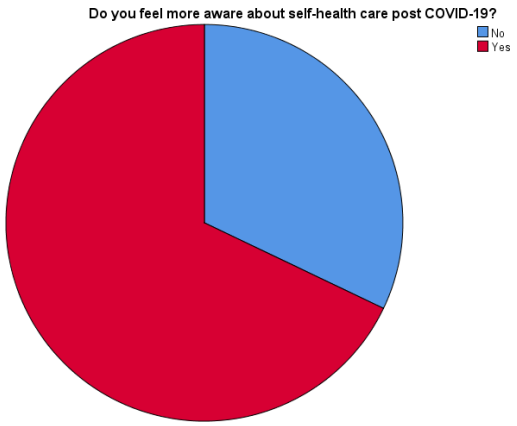
Do you feel more aware about self-health care post COVID-19?

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	No	130	32.1	32.1	32.1
	Yes	275	67.9	67.9	100.0
	Total	405	100.0	100.0	

Have you started using any immunity booster products post COVID-19 outbreak (Ayurvedic or Allopathic)?

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	No	204	50.4	50.4	50.4
	Yes	201	49.6	49.6	100.0
	Total	405	100.0	100.0	

Table-6



Awareness about self-health includes taking precautionary measures to prevent any future health-problem. This is the fundamental on which majority of pharma-OTC business relies on. Apart from physical maintenance of self-health, it includes (not limited to), purchase and use/intake of sanitation products, supplements, capsules, immunity booster drinks and tablets, Ayurvedic formulations like-Chyawanprash, etc.

On preliminary analysis of the data gathered from respondents, around 67.9% of the respondents agreed that they've felt more aware and concerned about self-health care after the pandemic, however, this awareness hasn't resulted into action as the respondents were equally divided on the opinion whether they've started using any immunity-booster products post-pandemic.

These data sets are inherently a representation of post-COVID change in the attitude of the consumers towards self-healthcare, and admission of 67.9% of respondents is the evidence of that change. However, due to lack of any pre-COVID data to compare the awareness quotient of the consumers before 2020, we can-not quantify how much percentage, or to what extent this change has happened but rather only qualitatively establish the hypothesis that ***COVID-19 pandemic had an impact on awareness about self-healthcare amongst consumers.***

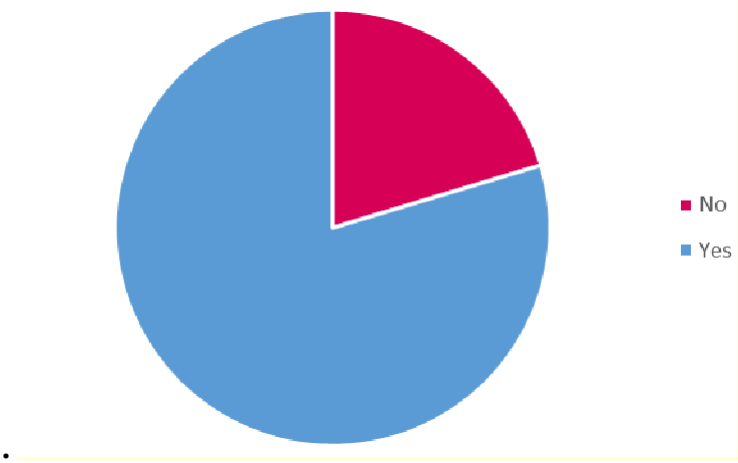
On a further analysis and cross-linking the above two data-sets, we get the following data:

Have you started using any immunity booster products post COVID-19 outbreak (Ayurvedic or Allopathic)?

Do you feel more aware about self-health care post COVID-19?			Frequency	Percent	Valid Percent	umulative Percent
No	Valid	No	102	78.5	78.5	78.5
		Yes	28	21.5	21.5	100.0
		Total	130	100.0	100.0	
Yes	Valid	No	56	20.4	20.4	20.4
		Yes	219	79.6	79.6	100.0
		Total	275	100.0	100.0	

Table-7

Have you started using any immunity booster products post COVID-19 outbreak (Ayurvedic or Allopathi



Do you feel more aware about self-health care post COVID-19?

We can see that out of those **respondents who agreed that they've felt more aware about their self-healthcare** (275, 67.9%), 79.6% (219) **has also started using new immunity booster product**s, which further confirms the finding that COVID-***19 pandemic had a positive impact on awareness about self-healthcare amongst consumers.***

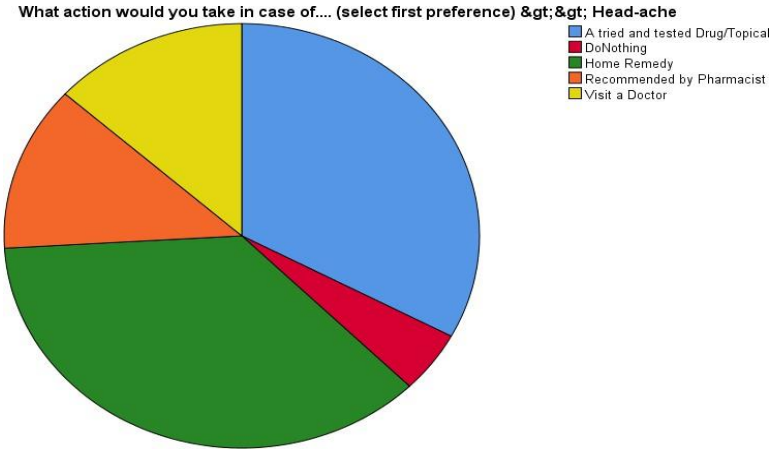
Self-medication (Use of OTC products) over doctor's prescription for common- ailments

What action would you take in case of...? (select first preference); Head-ache

Frequency			Percent	Valid Percent	umulative Percent
Valid	A tried and tested Drug/Topical	133	32.8	32.8	32.8
	Do Nothing	19	4.7	4.7	37.5
	Home Remedy	148	36.5	36.5	74.1

	Recommended by Pharmacist	51	12.6	12.6	86.7
	Visit a Doctor	54	13.3	13.3	100.0
	Total	405	100.0	100.0	

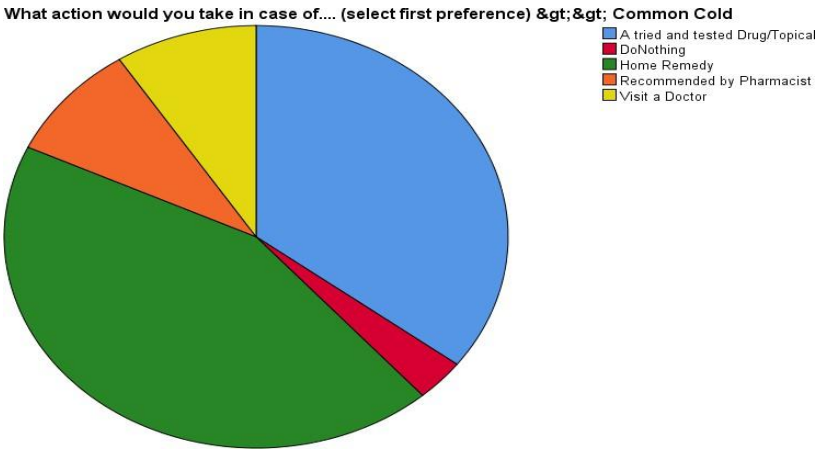
Table-8



What action would you take in case of...? (select first preference); Common Cold

Frequency			Percent	Valid Percent	umulative Percent
Valid	A tried and tested Drug/Topical	143	35.3	35.3	35.3
	Do Nothing	13	3.2	3.2	38.5
	Home Remedy	176	43.5	43.5	82.0
	Recommended by Pharmacist	36	8.9	8.9	90.9
	Visit a Doctor	37	9.1	9.1	100.0
	Total	405	100.0	100.0	

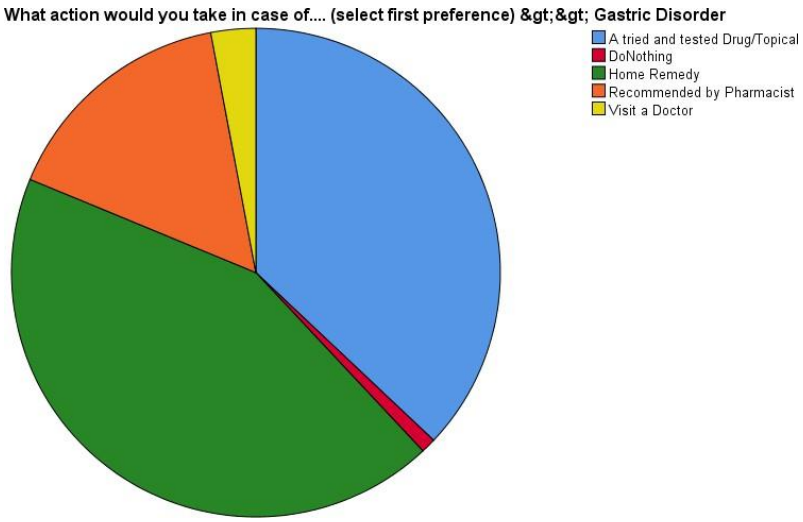
Table-9



What action would you take in case of...? (select first preference); Gastric Disorder

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A tried and tested Drug/Topical	150	37.0	37.0	37.0
	Do Nothing	4	1.0	1.0	38.0
	Home Remedy	175	43.2	43.2	81.2
	Recommended by Pharmacist	64	15.8	15.8	97.0
	Visit a Doctor	12	3.0	3.0	100.0
	Total	405	100.0	100.0	

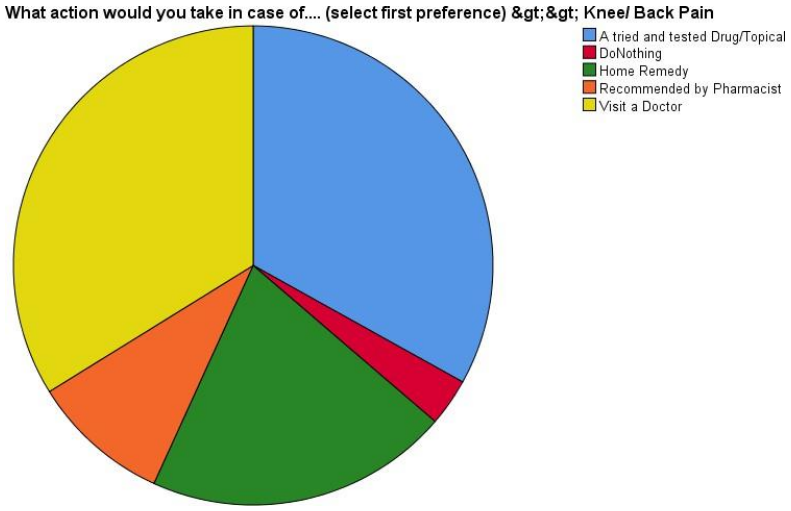
Table-10



What action would you take in case of (select first preference); Knee/ Back Pain

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A tried and tested Drug/Topical	134	33.1	33.1	33.1
	Do Nothing	13	3.2	3.2	36.3
	Home Remedy	83	20.5	20.5	56.8
	Recommended by Pharmacist	38	9.4	9.4	66.2
	Visit a Doctor	137	33.8	33.8	100.0
	Total	405	100.0	100.0	

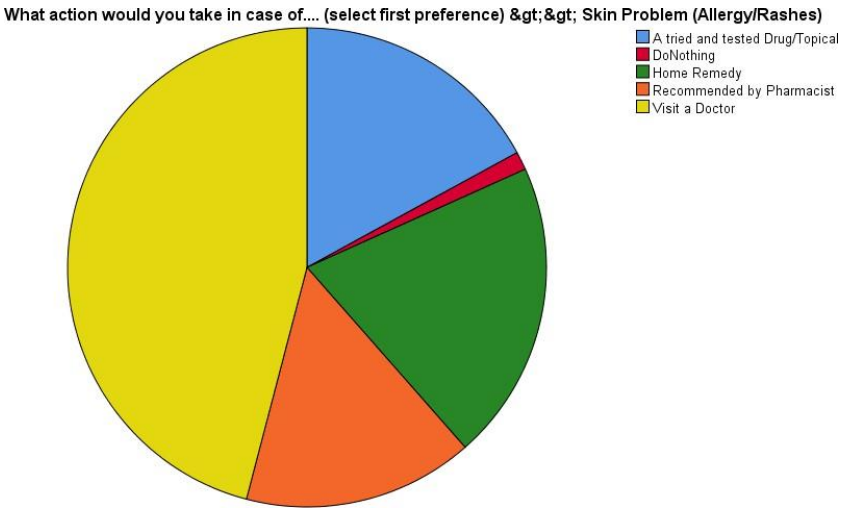
Table-11



What action would you take in case of (select first preference); Skin Problem (Allergy/Rashes)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A tried and tested Drug/Topical	69	17.0	17.0	17.0
	Do Nothing	5	1.2	1.2	18.3
	Home Remedy	82	20.2	20.2	38.5
	Recommended by Pharmacist	63	15.6	15.6	54.1
	Visit a Doctor	186	45.9	45.9	100.0
	Total	405	100.0	100.0	

Table-12



Five common ailments included for this research are- common cold, head-ache, gastric disorders, knee/back pain, skin-problems. For the first three, the normative belief of Indian consumers is to go for home-remedy or any kind of self-medication, however, for the latter two, due to complex nature of symptoms and a wide array of cause of those symptoms, it is natural for people to prefer doctor's advice over self-treatment from an OTC product.

The percentage of respondents favouring self-treatment through a tried & tested drug/topical

(highlighted in blue) or recommendation from Pharmacist (highlighted in grey) combined together is much greater (or almost equal- in case of skin ailments) than the percentage of respondents preferring a doctor's visit for the same issues.

When those respondents who opted for a tried and tested drug/topical, were asked for reason for trying self-medication, the following results were observed:

Reason for trying Self-Medication

				Percent	Valid Percent	umulative Percent
A tried and tested Drug/Topical	Valid	Advertisement of the desired product/Online reviews	32	21.3	21.3	21.3
		Advice from a family member/ friend	12	8.0	8.0	29.3
		Generic convenience of self-medication over visiting a doctor	33	22.0	22.0	51.3
		Previous positive results of the use of product	37	24.7	24.7	76.0
		To prevent inconvenience caused by COVID protocols to visit doctor	36	24.0	24.0	100.0
		Total	150	100.0	100.0	

Table-13

Hence, based on the responses received, we can say that ***consumers are more open to trying out self-medication and home-remedies over doctor's visit for common ailments*** but we **cannot** clearly attribute any reason behind this attitude, **nor** we could establish a link with the COVID19 pandemic, due to almost equally divided opinions of the respondents as well as, lack of any concrete pre- COVID19 data about the same.

Relationship between preference to self-medication and demographic factors

On running chi-quare test analysis in SPSS, to understand if there's a relationship between consumer's preference for self-medication with respect to their age-group and prevalence of any chronic disease (Hypertension, diabetes, etc.), we got the following output table:

Age * What action would you take in case of..... (select first preference) >> Common Ailment* Any chronic disease?

Crosstab

u take in case of...? (select first preference) > > Head-ache									
Any chronic disease?				A tried and tested Drug/Topical	Do-nothing	Home Remedy	Recommended by Pharmacist	Visit a Doctor	Total
No	Age	18-25	Count	56	17	68	6	31	178
			Expected Count	58.4	8.3	65.3	21.6	24.4	178.0
		26-35	Count	40	1	45	16	22	124
			Expected Count	40.7	5.8	45.5	15.1	17.0	124.0
		36-55	Count	10	0	15	14	0	39
			Expected Count	12.8	1.8	14.3	4.7	5.3	39.0
		55+	Count	21	0	14	11	0	46
			Expected Count	15.1	2.1	16.9	5.6	6.3	46.0
	Total		Count	127	18	142	47	53	387
			Expected Count	127.0	18.0	142.0	47.0	53.0	387.0
Yes	Age	18-25	Count	0	1	0	0	0	1
			Expected Count	.3	.1	.3	.2	.1	1.0
		26-35	Count	1	0	2	0	1	4
			Expected Count	1.3	.2	1.3	.9	.2	4.0
		36-55	Count	3	0	1	2	0	6
			Expected Count	2.0	.3	2.0	1.3	.3	6.0
		55+	Count	2	0	3	2	0	7

	Expected Count		2.3	.4	2.3	1.6	.4	7.0
	Total	Count	6	1	6	4	1	18
		Expected Count	6.0	1.0	6.0	4.0	1.0	18.0
Total	Age	18-25 Count	56	18	68	6	31	179
		Expected Count	58.8	8.4	65.4	22.5	23.9	179.0
		26-35 Count	41	1	47	16	23	128
		Expected Count	42.0	6.0	46.8	16.1	17.1	128.0
		36-55 Count	13	0	16	16	0	45
		Expected Count	14.8	2.1	16.4	5.7	6.0	45.0
		55+ Count	23	0	17	13	0	53
		Expected Count	17.4	2.5	19.4	6.7	7.1	53.0
	Total	Count	133	19	148	51	54	405
		Expected Count	133.0	19.0	148.0	51.0	54.0	405.0

Table-14

Chi-Square Tests

Any chronic disease?		Value	Df	ptotic Significance (2-sided)
No	Pearson Chi-Square	70.382[a]	12	.000
	Likelihood Ratio	82.559	12	.000
	N of Valid Cases	387		
Yes	Pearson Chi-Square	24.393[b]	12	.018
	Likelihood Ratio	14.400	12	.276
	N of Valid Cases	18		
Total	Pearson Chi-Square	76.563	12	.000
	Likelihood Ratio	90.663	12	.000
	N of Valid Cases	405		

a. 3 cells (15.0%) have expected count less than 5. The minimum expected count is 2.11.

b. 20 cells (100.0%) have expected count less than 5. The minimum expected count is 0.06.

Table-15

Initial null and alternate hypothesis assumed before running this test were as follows:

H0: There's no relationship between behavioural preference to self-medication for common ailments and prevalence of chronic disease amongst consumers.

H1: There exist a relationship between behavioural preference to self-medication for common ailments and prevalence of chronic disease amongst consumers

Here we can observe that for case a. (No chronic disease), the value of cells with expected count less than 5 is 15.0% (<20%), hence it is a valid assumption and we can look at the Pearson Chi-Square value to ascertain its relationship with the independent factor (to choose or not to choose self- medication). In

this case, value of significance factor, p= 0.000 <0.05, hence we reject the null hypothesis and accept alternate hypothesis.

Hence, there exist a relationship between behavioural preference to self-medication for common ailments and prevalence of chronic disease amongst consumers. By observing the output data table- 14, we can safely conclude that ***consumers below age of 35 and with low chances of chronic diseases are more likely to prefer self-medication for common ailments.***

Effect of COVID19 pandemic on savings and consumer buying behaviour for pharma OTC products.

- Effect of COVID-19 pandemic on monthly savings:

Do you feel COVID-19 had an impact on your monthly savings?

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	No	87	21.5	21.5	21.5
	Yes	318	78.5	78.5	100.0
	Total	405	100.0	100.0	

Table-16

- Effect of COVID-19 pandemic on spending behaviour for OTC products:

How do you identify a change in your spending behaviour for OTC PRODUCTS, post- COVID19?

		Frequency	Percent	Valid Percent	Cumulative Percent
	More conservative, price-sensitive	212	52.3	52.3	52.3
	More liberal, brand loyalist	86	21.3	21.3	73.6
	No change	107	26.4	26.4	100.0
	Total	405	100.0	100.0	

Table-17

Based on initial descriptive analysis, we can conclude that***, in general, COVID19 pandemic has had an impact on monthly savings of the respondents.*** We can also, conclude that majority of the respondents feel that ***they've become more conservative and price-sensitive when it comes to purchase of OTC products post COVID19***.

On running chi-quare test analysis in SPSS, to understand if there exist a relationship between these two conclusions, we got the following output table:

Initial null and alternate hypothesis assumed before running this test were as follows:

H0: There's no relationship between impact of COVID19 on monthly savings of the respondents and change in the consumer spending behaviour for OTC products post COVID19 pandemic.

H1: There exist a relationship between impact of COVID19 on monthly savings of the respondents and change in the consumer spending behaviour for OTC products post COVID19 pandemic.

How do you identify a change in your spending behaviour for OTC products, post-COVID 19? * Do you feel COVID-19 had an impact on your monthly savings? Crosstabulation

			Do you feel COVID-19 had an impact on your monthly savings?		
			No	Yes	Total
How do you identify a change in your spending behaviour, post-COVID 19?	More conservative, price-sensitive	Count	37	175	212
		Expected Count	45.5	166.5	212.0
	More liberal, brand loyalist	Count	22	64	86
		Expected Count	18.5	67.5	86.0
	No change	Count	28	79	107
		Expected Count	23.0	84.0	107.0
Total		Count	87	318	405
		Expected Count	87.0	318.0	405.0

Table-18

Chi-Square Tests

Value		Df	)tic Significance (2- sided)
Pearson Chi-Square	4.290[a]	2	.117
Likelihood Ratio	4.292	2	.117
N of Valid Cases	405		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 18.47.

Table-19

Here we can observe that the value of cells with expected count less than 5 (a.) is 0.0% (<20%), hence it is a valid assumption and we can look at the Pearson Chi-Square value to ascertain its relationship with the independent factor (to choose or not to choose self-medication). In this case, value of significance factor, p= 0.117 >0.05, hence we do not reject the null hypothesis.

Therefore, we ***couldn't establish a link*** between the two conclusions hence, *the effect on monthly savings post COVID19, may or may not be responsible for change in consumer behaviour for purchase of OTC products.*

Relationship between Brand name and expected outcome of an OTC product by a consumer

For a common ailment- sore throat, respondents were asked to rate the effectiveness (on a scale of 1 to 5) for 4 different cough-drops (lozenges) (Pharma OTC product) based on their previous use/perception about the brand. Out of 4, 3 brands which are popular and readily available at chemist stores/general stores were selected and a fourth (Ascoril) lesser popular brand, but recommended by general physician was also put in the questionnaire.

When the responses from the survey were run for Descriptive Statistics, we received the following Output data:

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Likely effect of the following OTC products on a sore-throat? > > Vicks	405	1	5	3.96	1.077	-1.029	.121
Likely effect of the following OTC products on a sore-throat? > > Cofsils	405	1	5	2.86	1.222	.153	.121
Likely effect of the following OTC products on a sore-throat? > > Strepsils	405	1	5	3.15	1.197	-.202	.121
Likely effect of the following OTC products on a sore-throat? > > Ascoril (Doctor recommended)	405	1	5	2.76	1.084	.135	.121
Valid N (listwise)	405						

Table-20

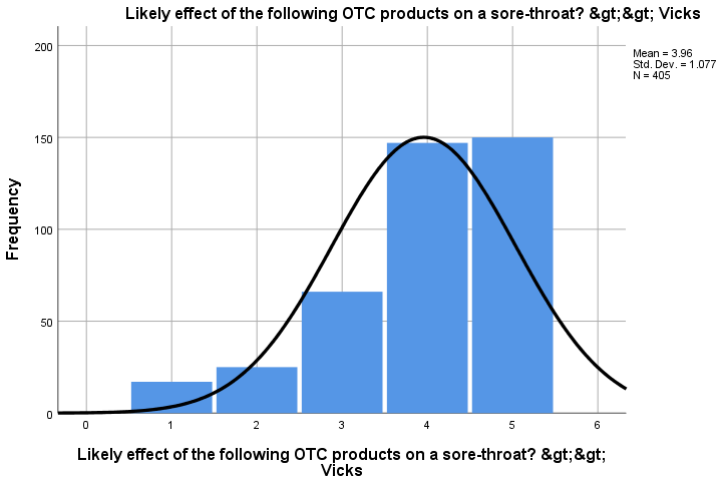
Frequencies

Likely effect of the following OTC products on a sore-throat? > > Vicks

	Frequency		Percent	Valid Percent	Cumulative Percent
Valid	1	17	4.2	4.2	4.2
	2	25	6.2	6.2	10.4

	3	66	16.3	16.3	26.7
	4	147	36.3	36.3	63.0
	5	150	37.0	37.0	100.0
	Total	405	100.0	100.0	

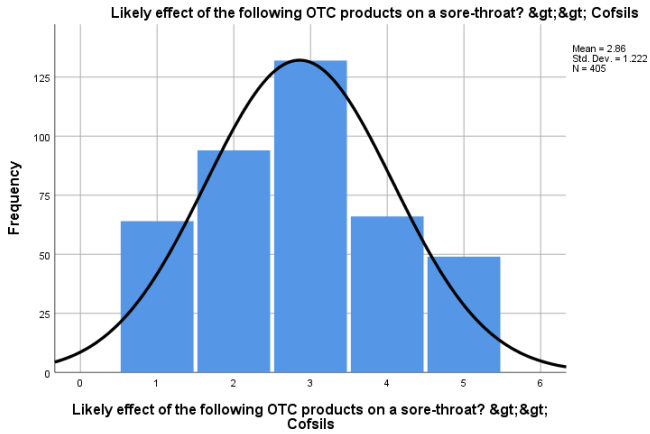
Table-21



Likely effect of the following OTC products on a sore-throat? > > Cofsils

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	1	64	15.8	15.8	15.8
	2	94	23.2	23.2	39.0
	3	132	32.6	32.6	71.6
	4	66	16.3	16.3	87.9
	5	49	12.1	12.1	100.0
	Total	405	100.0	100.0	

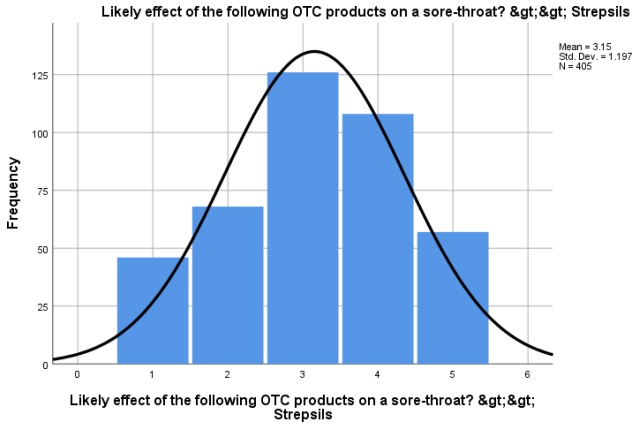
Table-22



Likely effect of the following OTC products on a sore-throat? > > Strepsils

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	1	46	11.4	11.4	11.4
	2	68	16.8	16.8	28.1
	3	126	31.1	31.1	59.3
	4	108	26.7	26.7	85.9
	5	57	14.1	14.1	100.0
	Total	405	100.0	100.0	

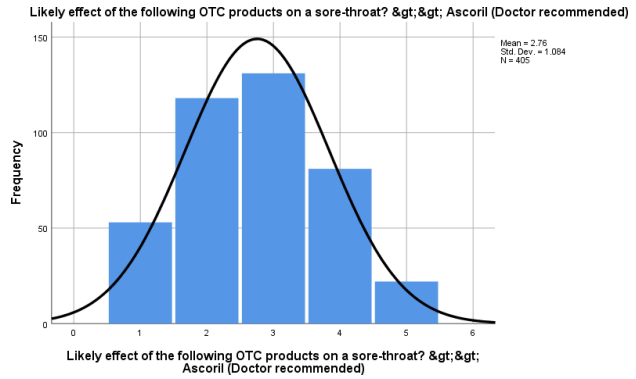
Table-23



Likely effect of the following OTC products on a sore-throat? Ascoril (Doctor recon.)

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	1	53	13.1	13.1	13.1
	2	118	29.1	29.1	42.2
	3	131	32.3	32.3	74.6
	4	81	20.0	20.0	94.6
	5	22	5.4	5.4	100.0
	Total	405	100.0	100.0	

Table-24



As we can see, the highest mean rating was received by Vicks (3.96) followed by Strepsils (3.15), and Cofsils (2.86). These top-3 brands as per the survey are also the popular three brands which are widely

available at different medical/kirana stores, and Ascoril (doctor's recommended) had a mean effectiveness rating of 2.76/5, which shows that despite the doctor's advisory, when it comes to making a buying decision for a common ailment- treatment OTC product like lozenges, cough-drops, ointments, capsules, etc., brand is the major deciding factor and people tend to go with a brand which has a strong normative belief of being an effective product. We can also conclude that ***consumers are more likely to expect a favourable outcome for using an OTC product of a well-known brand than an unknown brand.***

Ayurvedic Content and Branding for OTC products:

We know how Ayurvedic treatments- herbs & medicines have been an integral part of a typical Indian household, which is also the fact behind the success stories of brands like Patanjali and Himalaya. This preference and acceptance for Ayurvedic as an alternative to allopathic medicines has grown in the past few years with the establishment of ***AYUSH Mantralaya*** (Ministry of AYUSH) for Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy treatments by the incumbent government.

To assess the importance of Ayurvedic factor (synonymous to- natural for some), we've asked the respondents to choose their preferred cough syrup brand (OTC product):

a) Patanjali Divya Swasari (Ayurvedic- Branding, Content)
b) Dabur Honitus (Ayurvedic- Branding, content)
c) Kadha Khabar-Surah-Kudineer (Ayurvedic Content)
d) Himalya Koflet (Ayurvedic Branding)
e) Benadryll (None but trusted brand name)

This was followed by asking them reason for their previous choice as follows:

Ayurvedic content/ Ayurvedic branding/ Brand-name/ positive outcomes in Previous-use/ Advertisement or recommendation/ Other

The following responses were received:

Which OTC- cough syrup will you purchase for sore throat?

Frequency			Percent	Valid Percent	umulative Percent
Valid	Dabur Honitus	133	32.8	32.8	32.8
	Himalya Koflet	39	9.6	9.6	42.4
	Kadha Khabar-Surah-Kudineer	25	6.2	6.2	48.6
	Benadryl	134	33.1	33.1	81.7
	Patanjali Divya Swasari	74	18.3	18.3	100.0
	Total	405	100.0	100.0	

Table-25

For analysing the Ayurvedic factor on purchase decision/consumer preference, we ran 2X2 Chi- square test and analysis. For the same purpose we clubbed the brands into two groups:

- **Group1: Non- Ayurvedic Brands:** Benadryl, Himalaya Koflet
- **Group2: Ayurvedic Brands:** Patanjali Divya Swasari, Dabur Honitus, Kadha Khabar- Surah-Kudineer

Similarly, the reason for preference were also divided into two categories to run 2X2 Chi-square test, as follows:

- **Group 1:** Ayurvedic content/ Ayurvedic branding
- **Group 2:** Brand-name/ positive outcomes in Previous-use/ Advertisement or recor

Initial null and alternate hypothesis assumed before running this test were as follows:

H0: Ayurvedic branding/content does not play a role in deciding the purchase behaviour for OTC products.

H1: Ayurvedic branding/content does play a role in deciding the purchase behaviour for OTC products.

When we run the chi-square test, following output was obtained:

			Reason_for_preference		
			1	2	Total
Preferred_Cough_Syrup	1	Count	143	5	148
		Expected Count	124.0	24.0	148.0
	2	Count	74	37	111
		Expected Count	93.0	18.0	111.0
Total		Count	217	42	259
		Expected Count	217.0	42.0	259.0

Table-26

Chi-Square Tests

Value		df	Asymptotic Significance (2-sided)	act Sig. (2-sided)	act Sig. (1-sided)
Pearson Chi-Square	41.890[a]	1	.000		
Continuity Correction[b]	39.714	1	.000		
Likelihood Ratio	44.584	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	41.728	1	.000		
N of Valid Cases	259				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 18.00.

b. Computed only for a 2x2 table

Table-27

Here we can observe that the value of cells with expected count less than 5 (a.) is 0.0% (<20%), hence it is a valid assumption and we can look at the Pearson Chi-Square value to ascertain a relationship

between the two factors. In this case, value of significance factor, p= 0.00 <0.05, hence we reject the null hypothesis and accept the alternate hypothesis, i.e., Ayurvedic branding/content does play a role in deciding the purchase behaviour for OTC products.

Based on above finding and Data from table-26, we can conclude that ***The OTC products for common ailments which have Ayurvedic branding or ingredient(s) are more likely to be purchased than products which have neither.***

Preference for Health Supplements: Allopathic vs Ayurvedic

Respondents were asked their likeliness to purchase certain types of Immunity boosters (a category of Healthcare supplements in Pharma OTC products), these were as follows:

- Dabur Chyawanparash
- Himani Sona Chandi Chyawanprash
- Baidya Nath
- Zandu Chyawanprash
- Any allopathic product recommended by doctor

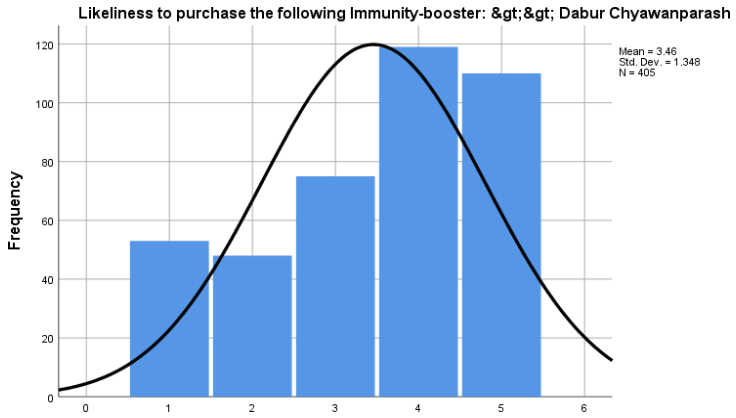
We received the following Output when data from responses was run in SPSS for descriptive Statistics:

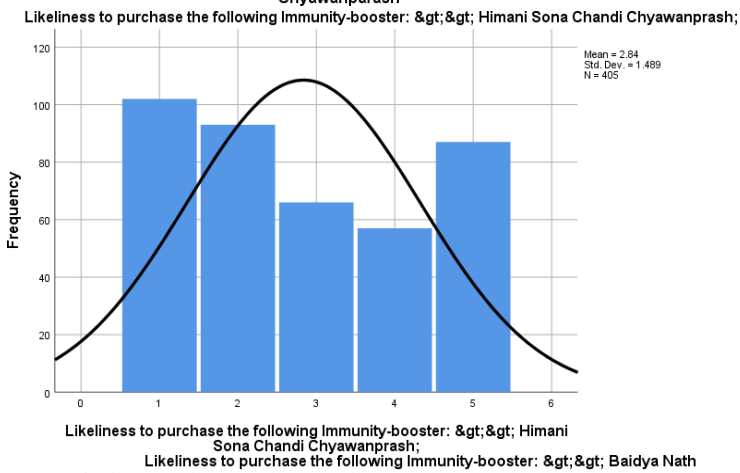
Descriptive Statistics

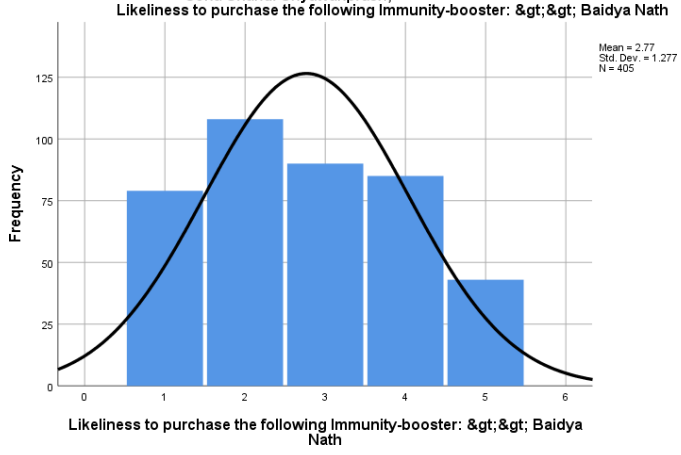
	N	Minimum	Maximum	Mean	d. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Likeliness to purchase the following Immunity-booster: ````````; Dabur Chyawanparash	405	1	5	3.46	1.348	-.526	.121
Likeliness to purchase the following Immunity-booster: Himani Sona Chandi Chyawanprash;	405	1	5	2.84	1.489	.214	.121
Likeliness to purchase the following Immunity-booster: Baidya Nath	405	1	5	2.77	1.277	.189	.121
Likeliness to purchase the following Immunity-booster: Zandu Chyawanprash;	405	1	5	2.61	1.249	.582	.121

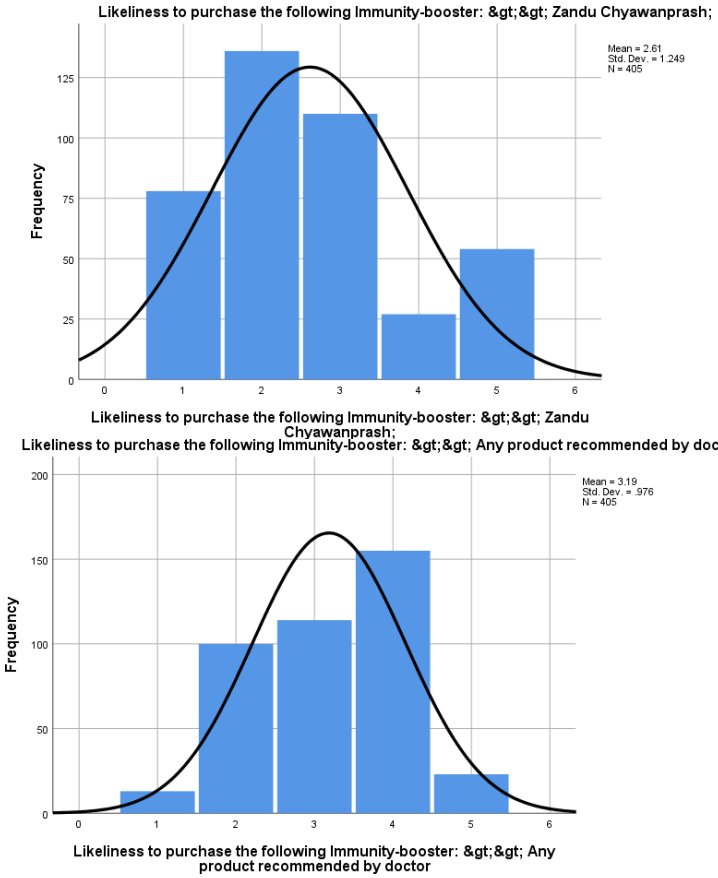
Likeliness to purchase the following Immunity-booster: Any allopathic product recommended by doctor	405	1	5	3.19	.976	-.218	.121
Valid N (listwise)	405						

Table-28









We can see that the ratings are highest for Dabur Chyawanprash (3.46/5) which not only is the oldest and most popular brands in the OTC immunity-booster segment in India, but also holds a market share of around 60%, hence the most popular choice for the respondents. It is followed by the second highest-likeliness rating for "Any allopathic product recommended by doctor" (3.19/5) which shows that in category of health supplements, Indian consumers still prefer doctor's advisory and recommendation and not just the Ayurvedic Branding/Content as shown by the rest of product choices in the list. They need a sense of trust which either originates from an age old-brand having strong socio-normative belief of effectiveness, or from advisory by a professional (in this case a doctor).

Hence, *we can **reject** the assumption that Ayurvedic OTC healthcare Supplements are more likely to be purchased by the consumers over allopathic supplements*, rather, it's the recommendation of a doctor that can in-still trust in the minds of consumers and can drive purchase behaviour for such Pharma OTC healthcare supplements- segment.

Preferred Channel for Purchase of Pharma-OTC products, and relationship with demographics

We asked the respondents to tell their preferred channel for purchase of Pharma-OTC products, namely-health supplements, and we got following output:

Initial analysis confirms that majority of respondents will prefer a pharmacy to purchase OTC products like healthcare supplements, however the second highest preference was given to e- commerce channels over both Kirana and modern trade stores, which is due to evident expansion of e-commerce in the past one year as an outcome of COVID-19 pandemic.

To further relate this data with the demography, we run a Chi-square analysis test to relate preferred channel for purchase with age group and see if there's any relationship between the two factors.

When we run the chi-square test, following output was obtained:

Age * Where would you like to purchase daily healthcare-supplements from? Crosstabulation

			Where would you like to purchase daily healthcare-supplements from?				
			E-commerce	Kirana shop	Modern Trade	Pharmacy	Total
Age	18-25	Count	55	13	34	77	179
		Expected Count	53.0	10.2	30.9	84.9	179.0
	26-35	Count	36	3	21	68	128
		Expected Count	37.9	7.3	22.1	60.7	128.0
	36-55	Count	15	1	7	22	45
		Expected Count	13.3	2.6	7.8	21.3	45.0
	55+	Count	14	6	8	25	53
		Expected Count	15.7	3.0	9.2	25.1	53.0
Total		Count	120	23	70	192	405
		Expected Count	120.0	23.0	70.0	192.0	405.0

Table-29

Chi-Square Tests

Value		df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.995a	9	.351
Likelihood Ratio	10.257	9	.330
N of Valid Cases	405		

a.2 cells (12.5%) have expected count less than 5. The minimum expected count is 2.56. Table-30

Initial null and alternate hypothesis assumed before running this test were as follows:

H0: There's no relationship between consumer's age and his/her preferred channel for purchasing an OTC product- mainly Healthcare supplements.

H1: There exists a relationship between consumer's age and his/her preferred channel for purchasing an OTC product- mainly Healthcare supplements.

In the output, we observed that the value of cells with expected count less than 5, (a.), is 12.5% (<20%), hence it is a valid assumption and we can look at the Pearson Chi-Square value to ascertain a relationship between the two factors.

In this case, value of significance factor, p= 0.351>0.05, hence we accept the null hypothesis and reject the alternate hypothesis.

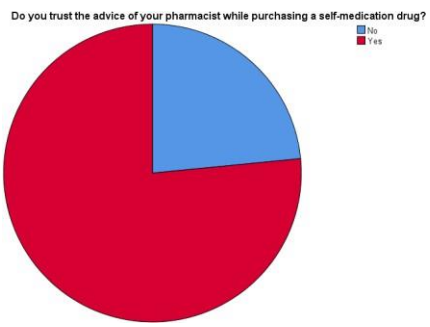
Hence, we can conclude that ***preferred channel for purchase of an OTC product is not decided by the demographic factor***, Table-29, although suggests that the younger generations (consumers age group 18-25 & 26-35) have higher preference for the e-commerce channels as compared to other age- groups but still it is not conclusive enough to establish a link between age and preferred channel for purchase of OTC product.

Effect of recommendation by Pharmacist on driving the purchase for pharma OTC product (mainly self-mediation drug- tablets/capsules)

Do you trust the advice of your pharmacist while purchasing a self-medication drug?

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	No	95	23.5	23.5	23.5
	Yes	310	76.5	76.5	100.0
	Total	405	100.0	100.0	

Table-31



Since, 76.5% respondents felt that yes, they do trust their pharmacist's advice while purchasing OTC medicines, hence we can say that ***if a self-medication is recommended by a pharmacist then consumer is more likely to purchase it***.

Analysing the importance of different factors in driving purchase behaviour for pharma-OTC products:

In the last question, we asked respondents to rank eight different factors in terms of their importance while making purchase decision for a pharma OTC-product. These factors were:

- Price
- Brand
- Packaging
- Positive- results from previous encounter
- Recommendation from family member/friend
- Recommendation from pharmacist
- Prescription by a doctor
- Online reviews

This ranking data was run through descriptive statistics in SPSS so as to obtain frequencies of different factors in each category of ranking:

How important is the following factor for the purchase of an OTC product (Rank 1)?

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	1 Brand	30	7.4	7.4	7.4
	1 Packaging	4	1.0	1.0	8.4
	1 Positive- results from previous encounter	175	43.2	43.2	51.6
	1 Prescription by a doctor	98	24.2	24.2	75.8
	1 Price	66	16.3	16.3	92.1
	1 Recommendation from family member/friend	22	5.4	5.4	97.5
	1 Recommendation from pharmacist	10	2.5	2.5	100.0
	Total	405	100.0	100.0	

Table-32

Rank2

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	2 Brand	91	22.5	22.5	22.5
	2 Packaging	7	1.7	1.7	24.2
	2 Positive- results from previous encounter	112	27.7	27.7	51.9
	2 Prescription by a doctor	56	13.8	13.8	65.7

	2 Price	34	8.4	8.4	74.1
	2 Recommendation from family member/friend	57	14.1	14.1	88.1
	2 Recommendation from pharmacist	48	11.9	11.9	100.0
	Total	405	100.0	100.0	

Table-33

Rank3

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	3 Brand	67	16.5	16.5	16.5
	3 Online reviews	6	1.5	1.5	18.0
	3 Packaging	29	7.2	7.2	25.2
	3 Positive- results from previous encounter	50	12.3	12.3	37.5
	3 Prescription by a doctor	49	12.1	12.1	49.6
	3 Price	42	10.4	10.4	60.0
	3 Recommendation from family member/friend	98	24.2	24.2	84.2

	3 Recommendation from pharmacist	64	15.8	15.8	100.0
	Total	405	100.0	100.0	

Table-34

Rank4

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	4 Brand	82	20.2	20.2	20.2
	4 Online reviews	12	3.0	3.0	23.2
	4 Packaging	48	11.9	11.9	35.1
	4 Positive- results from previous encounter	31	7.7	7.7	42.7
	4 Prescription by a doctor	28	6.9	6.9	49.6
	4 Price	54	13.3	13.3	63.0
	4 Recommendation from family member/friend	70	17.3	17.3	80.2
	4 Recommendation from pharmacist	80	19.8	19.8	100.0
	Total	405	100.0	100.0	

Table-35

Rank5

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	5 Brand	40	9.9	9.9	9.9
	5 Online reviews	37	9.1	9.1	19.0
	5 Packaging	75	18.5	18.5	37.5
	5 Positive- results from previous encounter	27	6.7	6.7	44.2
	5 Prescription by a doctor	16	4.0	4.0	48.1
	5 Price	85	21.0	21.0	69.1
	5 Recommendation from family member/friend	89	22.0	22.0	91.1
	5 Recommendation from pharmacist	36	8.9	8.9	100.0
	Total	405	100.0	100.0	

Table-36

Rank6

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	6 Brand	53	13.1	13.1	13.1
	6 Online reviews	26	6.4	6.4	19.5
	6 Packaging	70	17.3	17.3	36.8
	6 Positive- results from previous encounter	10	2.5	2.5	39.3
	6 Prescription by a doctor	15	3.7	3.7	43.0
	6 Price	66	16.3	16.3	59.3
	6 Recommendation from family member/friend	43	10.6	10.6	69.9
	6 Recommendation from pharmacist	122	30.1	30.1	100.0
	Total	405	100.0	100.0	

Table-37

Rank7

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	7 Brand	36	8.9	8.9	8.9
	7 Online reviews	46	11.4	11.4	20.2
	7 Packaging	85	21.0	21.0	41.2
	7 Prescription by a doctor	140	34.6	34.6	75.8
	7 Price	34	8.4	8.4	84.2
	7 Recommendation from family member/friend	26	6.4	6.4	90.6
	7 Recommendation from pharmacist	38	9.4	9.4	100.0
	Total	405	100.0	100.0	

Table-38

Rank8

Frequency			Percent	Valid Percent	Cumulative Percent
Valid	8 Brand	6	1.5	1.5	1.5
	8 Online reviews	278	68.6	68.6	70.1
	8 Packaging	87	21.5	21.5	91.6
	8 Prescription by a doctor	3	.7	.7	92.3

	8 Price	24	5.9	5.9	98.3

	8 Recommendation from pharmacist	7	1.7	1.7	100.0
	Total	405	100.0	100.0	

Table-39

The final ranking for the factors was arrived by taking the factor with highest frequency in each ranking and if a factor has highest frequency in two ranks, the upper ranking was selected for that factor; for lower-ranking- factor with the second highest frequency was selected.

1. **Positive- results from previous encounter**
2. **Brand**
3. **Recommendation from family member/friend**
4. **Recommendation from pharmacist**
5. **Price**
6. **Packaging**
7. **Prescription by a doctor**
8. **Online reviews**

It is clearly evident from the results that the biggest driving factor for pharma-OTC products is repurchase after satisfactory initial use(s), and the second important factor which is the Brand name is kind of crucial in driving the purchase behaviour for the consumers of pharma-OTC products. Hence, we can say ***consumer's awareness about brand of an OTC product is more dominant than any other factor in driving purchase intention for a new product***.

This is followed by Recommendation from family/friend and pharmacist indicating how the consumer behaviour for buying a pharma OTC-product is strongly influenced by others and hence can be said to be driven by strong socio-normative belief about the brand/product. Price and packaging are the secondary factors, that means, once acquired, it is not easy to switch the customer from a brand based on just price-point or overall presentational appeal of the product. Doctor's and Online reviews also have little to no-influence in driving the sales for pharma-OTC products unlike the Rx (*prescription-based*)-products.

Chapter-V
RESULTS, CONCLUSION AND RECOMMENDATION

Overview:

In this section we have summarized the major findings and analysis of the data obtained for this study and their managerial implications for the companies and consultants. It will also discuss the limitations and future scope of this study for the benefit of marketers, academics and consultants.

Summary of the Research Findings:

COVID19 pandemic has been one of its kind situations that was faced by people across the globe. In a way, we can say it has been a defining event of the 21st century because of how it challenged and restricted the existence of human beings as a species. And even though, we are recovering from the effects of the pandemic at socio-economic level, we can say that it has changed the perspective of people and has influenced the consumer behaviour irreversibly.

However, being an on-going phenomenon, there are very limited number of researches that have been carried out to study these changes in the consumer-behaviour for pharma-OTC products, and what are

the emergent trends in the industry. In an essence, we've tried to capture, understand and analyse these changes with the medium of this research. The first and second hypotheses tested were to understand the impact of COVID19 Pandemic on self-healthcare awareness of the consumers and we've found that **it has a positive impact on general awareness about self-healthcare amongst consumers.** They have started purchasing the products like- health supplements, immunity boosters, etc. along with purchasing the OTC medicines for common ailments- rather than preferring just rest and home remedies. **Consumers are more open to trying out self-medication and home-remedies over doctor's visit for common ailments**, but the reason for preference to self-medication is not much clear and couldn't be linked to COVID19 pandemic directly due to lack of pre-pandemic data about the consumer behaviour.

When we related preference of self-medication with demography of the respondents, we concluded that **consumers below age of 35 and with low chances of chronic diseases are more likely to prefer self-medication for common ailments.**

Also, COVID19 pandemic and restrictions to free business, market etc. that happened in 2020 due to lockdowns have **impacted the monthly savings of the consumers**, which may or may not have resulted in change of consumer behaviour in terms of spending pattern. But one thing is for sure, consumers have become more price-sensitive and conservative in their approach.

The consumers are more likely to expect a **favourable outcome** from an OTC product, if it comes from a **renowned/well-established brand** than an unknown brand. It was also observed that Ayurvedic branding/content does play a role in deciding the purchase behaviour for OTC products. **The OTC products for common ailments which have Ayurvedic branding or ingredient(s) are more likely to be purchased than products which have neither.**

However, for OTC healthcare supplements, Ayurvedic content/branding doesn't hold much importance rather it's the **recommendation of a doctor** that can in-still trust in the minds of consumers and **can drive purchase behaviour for Pharma OTC healthcare supplements**- segment.

When respondents were asked about their preferred channel of purchase for pharma-OTC products, we were able to establish that preferred channel for purchase of an OTC product is not decided by the demographic factor however the majority of respondents confirmed **pharmacy to be most preferred channel, followed by e-commerce**. Also, ***if a self-medication is recommended by a pharmacist then consumer is more likely to purchase it***.

Finally, when we analysed the rankings for different factors that consumers consider for purchase of pharma OTC products, we got the analysis that the biggest driving factor for pharma-OTC products is repurchase after satisfactory initial use(s), however **consumer's awareness about the brand of an OTC product is more dominant than any other factor in driving purchase intention for a new product.**

Managerial Implications:

The findings of this research will be helpful to marketers to understand the dynamic changes in consumer behaviour post- COVID19 pandemic for purchasing pharma OTC-products in Indian market, and more specifically in Delhi-NCR Region. Understanding these changes will help in formulating appropriate strategy for the 3C's customers, competitors and the company itself.

Some specific suggestions are listed as follows:

a. The shift towards self-medication for Indian consumers has got a rapid boost, post-pandemic. The acceptance for pharma-OTC products is increasing rapidly as an alternative to doctor's appointments and home remedies due to effectiveness and convenience. Hence, the conventional pharma R&D and

Sales companies who earlier only ventured into the conventional business of Rx- drugs, can venture into this segment. They can use their already disposable R&D wing to develop new products in this segment to cater to the untapped potential and create a blue-ocean team as required for this new segment.

b. For the companies not having a presence in pharma-OTC Sector, they can start with OTC drugs/medicines for common ailments such as common cold, head-ache, gastric disorders, etc. They can make syrups, lozenges, cough-drops, ointment, etc. For the companies having well-established OTC presence (like- CiplaHealth for Cipla, Dabur, Emami), can focus on moving towards catering to daily health-care and supplement needs of the consumers.

c. For the existing companies, competing in the Pharma-OTC sector, could play on price-point because of the general attitude of consumers being more conservative and price-sensitive for making the purchase decision. They can also follow the limit-pricing strategy in order to prevent consumers from switching and keeping the entry-barriers for new entrants high, and aim for attaining the market-dominance to create a monopoly price and benefit from it.

d. Brand name plays a significant role in driving the purchase intention for pharma-OTC segment as came out in the research. Hence for the new entrants, the strategic focus should be on building a brand name instead of capturing the market-share or focussing on profits. Once established and build a brand reputation for a particular category of product, they can think for building a brand-portfolio through line- and category- extensions. For existing players, they need to focus on their marketing-strategy to keep occupying the association in consumer's minds and introduce new products within the same brand name. e.g.- how Cipla Health, utilized its brand's credibility when they ventured into the market of Hand-sanitizers & disinfectants by the name "CIP-Hands".

2. Similarly, Sun-Pharma can venture into different healthcare supplements under the umbrella brand of "*Revital*" which provides only Ginseng & vitamin capsules for now.

a. For marketing and communication of Healthcare supplements under pharma-OTC products the companies can collaborate with medical professional- doctors and pharmacists to communicate and reach out to the target audience because as evident from the outcome of the research, these secondary factors (recommendation by Doctors and pharmacists) highly influence the purchase-decision for pharma-OTC products, especially the health-care supplements. A live-example is of how Sensodyne effectively used Dentists to build a brand from scratch and communicate their brand proposition to the target audience.

b. Ayurvedic factor plays an important role, now more than ever, in driving the purchase intention for the Indian consumers. Companies can achieve this either through Ayurvedic branding or components(ingredients) in the manufacturing of the product or both. They can do it by either completely integrating it in the core product offering or by adding the Ayurvedic variant as a different product altogether in their product portfolio. e.g.- How Vicks cough- drops (lozenges) developed different variants based on Ayurvedic component used- Ginger/Tulsi/Honey.

c. Despite the surge in e-commerce users and people shifting to home delivery, pharma-OTC consumers still by large prefer the conventional pharmacy and GT-Stores for purchasing the common ailment related products. For health-care supplements and other OTC-products as well, the consumers will prefer a nearby pharmacy over e-commerce, however, for lifestyle OTC products, the consumers might also look for e-commerce platforms for better discounts and convenience. Hence, the company's strategy should be to build a strong value-chain in the marketplace with on-time

logistics and reverse-logistics for greater product visibility and availability in the nearest pharmacies for target consumers; with gradual shift and focus on online e-commerce tie-ups and partnerships. The companies can also focus on D2C (Direct to Customer) channels in the future, however the current market does not have the need or demand for these types of channels for pharma OTC Products.

The Strategy Diamond:

To understand how the different strategies and recommendations made in previous section, let's see how all of these will collectively fit together in an organization's overall strategy to gain market dominance in the pharma-OTC industry using **Donald Hambrick and James Fredrickson' s Strategy Diamond:**

ARENAS
STAGING
ECONOMIC LOGIC
VEHICLES
DIFFERENTIATORS

ARENAS:

- **Product categories** that we'll compete in: Pharma OTC-products (Common-Ailment cures, Healthcare supplements, disinfectants & sanitizers, lifestyle OTC products)
- **Channels** we'll use: Pharmacies and e-commerce
- **Target Market:** Self- health aware consumers between the age group of 18-35 with low chances of chronic disorders
- **Geographical target:** Urban cities and metros with 10 LP+ population
- **Value-creation:** Improving day-to-day life of our consumers

VEHICLES:

- **Build In-house:** for conventional pharma Rx- companies (Lupin, Dr. Reddy's)
- **Franchising:** for new entrants/existing new firms (Cipla Health Ltd.- OTC subsidiary of Cipla Pharmaceuticals)
- **Acquisition:** for existing giants (Sun Pharma's- Revital/Volini, etc.)

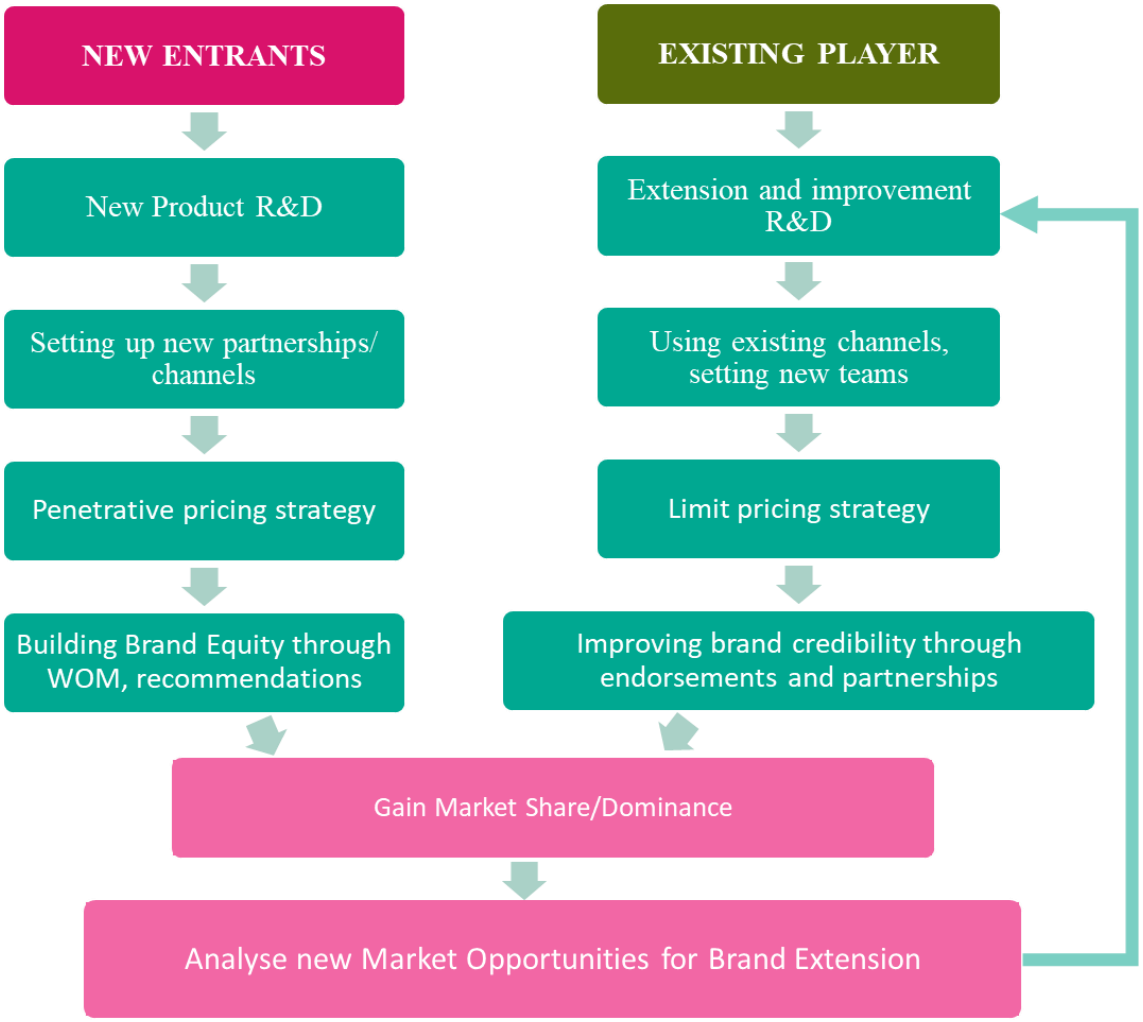
DIFFERENTIATORS:

- **Reliability-** Quality of the product, effectiveness and Ayurvedic content/branding
- **Brand name-** building the brand equity through trust, results, W-O-M, testimonials,

recommendations, etc.

- **Price Point-** enter or exist with low-pricing to initially capture the market segment

STAGING:



ECONOMIC LOGIC:

- **Low-Cost:** due to economies of scale and penetrative/limiting pricing
- **Achieving replication efficiencies,** eliminating wastage and expanding globally

Limitations of the Study:

- The scope of this research is limited to study the aspects of consumer behaviour which is a qualitative trait and couldn't be justified quantitatively, however we've tried our best to translate the responses received from the respondents to represent them numerically for the purpose of the analysis.
- The research is only limited to study the scope of OTC common ailment cures and healthcare supplements. The other types of OTC products and medicines like sanitizers, disinfectants, ointments and other lifestyle-based products.
- The respondents for this study were limited to Delhi-NCR, even though being a metropolitan Union territory, however, the composition of the sample may not be analogous due to wider Pharma-OTC Indian market because of specific geography used for sampling.
- Certain aspects of emergent trends or post-COVID changes cannot be mapped correctly due to two

reasons- firstly, because pandemic is still an on-going criterion, and secondly due to lack of appropriate data of pre-COVID era for comparison and reference.

- Branding is a vast concept under the area of Consumer behaviour. Hence, the amount of research done in the area may not be enough to give conclusive results due to lack of time and resources. However, it is still informative enough, to give direction for further research by the marketers in order to make strategic decisions for brand building.

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