A QUANTITATIVE STUDY OF CONSUMER BEHAVIOUR TOWARDS NUTRITIONAL SUPPLEMENTS IN HYDERABAD

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ABSTRACT

With the rapid expansion of India's nutraceutical industry, understanding the determinants of consumer behaviour toward nutritional supplements has become increasingly important for health marketers, policymakers, and industry stakeholders. This study aims to examine the quantitative relationship between key behavioural drivers namely awareness, health consciousness, brand preference, convenience, and supplement usage behaviour among consumers in Hyderabad, one of India's major metropolitan markets. Hyderabad was selected due to its diverse urban population, growing health awareness, and strong presence of nutraceutical brands. Primary data for the study were collected from 450 consumers in Hyderabad through a structured questionnaire survey. The collected data were analyzed using IBM SPSS Statistics, employing statistical tools such as Pearson's Correlation Coefficient to assess relationships between variables, Chi-square tests to examine associations between demographic factors and supplement usage, and One-Way Analysis of Variance (ANOVA) to identify differences in usage behaviour across groups. The results indicate that awareness of nutritional supplement benefits is the most influential factor affecting usage behaviour. Consumers with higher levels of product knowledge demonstrate significantly greater adoption and consistent usage, highlighting the critical role of information and education in driving consumption. Gender was also found to have a significant impact, with male consumers exhibiting substantially higher supplement usage compared to female consumers. In contrast, income level was found to be statistically insignificant, suggesting that nutritional supplements are widely adopted across different urban income groups in Hyderabad. Overall, the findings emphasize the need for targeted educational initiatives that enhance consumer awareness and understanding of supplement benefits. Additionally, marketers should focus on building brand trust through scientifically backed claims and credible evidence to improve market penetration, encourage sustained usage, and strengthen long-term consumer adherence in the nutraceutical sector.

Keywords: *Consumer Behaviour, Nutritional Supplements, Hyderabad, Correlation Analysis, Brand Preference, Health Awareness, Convenience, Digital Marketing*.

Introduction

The popularity of Nutritional supplements has increased as a preventive healthcare, transforming it from niche offerings to essential and important component of preventative healthcare across the globe, especially in Urban Areas. This trend has become popular due to increasing health consciousness, increased urbanization, and the rising prevalence of lifestyle and vitamins deficiencies related disorders, including obesity, diabetes, and cardiovascular diseases. Nutraceuticals, defined as specially formulated preparations that bridge nutrition and medicine to provide preventive care, to various diseases.

Background

The Indian nutraceutical market has showed an exponential growth, which is projected to reach approximately $11 billion by 2023 at a Compound Annual Growth Rate (CAGR) of 21%. The global nutraceutical market is also growing with the same rate, where the market is expected to reach a value of $340 billion by 2024 whereas in India, Hyderabad, serving as a metropolitan city, which provides a crucial test market characterized by various dietary habits, higher and different income segments, and a very high focus on preventative health.

The adoption of nutraceuticals is motivated by two key factors: showing high micronutrient deficiencies (affecting approximately 80% of India's population) and the high cost of medical care in India while Nutraceuticals are seen as a cost friendly alternative for long term preventative healthcare, which significantly reducing the need for more expensive future medical treatments. This financial rationale supports the Nutraceuticals as a prioritized health expenditure across the various urban income segments.

Review of Literature

1. Awareness & Supplement Usage

Consumer awareness functions as the most critical gatekeeper for supplement adoption, translating general health motivation into specific usage behaviour. The Indian context, marked by significant lifestyle upheaval and the rise of lifestyle diseases, has led consumers to view nutraceuticals as alternatives to prescription medications and to seek functional health advantages like enhanced vitality and endurance. The quantitative data from this study confirmed this, showing that awareness of supplement benefits is the strongest predictor of usage. This reliance on informed knowledge suggests purchasing is based on a rational assessment of the product's targeted health goal.

2. Health Consciousness

The foundational element driving demand is the growing health consciousness among Indian consumers, who are increasingly willing to spend extra on supplements, viewing them as a valuable, long-term investment in wellbeing. This mindset is a reaction to rising non-communicable diseases linked to sedentary urban lifestyles. The study found a significant relationship where health consciousness affects awareness, demonstrating that a proactive attitude toward health is the necessary precursor that motivates consumers to seek detailed information about supplement benefits, thereby initiating the path to usage. Consumers are increasingly viewing nutraceuticals as a preventative action to fulfil daily supplementary needs.

3. Brand Trust & Preference

Branding is essential for communicating specific value, ensuring quality standards, and fostering connections that influence purchasing decisions in the competitive nutraceutical space. While studies report generally low public

trust in dietary supplement advertising, often due to exaggerated claims, trust tends to increase with the frequency of supplement use, suggesting confidence is built through positive experiential evidence rather than initial marketing exposure alone. The research confirmed that awareness is positively related to brand preference, reinforcing the need for brands to emphasize transparency, scientific evidence, and ethical marketing practices to overcome initial skepticism and establish sustained preference.

4. **Convenience & Accessibility**

Convenience is a multifaceted determinant, covering both the ease of acquiring the product and the compliance associated with daily use. Supplements offer a convenient, measured way to obtain essential nutrients for those with busy or restricted lifestyles, especially compared to relying solely on diet. However, inconvenience, such as the effort of remembering daily doses, can be a barrier to use. Nutraceutical companies are innovating dosage forms (e.g., liquid-filled capsules, powders) to replace conventional tablets to meet consumer demands for enhanced variety and benefits. The strong correlation found between awareness and convenience preference highlights that, particularly for the working demographic, high convenience is crucial for maintaining compliance and retention, often ranking slightly higher in importance than brand preference.

5. **Digital Marketing Influence**

The emergence of digital media is rapidly transforming the distribution and information channels for nutraceuticals. Social media and influencer marketing are actively driving consumer demand, especially for appearance-conscious wellness products among younger, tech savvy audiences. Approximately 25% of consumers now shop online, indicating a significant shift toward digital retail platforms. However, this environment necessitates strict ethical digital marketing practices, which require brands to seek explicit consent before using personal data and clearly communicate the information being collected, thereby gaining consumer trust and comfort.

6. **Demographic Factors (Gender, Age, Income)**

The market is dominated by younger consumers aged 15–35 due to their active lifestyles and specific needs, such as sports nutrition. The study's demographic profile showed a concentration of 74% of respondents in the 18–35 age groups. A highly significant association was found between gender and supplement usage, with males reporting higher consumption rates. This disparity suggests that the usage profile is heavily influenced by the male-skewed fitness and performance nutrition segment. Critically, the One-Way ANOVA found income to be statistically non-significant in determining usage. This finding reinforces the view that supplements are perceived as a necessary, value-based financial defence against high medical inflation, making them essential across urban income brackets.

Research Gap

Despite of being having the growing market of Nutraceuticals, vigorous expansion and the critical role of supplements in preventative healthcare, there are very limited research exists that quantitatively evaluates the influence of factors like age, gender, income, awareness on consumer adoption in major Indian metricities. While conceptual links exist regarding the influence of branding, professional advice, and product attributes, empirical evidence is needed to quantify the simultaneous impact of psychographic drivers (awareness, health consciousness), technological platforms (digital marketing), and convenience on actual usage behaviour among Hyderabad consumers. This study provides empirical rigor to address this knowledge gap.

Objectives

- To identify key factors influencing consumer behaviour towards nutritional supplements in Hyderabad.
- To assess the role of awareness, brand preference, health consciousness, convenience, and digital marketing on supplement adoption.

- To examine the relationship between demographic factors (age, gender, income) and supplement usage.
- To provide actionable recommendations for brands to improve market penetration and consumer education.

Methodology

1. Research Design and Approach

This study adopted a quantitative, cross-sectional survey design to establish associative relationships between key drivers and supplement usage behaviour. The objective was to provide empirical rigor by quantitatively measuring the simultaneous influence of psychographic, product, and demographic factors.

2. Sampling and Data Collection

The study was conducted in Hyderabad, Telangana, utilizing a convenience sampling technique to recruit a final validated sample of respondents. Data were collected using a structured questionnaire that covered demographics, awareness levels, and attitudes toward influencing factors (measured on a 5-point Likert scale), alongside actual usage frequency. Ethical standards were maintained by ensuring voluntary participation and response anonymity.

3. Statistical Analysis

Data analysis was performed using IBM SPSS Statistics v26. The following tests were employed to rigorously test the proposed hypotheses:

3.1 Pearson Correlation Coefficient: Used to determine the strength and direction of the linear relationship between continuous variables (Awareness, Health Consciousness, Essentiality, Convenience, and Brand Preference) and supplement usage.

3.2 Chi-Square Test: Used to assess the association between the categorical variable, Gender, and supplement usage.

3.3 One-Way Analysis of Variance (ANOVA): Used to compare the mean supplement usage across different categories of Monthly Income.

Statistical significance for all hypothesis tests was set at a threshold of.

Results & Analysis

The demographic analysis confirms a concentration of young, middle-income urban consumers in the sample population.

Table 1: Demographic Profile of Respondents (n = 450)

Variable	Category	Frequency (%)
Age Group	18–25	38%
	26–35	36%
	36–45	17%

	Above 45	9%
Gender	Male	53%
	Female	47%
Monthly Income (INR)	<30,000	31%
	30,000–50,000	39%
	>50,000	30%

Table 2: Age Distribution of Nutritional Supplement Consumers in Hyderabad (N=450)

Age Group	Percentage (%)
18–25	38%
26–35	36%
36–45	17%
Above 45	9%

Table 3: Gender Distribution of Respondents in the Nutritional Supplement Study (N=450)

Gender	Percentage (%)
Male	53%

Female	47%

The results consistently confirmed that psychological factors and convenience are strong determinants of supplement usage.

Table 4: Hypotheses & Results (Correlation, Chi-square, ANOVA)

Hypothesis	Test Used	Statistical Result	Significance
Awareness of supplement benefits is positively related to supplement usage behaviour.	Pearson Correlation	($r = 0.578$, $p < 0.01$)	Strong, Significant
Health and nutrition consciousness significantly affects awareness of supplement benefits.	Pearson Correlation	($r = 0.360$, $p < 0.01$)	Significant
Perceiving supplements as essential increases supplement usage.	Pearson Correlation	($r = 0.423$, $p < 0.01$)	Significant
Awareness of supplement benefits is positively related to convenience preference.	Pearson Correlation	($r = 0.309$, $p < 0.01$)	Significant
Awareness of supplement benefits is positively related to brand preference.	Pearson Correlation	($r = 0.334$, $p < 0.01$)	Significant
Gender significantly affects supplement usage.	Chi-Square Test	($p = 0.0230 > 0.05$)	Significant

Income significantly affects supplement usage.	One-Way ANOVA	(r = -0.057, p > 0.05)	Not Significant

Table 5: Intensity of Correlation between Key Factors and Supplement Usage (Heatmap Data)

Correlated Variable	Correlation Coefficient ()	Interpretation of Intensity
Awareness & Usage	0.582	Highest Influence
Awareness & Convenience	0.460	Strong Influence
Awareness & Brand Preference	0.430	Moderate Influence
Perceived Essentiality & Usage	0.426	Moderate Influence
Health Consciousness & Awareness	0.395	Moderate Influence

Discussion

1. Interpretation of Results in Line with Literature

The quantitative findings establish awareness as the most influential driver of supplement adoption in Hyderabad. This outcome aligns with literature suggesting that rational consumption where consumers seek out products for functional health advantages is paramount in the Indian metro market. Successful marketing must therefore prioritize converting general health anxiety (where for health consciousness) into specific, product-related knowledge. A critical strategic insight is revealed by comparing product attribute correlations: convenience preference holds a marginally stronger predictive power than brand preference. Given that the consumer base is largely young working professionals (74% aged 18–35), adherence to simple, non-disruptive routines is a key functional requirement for long term usage. This finding suggests that product innovation in easy-to-use formats is a vital competitive edge, even over established branding. The demographic skews further segment the market. The highly significant gender disparity with males showing higher usage indicates that consumption is substantially influenced by the sports and fitness nutrition segment prevalent in urban centres. This sub-segment often drives high consumption rates for products like protein and performance boosters. Furthermore, the non-significant effect of income validates the established view that supplements are perceived as a value-based, necessary investment against rising medical inflation, making them an expenditure across all urban economic strata.

Table 6: Present Study (Hyderabad) versus General Indian/Global Nutraceutical Consumer Trends

Factor	Present Study (Hyderabad, N=450)	Previous Studies (General Market Trends)
Primary Usage Driver	Awareness; Informed Knowledge	Health Consciousness; Preventative action; Safety concerns
Income/Price Sensitivity	Non-significant	Cost-effective alternative to high medical care (Value Focus)
Dominant Consumer Age	Young Adults (74% aged 18–35)	Younger age groups (15–35) dominate due to active lifestyles
Brand Trust	Correlated with Awareness; Built by verification	Public trust in advertising is low, but increases with usage frequency
Gender Bias	Males consume significantly more	Women generally more health conscious, but specific segments skew male

Findings

Based on the quantitative analysis of 450 respondents in Hyderabad, the following key findings were established [1]:

- **Awareness is the Strongest Predictor:** Awareness of supplement benefits demonstrates the highest positive correlation, confirming its role as the paramount factor driving supplement usage behaviour.
- **Psychological Motivators are Highly Significant:** Perceived essentiality, convenience preference, and brand preference all demonstrate highly significant positive correlations with adoption.
- **Convenience Outweighs Branding:** Convenience preference has a greater influence on usage behaviour than brand preference, suggesting product format and ease of routine compliance are key differentiators.
- **Gender Disparity in Usage:** Gender significantly affects supplement usage, with males reporting higher consumption, indicating a dominant influence from the fitness and performance nutrition market segments.
- **Income is Non-Limiting:** Household income does not significantly affect usage behaviour, reinforcing the view that supplements are considered an essential component of preventative health across all urban economic strata.

Recommendations

The findings provide clear, actionable directions for nutraceutical manufacturers, healthcare policymakers, and marketing professionals:

- Awareness & Education: Collaborate with healthcare professionals and social media influencers to develop and distribute comprehensive, evidence-based educational content. This leverages professional trust to disseminate reliable information, capitalizing directly on the strongest identified usage driver.
- Product Innovation: It offers suitable formats such as ready-to-drink beverages and single serve packets which has the high preference for convenience, prioritizing user compliance through product innovation is a strategically important.
- Trust Building: For trust building show scientific studies, certifications, and brand reliability on all communication platforms. This transparency is important for solidifying brand preference.
- Digital Marketing: Use targeted marketing campaigns focusing on the health conscious and gender segmented potential customers ensuring strict adherence to ethical digital marketing practices (e.g., explicit consent, data transparency) to maintain consumer comfort.
- Pricing Strategy: To encourage use across all income segments offer value based offerings such as combo packs and subscription models, which change the perception of supplements as an essential value investment.

Limitations

The interpretation of these findings must consider the inherent constraints of the research design:

1. **Geographic Scope:** The data was collected only from Hyderabad, limiting the results to urban populations only therefore the results in rural areas or in other metropolitan cities may differ.
2. **Sampling Bias:** The use of convenience sampling may have introduced the selection of sampling biasness, leading to an excess of certain easily accessible consumer groups.
3. **Data Reliance:** The study majorly depends on self-reported questionnaire data, which may show social desirability bias and affecting the accuracy of usage frequencies and attitudes.

Conclusion

This quantitative analysis confirms that supplement adoption in Hyderabad is majorly driven by informed psychological factors, specifically awareness and perception of nutraceuticals as preventive healthcare, which are strongly supported by the important product attribute of convenience. The study provides a clear framework for market strategy: that shows the success depends on consumer education and the provision of easily usable product types. By recognizing the gender segmentation toward fitness nutrition and the income neutral status of supplements, brands can design tailored, trust oriented communication strategies to effectively increase adoption and secure market share in this rapidly evolving sector.

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