RESEARCH PAPER

A POST-COVID SCENARIO OF COVID-RELATED OVER-THE-COUNTER PRODUCTS

G. Balamurugan[1], S. Ramesh Babu[2*], G. Subha[3]

[1]Sr. Professor & Director, Mepco School of Management Studies, Mepco Schlenk Engineering College, Sivakasi – 626005, Tamilnadu, India

[2]Assistant Professor (Sl. Grade), Mepco School of Management Studies, Mepco Schlenk Engineering College, Sivakasi – 626005, Tamilnadu, India

[3]Student, Mepco School of Management Studies, Mepco Schlenk Engineering College, Sivakasi – 626005, Tamilnadu, India

ORCID (S. Ramesh Babu): https://orcid.org/0000-0002-0292-6128

***Corresponding author: S. Ramesh Babu, Assistant Professor (Sl. Grade), Mepco School of Management Studies, Mepco Schlenk Engineering College, Sivakasi – 626005, Tamilnadu, India**

Email: srbabu@mepcoeng.ac.in

First author email: gbala@mepcoeng.ac.in

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ABSTRACT

The Covid Related Over-The-Counter Products (CROPs) utilized to mitigate the risk of contracting the Corona virus. These CROPs, such as Hand wash, Hand-sanitizer, Pain-Balms, Antiseptic liquid, Masks and Gloves, played a crucial role in preventing the spread of the virus. This study aims to examine the buying behaviour of retailers towards COVID related OTC products (CROP) in the post-pandemic scenario. The objective is to identify the most popular CROP products and their respective brands in Medical Outlets, Supermarkets, and Departmental Stores, as well as determine the factors that influence retailers in purchasing these products. A total of 106 retailer respondents participated in the survey in Salem, which involved the use of a Structured Questionnaire administered through direct contact. The collected data was analysed using statistical tools and it revealed variations in the purchase behaviour of retailers in the northern and southern regions. The retailers are selling these products based on the recommendations provided by medical practitioners and representatives.

Keywords: Over-the-counter (OTC) products, professional advices, COVID related OTC products (CROP), hand sanitizer, masks, retail buying behaviour, post-COVID.

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INTRODUCTION

An over-the-counter (OTC) drug or product, in simpler terms, pertains to a medication that can be acquired without the need for a doctor's prescription. It is commonly known as self-medication, which refers to the act of consuming medicines that are specifically manufactured and labelled to address common health issues without the requirement of a doctor's prescription (Amuthaganesh & Simreet, 2012). The primary justifications behind the practice of self-medication are its convenient accessibility, the comfort it provides, as well as the time-saving aspect and its general availability. Regarding over-the-counter medications, they are legally classified as non-prescription drugs, which imply that a prescription is not obligatory for their acquisition. Nevertheless, it is essential to note that pharmacists may still dispense these medications to patients after thoroughly assessing their needs and providing appropriate education. The regulations governing the sale of these medications, the individuals authorized to distribute them, and the necessity of a prescription vary from one country to another. On the contrary, prescribed medications require the possession of a doctor's prescription and should only be used by the individual for whom it has been specifically prescribed (Pujari, Sachan, Kumari, & Dubey, 2017). Furthermore, it is worth mentioning that mild ailments are the primary cause of various other diseases, with headaches being the most commonly reported complaint. Self-medication is also recognized as an effective approach for managing acute disorders and chronic diseases, including mild ailments.

Customers may partake in self-medication for a variety of reasons, such as limited availability of time, the urgent need for relief, exorbitant consultation fees from physicians, and so forth. The majority of India's populace relies on self-medication. The sales of over-the-counter (OTC) medications are triggered by the purchasing power of middle income group population. This emerging trend is expected to

prove advantageous for cough and cold formulations, gastrointestinal, analgesics, and dermatological medications. Antacids, cold and cough medicines, laxatives, analgesics, vitamins, and anti-allergy medications are among the widely utilized self-medicated items within India. It has anticipated that the market will witness a significant impact from the COVID-19 pandemic (Harsh & Krishnamoorthy, 2021).

Indian manufacturers rely heavily on supplies of active pharmaceutical ingredients (API) from China. However, the production of APIs has decreased during the lockdown period, resulting in reduced availability of over-the-counter (OTC) products and increased resource costs for production. It is anticipated that the Indian OTC pharmaceuticals market will experience a growth rate of 9.2% in the coming years. To meet the growing demand for OTC drugs, the government has implemented export restrictions on certain essential medicines, such as common antibiotics, medications for bacterial and other diseases, components of vitamin B1 and B12, as well as over-the-counter painkillers and fever reducers. The nationwide shutdown has presented significant challenges to the regular supply chain of OTC medications, leading to the unavailability of many essential OTC drugs. Despite the provision of specific recommendations and support from state governments for the transportation of vital OTC pharmaceuticals, numerous retail pharmacies are facing a decrease in their stock. Conversely, there has been an increase in online purchases of over-the-counter medications. In order to facilitate the purchase of medicine and OTC items, both the central and state governments have implemented new procedures and policies. For instance, the Medical and Health Department of Andhra Pradesh introduced the 'Covid Pharma' app in April 2020, a smartphone application designed to track individuals purchasing cough, cold, and fever drugs over-the-counter from various medical facilities across Andhra Pradesh.

The expansion of the Indian market for over-the-counter drugs is being propelled by the shift in consumer attitudes towards self-medication, advancements in product offerings, and the preference of pharmaceutical companies for over-the-counter (OTC) pharmaceuticals over prescription drugs. Over-the-counter analgesics are commonly employed to alleviate and manage headaches, toothaches, and musculoskeletal ailments. Preventive measures against the COVID-19 pandemic widely incorporate OTC products such as liquid hand wash, hand sanitizers, pain balms, antiseptic solutions, masks, and gloves. The use of over-the-counter (OTC) drugs has played a significant role in the prevention and treatment of COVID-19, effectively curtailing its spread. Individuals infected with COVID-19 were advised to practice frequent hand washing and to wear gloves and masks in order to minimize the risk of transmission.

The market for Over-the-Counter medicine is often studied because of its self-medication nature. This study examines psychological factors, such as attitude, subjective norm, perceived behavioural control, and perceived risk, which affect consumer purchase decisions. It concludes that customer attitude, subjective norm, and perceived behavioural control are important factors in influencing purchase decisions, while perceived risk is not as significant as other factors (Hafinaz, Haque, & Mohammad, 2020).

REVIEW OF LITERATURE

In India, the term OTC lacks legal recognition. The sale of drugs falling under Schedule H and Schedule X of the Drugs and Cosmetics Rules, 1945, requires a prescription in adherence to the law. All remaining drugs are categorized as "non-prescription drugs" (Porter, 2016). The purchase of OTC health supplements in India has grown by 15%. Its growth rate is twice that of other pharmaceutical products. A study revealed that people purchase OTC health supplements for energy and health needs, while reasons for not purchasing include ineffectiveness, fear of side effects, and costliness. (Sanjeev, 2009). Pharmacists perceived themselves primarily as entrepreneurs rather than mere dispensers, seldom proffering unsolicited guidance. Furthermore, they acknowledged that the quantity of tablets dispensed within a prescription was subject to the patient's purchasing power (Dua, 1994).

The level of knowledge concerning over-the-counter (OTC) medications among pharmacy staff remains rather limited (Aziz, 2019). Interestingly, the number of years spent working within the pharmacy profession did not contribute to an increase in their understanding of OTC medications. This may be attributed to a lack of system improvements over the years and a failure to demonstrate advancement even after attending multiple OTC courses (Aziz, 2019). According to 90% of the pharmacists, OTCs were deemed safe for dispensing; nonetheless, 50% of them expressed the opinion that consumers should first seek consultation from a doctor. The selection of OTC brand was determined by pharmacists (58.7%) and consumers (41.2%) (Ravichandran, 2016). Pharmacists openly acknowledged the sale of prescription medications, such as antibiotics, even in the absence of a valid prescription. Although they were aware of the issue of antibiotic resistance, not a single pharmacist, possessed knowledge regarding the causative factors behind such resistance (Chandran, 2022). The pharmacists in Indonesia market were kept more

stock of vitamin drugs during the covid and after the pandemic to meet the demand and based on consumer preference they stock the OTC drugs (Yennimar, 2021). The fear of covid 19 critically influences the people to purchase OTC medicines to protect themselves from the pandemic (Çetin, M. E., 2025).

OTC medications can harm older adults due to changes in their body and drug interactions. Older adults' beliefs, knowledge, condition assessment, medical limitations, cost, and accessibility influence their decision to use OTC medications (Stone, Phelan, Holden, Jacobson, & Chui, 2019). A study by Çetin, M. E., revealed that the literacy level of people regarding their health influence them in purchasing of over the counter medicines. The study reveals that doctors' and pharmacists' advice, as well as personal experience, plays a significant role in the decision-making process for OTC products (Cîrstea, Teselios, & Iancu, 2016) (Wube Temechewu & Gebremedhin, 2020). The study in Malaysia found that self-medication is increasing rapidly, with a focus on community views on the use of OTC medications. The public's choice to buy OTC medicines was influenced by pharmacist recommendation. (Amuthaganesh & Simreet, 2012). The purchase intention on OTC medicine of an individual is greatly influenced by their attitude followed by their perceived behavioural control (Sehgal, 2019).

Investigation revealed that consumers consider various attributes when selecting a pharmacy. Convenience and the quality of the staff are significant factors. Consumers rely on previous experience, pharmacist opinion, and price when purchasing OTC medicines.(Kevrekidis, Minarikova, Markos, Malovecka, & Minarik, 2017). Consumers ponder over the alignments, course of action, brand, purchasing site, and advertising when buying OTC products (Kanchan & Satvinder Singh, 2018). The consumers' lifestyle change affects the choice of OTC products, and they take into account the packaging design when selecting a brand (Alagala, Bagbi, & Shaleye, 2018). Advertisements influence the purchase of over-the-counter products. A study in Nepal found that people gain knowledge about these products through advertisements and seek advice from doctors and pharmacists before buying them (Pankaj Kumar, 2016) (Srivastava & Sadhna, 2017) (Imran, Vyas, & Jay, 2015). People purchase OTC medicines through online have increased. In online purchase of OTC products, people give importance to convenience, availability and lower price (Limbu, Y. B., & Huhmann, B. A., 2024). People prefer the OTC brans by considering its advertisement also people preference towards the selection of pharmacy is influenced by the poster advertisements (Kavitha, S. F., et al., 2025). The awareness level of people towards over the counter covid related medicines are influenced by the advertisements from the corporates and their friends, relatives and neighbours. The increase in awareness level influence the people to purchase covid related over the counter products to reduce the perceived risk (Kaur, A., Chandhok, A., & Banerjee, S. K., 2025).

Through an analysis of the impact of brand names, demographics, social factors, and consumer opinions during the COVID-19 outbreak, it is determined that there has been an increase in the purchase of over-the-counter (OTC) medications compared to previous years. Additionally, there is a higher awareness of self-medication. It is observed that there is a higher demand for OTC medicines with Ayurvedic branding, and the advice of doctors significantly influences consumer purchasing behaviour (Harsh & Krishnamoorthy, 2021). The prior experience with the same drug influences the people to purchase it again (Cîrstea S. D.-T., 2017).
The credibility and perceived image of supermarket stores as valuable providers of OTC drugs play a significant role in creating consumer value (Guido, 2011). A research found that factor such as geographic proximity, opening hours, product range, and the availability of trained staff for counselling influence consumer preferences for OTC drug retailers (Håkonsen, Andersson, Johan, & Hedenrud, 2016). Consumers have confidence in their own ability to handle OTCs responsibly but express concerns about others' knowledge (Burger, 2014). The impact of price and brand cues on consumers' intentions to purchase OTC drugs, indicating that perceptions of risk, quality, and value mediate the relationship between purchase intentions and price/brand information (Aufegger, 2021). The colour of the medicine plays a significant role in the purchase of OTC medicine. Colours like yellow and red triggered the initial intention of the consumers whereas green colour strongly influences the intention of the individual in the purchase of OTC medicines and also their trust (Li, X., et al., 2025). The people trust towards the pharmacy is shaped by the customised promotional campaigns conducted by the pharmacy. The customised promotion make the people to believe that they are the prime customer for that outlet and they ready to accept the recommendations of the pharmacy (Siara, S., & Aprianingsih, A., 2025).

OBJECTIVES OF THE STUDY

a) To find out the most selling COVID related OTC products (CROP) and its brand, in medical outlets, supermarkets and departmental stores.

b) To find the factors influencing retailers in dealing with COVID related OTC products (CROP).

RESEARCH METHODOLOGY

The research design employed for this study is a descriptive study, as the objective is to ascertain the perspective of retailers towards COVID related OTC products (CROP) in the post-COVID scenario in Salem district. Both primary and secondary data were collected for this research. The primary data was obtained from the survey made among 106 retailers through a structured questionnaire administered. The types of retailers were pharmacies, departmental stores, and convenience shops in Salem district. The secondary data was sourced from journals, websites, and literature written by other authors for reference purposes. The survey covered both the northern and southern regions of Salem district. The questionnaire consisted of demographic questions, ranking questions, and Likert scale questions, which were used to analyse the top-selling CROP products and their respective brands, as well as the factors that influence retailers in their purchase of OTC products. The findings of previous researches indicated that factors such as doctor's suggestions, medical representatives' influence, profit margin, advertisements, consumers' preferences, attractive offers available to retailers, product availability, and the range of OTC products had a significant influence on retailers' purchasing decisions. Hence these factors were also considered in constructing the questionnaire.

RESULTS

Demographic description

Here, the demography includes location of the store, type of the store, average monthly sales of the store and year of existence of the store.

Table 1: Demographic description of retailers

Factors	Particulars	Number of Respondents
Store Location	North Salem	37
	South Salem	69
Type of the store	Convenience shop	21
	Departmental store	20
	Pharmacy	65
Average monthly sales of the store	Upto 10000	72
	10001-25000	26
	25001- 50000	2
	Above 50000	6
Year of existence of the store	Upto 5 years	37
	5.1-10 years	27
	10.1-20 years	18
	More than 20 years	24

The researcher has collected a total of 37 samples from North Salem and 69 samples from South Salem. Out of all the samples gathered, 65 belong to the Pharmacy category, 21 belong to Convenience stores, and 20 belong to Departmental stores. A majority of the outlets (72) have a limited monthly sales volume of OTC products, amounting to Rs.10000, and only a few outlets fall under the category of 50000+ in terms of their monthly sales volume.

Table 2: Fast moving brands of CROP

Category	Particulars	Fast moving
Hand wash	Dettol	71
	Savlon	21
	Lifebuoy	11
	Others	3
Hand sanitizer	Dettol	60
	Savlon	22
	Himalaya	17
	Others	7
Antiseptic Liquid	Dettol	79
	Savlon	17
	Others	10
Pain balm	Vicks vapour	67
	Amurtanjan	24
	Iodex pain relief	3
	Others	12

The outcomes in Table 2 demonstrate that within the Hand wash classification, the Dettol (71) brand exhibits rapid movement in comparison to Savlon (21), Lifebuoy (11) and others (3). Consequently, the purchase rate of Dettol hand wash is higher due to its fast-moving nature. In the Hand sanitizer category, the Dettol (60) brand demonstrates a faster pace compared to Savlon (22), Himalaya (17), and others (7). The Antiseptic liquid category portrays Dettol (79) as the brand with the swift movement in comparison to Savlon and other brands. Lastly, within the pain balm category, Vicks vapour (67) is the brand that exhibits rapid movement and is primarily acquired by consumers to alleviate cough and cold symptoms.

Table 3: Movement Pattern of CROP

Category	Fast Moving	Moderate Moving	Slow

			Moving
Pain-Balm	106	-	-
Antiseptic Liquid	-	106	-
Masks	-	35	71
Hand wash	-	22	84
Hand-Sanitizer	-	-	106
Gloves	-	-	106

Table 3 illustrates the movement pattern of CROP across various retail outlets. It is evident that Pain balm is the most rapidly selling CROP among all the outlets, while the sale of Antiseptic liquids is at a moderate level. The sales of mask and hand wash range from slow to moderate, whereas the movement of hand sanitizer and gloves is slow in all the outlets.

Table 4: Fast moving CROP

Category	Mean Score	Rank
Pain-Balm	1.19	**1**
Antiseptic Liquid	2.44	**2**
Masks	3.09	**3**
Hand wash	3.40	**4**
Hand-Sanitizer	3.60	**5**
Gloves	4.07	**6**

In Table 4, the categorization of CROP based on sales is evident. The sales of Pain balm and Antiseptic liquids are significantly lower compared to other COVID related OTC products.

Purchase Behaviour (SEM Model)

An exploratory model was developed to investigate the purchasing behaviour of retailers towards CROP. This model was constructed by considering the impacts of various factors such as product related factors, pricing strategies, promotional activities, product availability, and professional advice on the intention to engage in transactions involving CROP. The dependent variables in this study are the observed and endogenous variables, while the independent variables are the observed and exogenous variables that were employed to formulate the model.

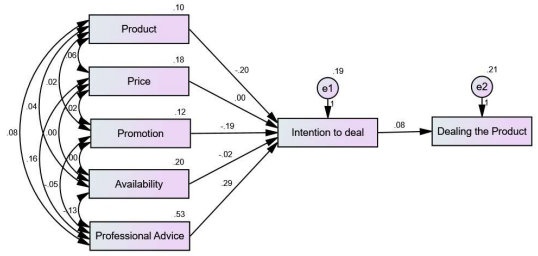

Figure 1 Buying Behaviour Model for CROP

Table 5: Fitness of Buying Behaviour Model for CROP

Chi-Square	Probability level	DF	CMIN/DF	RMSEA	GFI	AGFI	NFI	CFI
5.146	0.398	5	1.029	0.017	0.987	0.925	0.969	0.999

Source: Primary Data

The aforementioned table provides a depiction of the level of adequacy exhibited by the constructed model of buying behaviour. The probability level of obtaining the chi-square statistic for said model is 0.398, surpassing the threshold of 0.05. This ensures the statistical accuracy of the assumptions made regarding the relationship between the variables employed in the specified model.

The value of the Minimum Discrepancy Function divided by the Degrees of Freedom (CMIN/DF) for the buying behaviour model amounts to 1.029, which falls below 5, indicating a superior fit of the data utilized for constructing the model. The statistical value of the Root Mean Square Error of Approximation (RMSEA) is 0.017, surpassing the

threshold of 0.08, thus serving as a positive indicator of the model's fitness. A fit index value exceeding 0.9 is indicative of a favourable model fit, and for the aforementioned buying intention model, the values of the Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Normed Fit Index (NFI), and Comparative Fit Index (CFI) are 0.987, 0.925, 0.969, and 0.999, respectively. All fit index values surpass 0.9, thereby elucidating the statistical level of fitness exhibited by the construct.

Buying Behaviour Model Path and Hypothesis Testing

The relationships between the theoretical constructs are represented by regression coefficients between the constructs. The below table shows the casual relationship between exogenous variables and endogenous variables present in the model.

Table 6: Casual Relationships in Buying Behaviour Model for CORP

Influences of Exogenous Variables on Endogenous Variables			Estimate	S.E.	C.R.	P
Intention	<--	Product	-.198	.181	-1.094	.274
Intention	<--	Price	-.001	.126	-.012	.991
Intention	<--	Promotion	-.189	.138	-1.370	.171
Intention	<--	Availability	-.023	.122	-.191	.849
Intention	<--	Professional advice	.293	.085	3.428	.000
dealing	<--	Intention	.082	.092	.889	.374

The unidirectional arrow indicates the correlation between casual factors and the level of retailers' purchasing behaviour toward CROP intention is 0.000, indicating a significant relationship between these two variables. The p values for the remaining variables exceed 0.05. Consequently, these factors do not exert a substantial impact on the purchasing behaviour of retailers toward CROP.

DISCUSSIONS

The primary focus of the research lies in the procurement of CROP subsequent to the COVID pandemic. The purpose behind the consumption of CROP was to implement pre-emptive measures and alleviate the risk of infections. Post-pandemic, the sales of CROP, particularly hand sanitizers, gloves, hand wash, and masks, have experienced a significant decline, indicating a lack of consumer interest in purchasing such products. Conversely, individuals have displayed a preference for antiseptic liquids and pain balms, which serve a multitude of purposes. As a result, the sales of these products have witnessed a notable increase. Retailers are engaging in the distribution of these items based on professional advice received from medical practitioners and representatives. Consequently, the manufacturers of these products possess the ability to influence the purchasing behaviour of retailers through the activities of medical representatives and the dissemination of doctors' recommendations via mass media.

CONCLUSION

Covid Related Over-The-Counter Products (CROP) has played a pivotal role in the implementation of preventive measures against the COVID-19 virus. Retailers across various types of establishments are managing the distribution and sale of CROP by carefully adhering to the expert advice provided by medical professionals and representatives. The utilization of CROP in Salem has witnessed a decline subsequent to the outbreak of the Covid pandemic. Nevertheless, it continues to be consistently accessible across all categories of stores.

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