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A Study on Consumer Preference towards over-the-Counter Analgesic Products

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ABSTRACT

'Over-the-counter analgesic products' are pain-relief drugs that can be bought by consumers without any prescription and are an essential aspect of self-medication. These products may be used topically or orally. This study aimed to find out the pre-eminent factors determining consumer preference towards OTC analgesics and to identify the most favoured & used brands of topical and oral OTC analgesic products, along with reasons for such preferences. Primary data was collected using self-structured anonymous online questionnaire from 100 respondents selected using convenience sampling. It was found through percentage and correlation analyses that topical OTC analgesics were preferred over oral ones. Effectiveness was the most important factor determining consumer preference towards OTC analgesic products. Volini was the most favoured brand of topical OTC analgesics and Dolo was the most favoured brand of oral OTC analgesics. In addition, it was found that females used more OTC analgesics than other genders.

KEYWORDS

Over-the-counter, consumer preference, pain management, self-medication, analgesics, medicines

INTRODUCTION

"Never, for any reason on earth, could you wish for an increase of pain. Of pain, you could wish only one thing: that it should stop. Nothing in the world was so bad as physical pain. In the face of pain, there are no heroes, no heroes…"

— George Orwell,'1984'

Pain is one of the most common problems impinging all humans since time memoriam, mostly involving form(s) of physical discomfort and oftentimes leading to difficulties in fulfilling duties and devoirs. In 1985 in the United States alone; 4 billion workdays were lost due to pain. For full-time employees, about 550 million days were lost. Losses due to pain are estimated to be around $55 billion.

More than 35% of Canada's work force is affected by headache, thereby having to take time off work and thus lose a portion of their income. (Abbott and Fraser, 1998)

The initial solution early humans found to confront pain was using self-medications—readily available, quick fix, hand-made remedies using various herbs, shrubs, tree barks and the like. Over time, because of continuous efforts of modern medicine, these conventional medicines have evolved into present-day over-the-counter analgesic products. There has been a recent impetus in self-medication due to various reasons such as lack of time, need for quick relief, high consultation fees charged by registered medical practitioners/doctors etc. The major drivers for OTC analgesic market are increase in demand for topical analgesics, growth in geriatric population, cost efficiency of OTC drugs. All these have led to the increase in the availability and usage rate of OTC analgesics for easy pain management.

NEED

This study is needed for the following reasons:

- To investigate the various **factors** that come into play when consumers decide to purchase a particular brand of topical or oral over-the-counter analgesic products.
- To analyse the **relationship** between **demographic** profile of the respondents and their usage and preference towards OTC analgesics.
- To find out the **most popular** brand of over-the-counter analgesic products both in topical and oral forms.

OBJECTIVES

1. To determine the **demographic profile** of the consumers of over-the-counter analgesic products.
2. To know the **pre-eminent factor(s)** determining consumer preference towards over-the-counter analgesic products.
3. To identify the respondents' **most favoured and used brand(s)** of over-the-counter analgesic products.

LIMITATIONS

- The specific impact /influence of the COVID-19 pandemic on purchase/usage of over-the-counter analgesics was not considered.
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- There were no comparative analyses on the differences in popularity between topical and oral over-the-counter analgesic products (if any) and the reason(s) for such differences.
- Awareness level of consumers on overuse and potential abuse of over-the-counter analgesic products was not studied; the possible impacts of analgesic nephropathy and neuropathy were not analysed.

SCOPE

- This study took into **different medical practices** such as Ayurvedic, allopathic, homeopathic etc.
- This study provided a **SWOT analysis** of sorts for the products offered by different brands as the reasons for usage, frequency of usage, source of information acquired, reason for preference of the particular brand/product, level of brand loyalty etc. of the respondents were analysed.
- This study assessed consumer preference for **both brand name and generic versions** of medicines and did not limit itself to either.

RESEARCH DESIGN

"The arrangement of conditions for collection and analysis of data in a manner that aims to combine the relevance to the research purpose with economy in procedure"

—Selltiz, Johoda, Destch and Cook

Research design consists of three phases:

I. Sampling design

- Population of the study was **infinite** and **includes all humans except those with CIPA** (Congenital Insensitivity to Pain and Anhydrosis)
- Convenience/chunk sampling was used to collect **primary data** from **100 respondents**

II. Statistical design

The following analyses were used:

- **Frequency and Percentage** analyses (used to analyze the most popularly used brand of OTC analgesics (topical as well as oral) and pre-eminent factor influencing usage)
- **Correlation** analysis (used to analyse the relationship of preeminent factor influencing usage of OTC analgesics (topical as well as oral) with educational qualification and range of income of respondents)

III. Operational design

In this study, self-structured **questionnaire** method was used to collect primary data. The questionnaire was divided into **four sections** as follows

Section 1 comprised of the **basic demographic details** about the respondents.
Section 2 determined the basic information on the respondents' **pain experiences** and **general use** of over-the-counter analgesic products.
Section 3 specifically dealt with the respondents' use of **topical** over-the-counter analgesic products.
Section 4 specifically dealt with the respondents' use of **oral** over-the-counter analgesic products.

LITERATURE REVIEW

1. **"A qualitative study to understand over-the-counter medication use and decision-making among residents of senior-living communities"** by **Paliwal, Y., Gendron, T. L., Jones, R. M., Moczygemba, L., Nadpara, P. A., &Slattum, P. W. (2019)** explored the knowledge, beliefs, and practices associated with OTC medication use and decision-making in adults aged 65 years and older.
2. **"Understanding the Factors Influencing Older Adults' Decision-Making about Their Use of Over-The-Counter Medications-A Scenario-Based Approach"** by **Shah, S., Gilson, A. M., Jacobson, N., Reddy, A., Stone, J. A., & Chui, M. A. (2020)** assessed how older adults' knowledge, beliefs, and attitudes inform their decision-making regarding OTC use in Midwestern USA.
3. **"The Prevalence of Self-Medication With Painkillers Among Iraqi Medical Students"** by **Al-Imam, A., Motyka, M. A., Mishaal, M., Mohammad, S., Sameer, N., &Dheyaa, H. (2020)** aimed to determine the prevalence and pattern of self-medication among under-graduate medical students in Baghdad, Iraq

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DATA ANALYSIS AND INTERPRETATION

I. PERCENTAGE ANALYSIS

Table 1 - BRAND OF OTC ANALGESIC PRODUCT USED

TOPICAL (51%)			ORAL (49%)		
BRAND(S) OF TOPICAL OTC ANALGESIC PRODUCTS USED	**FREQUENCY**	**PERCENTAGE (%)**	**BRAND(S) OF ORAL OTC ANALGESIC PRODUCTS USED**	**FREQUENCY**	**PERCENTAGE (%)**
Amrutanjan	22	20.18	Aceclofenac	8	11.43
Axe Oil	14	12.84	Anacin	1	1.43
Diclomint	4	3.67	Aspirin	5	7.14
Iodex	10	9.17	Crocin	11	15.71
Moov	15	13.76	Cyclopam	5	7.14
Nanofast	1	0.92	***Dolo***	***14***	***20***
Orasore	1	0.92	Ibuprofen (Brufen)	4	5.71
Sumo Gel	1	0.92	Metacin	8	11.43
T-BACT	1	0.92	Novalgin	1	1.43
Tiger Balm	3	2.75	Paracetamol (Acetaminophen)	9	12.86
Vicks	8	7.34	Saridon	2	2.86
Volini	***25***	***22.94***	Strepsils	2	2.86
Zandu Balm	4	3.67	—	—	—
Total	**109**	**100**	**Total**	**70**	**100**

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Table- 2 PRE-EMINENT FACTORS INFLUENCING USAGE

PRE-EMINENT FACTORS INFLUENCING USAGE	TOPICAL OTC ANALGESICS		ORAL OTC ANALGESICS	
	FREQUENCY	PERCENTAGE (%)	FREQUENCY	PERCENTAGE (%)
Appearance	1	1.69	0	0.00
Brand value/reputation	0	0.00	2	4.88
Ease in handling	7	11.86	3	7.32
Easy availability/access	8	13.56	3	7.32
Effectiveness	***36***	***61.02***	***26***	***63.41***
Fragrance/smell/texture	2	3.39	1	2.44
Past experience(s)	4	6.79	6	14.63
Price	1	1.69	0	0.00
Total	**59**	**100.00**	**41**	**100.00**

II. CORRELATION ANALYSIS

Hypotheses:

H_0—There is no significant relationship between the variables

H_1—There is significant relationship between the variables

Table-3 CORRELATION ANALYSIS

VARIABLE		TOPICAL OTC ANALGESIC PRODUCTS			ORAL OTC ANALGESIC PRODUCTS		
INDEPENDENT	DEPENDENT	VALUE OF CORRELATION	DEGREE OF CORRELATION	RESULT OF HYPOTHESES	VALUE OF CORRELATION	DEGREE OF CORRELATION	RESULT OF HYPOTHESES
Educational qualification	Preeminent factor influencin	-0.0606102438814796	Negative	**H_0 is accepted H_1 is**	0.0487225537134096	Positive	**H_0 is rejected H_1 is**

	g usage			**rejected**			**accepted**
Range of income (in ₹)	Preeminent factor influencing usage	0.119404813014862	Positive	**H_0 is rejected H_1 is accepted**	-0.099486117536396 4	Negative	**H_0 is accepted H_1 is rejected**

OTHER MAJOR FINDINGS

1. Majority of the respondents were of the age group **"20-30"** (33%)
2. Majority of the respondents were **"Female"** (70%)
3. Majority of the respondents were of the status **"Students"** (39%)
4. The most prevalent type of educational qualification was **"Undergraduate/Postgraduate/Doctorate"** (79%)
5. The most common area of residence/stay was **"Metropolitan"** (49%)
6. Majority of the respondents fell under the income range of **"₹45001/- to ₹75000/-"** (33%)

SUGGESTIONS

The following are the suggestions offered to various entities concerned with topical and oral OTC analgesic products:

1. **To companies**
   - Companies producing pain-relief patches and lozenges need to up their ante and find out why their product types are not preferred by consumers.
2. **To consumers**
   - Awareness on composition of the product must be increased, especially in the topical segment, as consumers who know what goes into a product and what works for them, are more likely to win their battle against pain than those who do not.
3. **To government**
   - The Government must encourage people's awareness and consumption of Generic OTC analgesics.

SCOPE FOR FURTHER RESEARCH

1. Consumer preference towards OTC analgesics can be analysed based on specific schools of medicine such as Ayurvedic, Homeopathic, and Allopathic.
2. Comparative study on consumer preference towards brand and generic OTC analgesics maybe conducted from medical as well as economic perspectives.

CONCLUSION

"Pain is a constant companion for humanity."

—Marcia Meldrum

Pain was, is and will be humanity's ultimate arch-nemesis. Over-the-counter analgesic products play a pivotal role in ensuring a relatively pain-free, happy and productive life for all in an affordable, quick and accessible way. There is not an iota of doubt that these products will play a prominent role in society for eons to come. The future of these products are brighter than ever as we strive hard to move forward both as a society and as a species towards a utopia of limitless potential. It is high time that we recognize the social, commercial and economic impact of these products and gain a thorough insight into the same.

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