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ASSESSING HERBAL SUPPLEMENT USAGE: INFLUENCE OF SOCIO DEMOGRAPHIC VARIABLES

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ABSTRACT

Herbal products are products that are made and processed using herbs. Herbal supplements can include extracts, powders, capsules, or teas made from herbs known for their medicinal properties. They are often marketed as natural alternatives to conventional medicine and are believed to promote overall health and well-being. This study aims to assess the usage level of herbal supplements among consumers and also to investigate the influence of socio-demographic variables on the usage of herbal health care supplements. The structured questionnaire was distributed among 300 respondents in the Coimbatore district using a Convenient sampling method. T-test, ANOVA, weighted mean rank, and multiple regression analysis were used to analyse and interpret the result. The analysis using T-tests and ANOVA reveals that age and education have been identified as influential factors affecting the usage of herbal supplements, whereas gender, marital status, monthly income, and family income were found to have no significant impact on supplement usage levels. Multiple Regression Analysis revealed that age positively influences usage whereas education negatively influences the usage. The study also finds that independent variables explain 5.3% of the variance in supplement usage, with the remaining 94.7% attributed to other factors.

Keywords:
Herbal Supplement, Usage, Herbal Product, Healthcare treatment, consumer preference

INTRODUCTION

The herbal medicine market in India has shown substantial growth, fueled by increasing consumer awareness of natural health alternatives and the government's support for traditional medicine systems like Ayurveda, Yoga, Unani, Siddha, and Homeopathy (AYUSH). According to a report by Research and Markets, the Indian herbal market was valued at approximately USD 3.6 billion in 2020 and is projected to reach around USD 10 billion by 2026, growing at a compound annual growth rate (CAGR) of about 18% during the forecast period. A survey conducted by the Associated Chambers of Commerce and Industry of India (ASSOCHAM) found that there is a growing preference among Indian consumers for herbal and natural products over synthetic ones. This shift is largely driven by perceptions of safety, fewer side effects, and a preference for holistic health approaches. The Indian government has taken steps to regulate the herbal supplement industry through various measures such as the establishment of the Ministry of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homoeopathy) to promote traditional medicine systems. This has helped in standardizing practices and ensuring quality control of herbal products. The following are some of the top herbal product manufacturers in India. They are Himalaya Herbals, Dabur India, Patanjali Ayurved, Alicanto Biotech, Baidyanath, Sri Sri Tattva, Zandu Ayurveda, AIMIL Pharmaceuticals, Hamdard and Vicco Laboratories.

REVIEW OF LITERATURE

Mahish et. al (2016) in their study they aimed to assess the awareness of herbal medicines among the literate population through a survey-based approach. Factors such as the reasons for using herbal medication, awareness levels based on an index, and demographic characteristics were considered. The research concluded that the literate population generally possesses adequate knowledge about herbal medicines, including their usage and manufacturers. **Kamaruniza et.al (2022)** attempted to analyze the consumption habits of herbal products among these consumers and to Investigate the factors that influence consumer buying behavior towards herbal products. Percentage Analysis, ANOVA, Factor analysis, Correlation and Regression were used by the researchers. They

found that there is no significant difference in the qualification, and mode of purchase towards the perception of buying behaviour. Further the regression analysis revealed that the monthly Income of the consumers are closely associated with buying behaviour. The factor analysis has supported up to 68.376 percent. **Vijayadharani et. al (2022)** attempted to understand and analyze the behavioural differences between rural and urban consumers to develop a marketing plan for herbal products. A survey was conducted among 150 residents of Namakkal district regarding their awareness and preferences concerning herbal personal care products and their satisfaction with those products. It is found that both rural and urban consumers are aware of Himalaya Herbals and brand image and health consciousness are the most influential factors. **Suriyage and Leon (2023)** aimed to identify factors influencing consumer buying decisions towards herbal products. They collected data from 200 customers in Monaragala District, Sri Lanka, using snowball sampling and analyzed it with descriptive, correlation, and multiple regression analyses. The study found strong positive relationships between consumer buying decisions and factors such as health consciousness, social influence, product price, perceived value, and trust. Social influence emerged as the most influential factor. Multiple regression analysis showed that these factors explained about 87 percent of the variation in buying decisions.

STATEMENT OF THE PROBLEM

Health care has transformed worldwide due to the development and mass manufacture of chemically synthesized medicines. Companies are expanding their product lines to include a variety of herbal supplements targeting different health needs, from immunity boosters to dietary supplements. Herbal supplements are easily accessible and affordable. The demand for organic and natural health products continues to rise, driven by increasing health consciousness among consumers. consumers use herbal supplements alongside conventional medicines. Ayurveda, Siddha, and other traditional systems of medicine have a deep-rooted influence on Indian culture. Many Consumers prefer herbal supplements due to their perceived natural origins and alignment with traditional health practices. Understanding usage patterns helps healthcare providers integrate these practices into treatment plans, ensuring coordinated care and minimizing potential conflicts.

OBJECTIVES OF THE STUDY

- To assess the degree of usage of herbal supplements among consumers.
- To determine the influence of socio-demographic variables on the usage of herbal supplements.

RESEARCH METHODOLOGY

The study was conducted in the district of Coimbatore. This research study used both primary and secondary data. Data was collected using structured questionnaires. In this study, 300 respondents were selected as samples using the convenience sampling method. The study used secondary data from journals, articles, and websites. The researcher analyzed and interpreted the results using T-test, ANOVA, weighted mean rank, and multiple regression analysis.

ANALYSIS AND INTERPRETATION

Table 1 shows the socio-demographic profile and usage of herbal supplements of consumers. the data was analyzed using simple percentages, T-test, and ANOVA. The Usage of Herbal supplements may vary depending upon the socio-demographic variables of the consumers, hence the following hypothesis was framed and tested using T-test and ANOVA.

Hypothesis

$H_0$1: There is no significant difference between the socio-demographic profile of consumers and usage of herbal supplement

Table 1 Socio-demographic profile and usage of herbal supplement

Socio-Demographic Profile	Frequency	Percent	Mean usage	S.D	F-Test /	p-value	Result

						T-test		
Gender	Male	144	48.0	3.15	1.27	1.021	0.308	Not Significant
	Female	156	**52.0**	3.00	1.22			
Age	20-30 years	60	20.0	3.00	1.12	2.610	0.036*	**Significant**
	31-40 years	147	**49.0**	2.92	1.25			
	41-50 years	71	23.7	3.26	1.31			
	51-60 years	19	6.3	3.76	1.03			
	Over 60 years	3	1.0	3.42	1.96			
Education	School level	25	8.3	3.68	1.17	2.300	0.035*	**Significant**
	Diploma	17	5.7	2.81	0.91			
	Bachelor Degree	52	17.3	3.37	1.27			
	Master Degree	135	**45.0**	2.91	1.19			
	Doctorate	57	19.0	3.01	1.42			
	Professional	12	4.0	2.85	1.00			
	No formal education	2	0.7	4.00	0.20			
Marital Status	Married	248	**82.7**	3.05	1.27	0.637	0.525	Not Significant
	Unmarried	52	17.3	3.17	1.11			
Occupation	Private Employee	175	**58.3**	2.97	1.25	1.381	0.231	Not Significant
	Government Employee	22	7.3	3.54	1.20			
	Own Business	31	10.3	3.40	1.37			
	Agriculture	22	7.3	2.92	1.07			
	House Wives	29	9.7	3.16	1.16			
	Student	21	7.0	2.96	1.29			
Monthly Income	Below ₹25000	100	33.3	2.94	1.14	1.715	0.131	Not Significant
	₹25000-₹50000	110	**36.7**	3.20	1.30			
	₹50001-₹75000	30	10.0	2.92	1.43			
	₹ 75001-₹100000	7	2.3	4.18	0.54			
	Above ₹100000	9	3.0	2.87	1.14			
	Dependent	44	14.7	3.03	1.25			
Family Income	Below ₹50000	141	**47.0**	2.99	1.18	0.874	0.480	Not Significant
	₹50001-₹100000	114	38.0	3.13	1.31			
	₹100001-₹150000	26	8.7	3.23	1.13			
	₹150001-₹200000	5	1.7	3.85	1.38			
	Above ₹200000	14	4.7	2.90	1.51			
Total		**300**	**100**					

Source: Primary data (Computed) ; * denotes -significance @ 5%

Table 1 indicates that, Out of 300 consumers, 51.2 percent are female. A majority of 49 percent of the consumers were between the ages of 31 and 40. A majority of them, i.e. 45 percent, possess

master's degrees. The highest percentage of consumers are married which constitutes 82.7 percent. In terms of occupation, 58.3 percent of consumers are private employees. In terms of monthly income, 36.7 percent of consumers earn between ₹25,000 and ₹50,000. Family income among consumers is below ₹50,000 for 47 percent.

The calculated p-value for age (0.036) and Education (0.035) was less than 0.05 level of significance, hence **the null hypothesis is rejected** and it is concluded that there is a significant difference between age and usage as well as between education and usage.

The p-value for gender (0.308), marital Status (0.525), occupation (0.231), monthly Income (0.131), and family Income (0.480) were greater than 0.05 level of significance, **the null hypothesis is accepted** and it is concluded that there is no significant difference between usage and Gender, as well as between marital status, occupation, monthly Income, and family income.

MULTIPLE REGRESSION ANALYSIS

Hypothesis

$H_0$2: There is no significant relationship between socio-demographic variables and usage of herbal supplement

Table 2 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.229[a]	.053	.030	1.23128

a. **Predictors**: (Constant), Family Income, Gender, Age, Education, Monthly Income, Marital status, Profession

Table 3 ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.543	7	3.506	2.313	.026[a]
	Residual	442.688	292	1.516		
	Total	467.232	299			

a. **Predictors**: (Constant), Family Income, Gender, Age, Education, Monthly Income, Marital status, Profession

b. **Dependent Variable**: Usage

Table 4 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.464	.553		4.459	.000
	Gender	-.067	.150	-.027	-.448	.654
	Age	.276	.094	.191	2.935	.004**
	Education	-.133	.066	-.130	-2.004	.046*
	Marital status	.420	.221	.127	1.897	.059
	Profession	-.021	.063	-.028	-.329	.743
	Monthly Income	.005	.057	.007	.091	.928
	Family Income	.083	.077	.067	1.079	.281

a. **Dependent Variable**: Usage

Note : ** significance @ 1% level , * significance @ 5%

To determine the influence of independent variables on the Dependent variable the regression equation is formulated. Dependent Variable: Usage (Y). Independent variables are gender, age, education, marital status, profession, monthly income, and family income.

Table 2 shows the model summary, the value of r-square indicates that about 5.3 percent variation in the dependent variable is explained by the variances of independent variables with a correlation of 22.9 percent.

Table 3 indicates that the multiple linear regression model fit. The p-value (0.026) is less than 0.05 with a f-value of 2.313 suggests that the estimated model is a fit.

Table 4 represents the multiple linear regression model. From the regression estimates the following Multiple Regression equation is derived:

Usage (Y) = constant + Age X1+Education X2 +e (error term)

Y = 2.464 +0.276X1- 0.133X2+e

The equation shows that there is a significant influence of age and education on the usage of herbal supplements. Age positively influences the usage of herbal supplements. It implies that usage of herbal supplements would increase by 0.276 for every unit increase in age. Education negatively influences the usage of Herbal supplements. It shows that the usage will decrease by 0.133 for every unit increase in educational qualification.

Table 5 Preference for Herbal Product Companies

Herbal Companies	Frequency	Percent
Himalaya Herbals	128	34.97
Dabur India	105	28.69
Patanjali	73	19.95
Baidyanath	32	8.74
Zandu	17	4.64
Others	11	3.00
	366	**100**

Source : Primary Data

Table 5 shows the consumer preference towards herbal products companies, 366 responses from 300 consumers, it is found that the majority 34.97 percent of consumers choose Himalaya herbals as their first choice among herbal product companies, followed by Dabur India 28.69 percent, Patanjali 16.57 percent, Baidyanath 8.74 percent, Zandu 4.64 percent choose, and 3 percent choose other companies.

Table 6 Usage of herbal supplements for healthcare treatments

Treatment	Frequently Use	Almost Every time	Occasionally / Sometimes	Almost never	Never Use	Mean Score	Weighted Mean Score	Rank
Cough and Cold	32 (10.7)	48 (16.0)	113 (37.7)	40 (13.3)	67 (22.3)	838	2.79	1
Nutrition Supplement	35 (11.7)	41 (13.7)	94 (31.3)	49 (16.3)	81 (27)	800	2.67	2
Acidity	16 (5.3)	35 (11.7)	112 (37.3)	47 (15.7)	90 (30)	740	2.47	3
Immunity Booster	20 (6.7)	32 (10.7)	104 (34.7)	42 (14.0)	102 (34.0)	726	2.42	4
Digestion	13 (4.3)	33 (11.0)	103 (34.3)	49 (16.3)	102 (34.0)	706	2.35	5
Constipation	14 (4.7)	34 (11.3)	95 (31.7)	48 (16.0)	109 (36.3)	696	2.32	6
Weight Loss	15 (5)	23 (7.7)	95 (31.7)	57 (19)	110 (36.7)	676	2.25	7
Cholesterol	12	26	93	59	110	671	2.24	8

	(4.0)	(8.7)	(31.0)	(19.7)	(36.7)			
Diabetes	8	27	70	58	137	611	2.04	9
	(2.7)	(9.0)	(23.3)	(19.3)	(45.7)			

Source : Primary data (computed)

Table 6 shows the usage pattern of herbal supplements for treating health conditions. The weighted mean score value ranges from 2.79 to 2.04. This shows that herbal supplements are used rarely. However, Consumers prefer herbal supplements for the treatment of coughs and colds, followed by herbal nutrition, acidity, immunity boosters, digestion, constipation, weight loss, and cholesterol control. The last preference in choosing herbal supplements is for Treating diabetes.

RECOMMENDATIONS

- Implement measures to increase consumer trust by improving the efficiency and safety of herbal supplements.
- Raising awareness about the benefits of herbal supplements among the younger generation through social media platforms, workshops, and seminars
- The availability of herbal supplements in pharmacies and health food stores was to be improved.
- Consumers should ensure that the herbal supplement contains Detailed information on the usage and dosage of herbal supplements on its label.
- Implement strict regulations for herbal supplements based on GMPs and FDA standards to prevent misleading claims.
- Encourage patients to report side effects and provide feedback.
- Patients should consult healthcare providers before starting herbal treatments and avoid making personalized usage and dosage decisions.

CONCLUSION

The study reveals a significant influence of age and education on usage levels. Age positively impacts usage, while higher education correlates with lower usage. These factors explain 5.3 percent of usage variance, other factors will contribute 94.7 percent. The study recommends improving consumer trust, raising awareness via education and social media, ensuring accessibility and labeling standards, enforcing stringent regulations, and promoting healthcare provider consultations for informed supplement usage will enhance consumer preferences and usage of health supplements, contributing to improved healthcare outcomes.

REFERENCES

Biotech, A. (2024, May 9). List of herbal products manufacturers in India. https://www.linkedin.com/pulse/list-herbal-products-manufacturers-india-alicanto-biotech-yhpff

Department of Health & Human Services. (n.d.). Herbal medicine. Better Health Channel. https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/herbal-medicine

Ekor, M. (2014). The growing use of herbal medicines: issues relating to adverse reactions and challenges in monitoring safety. *Frontiers in Pharmacology*, 4. https://doi.org/10.3389/fphar.2013.00177

Ewumi, O. (2022, October 6). *What is herbal medicine, and what are the benefits?* https://www.medicalnewstoday.com/articles/herbal-medicine

Herbal medicine. (n.d.). Mount Sinai Health System. https://www.mountsinai.org/health-library/treatment/herbal-medicine

Kamaruniza,A., Latha, D.S., Kavitha,C., & Kavin, M.S.(2022). A Study On Consumer's Buying Behavior Towards Herbal Products With Special Reference To Chennai City. *Journal of Positive School Psychology*, 6(7),1765 -1774. https://journalppw.com

Mahish, P. K., Mahobia, R., & Yadav, J. (2016). Use and awareness of herbal medicines among literate population. *International journal of pharma and bio sciences*, *7*(4), 174-178. https://doi.org/10.22376/IJPBS.2016.7.4.P174-178.

Ministry of Ayush, Government of India , https://www.ayush.gov.in/

Research and Markets. (2021). *India Herbal Medicine Market - Growth, Trends, COVID-19 Impact, and Forecasts (2021 - 2026)*. Retrieved from Research and Markets.
Suriyage, R. D. S. D., & Jude Leon, S. A. (2023). Factors Influencing Consumer Buying Decision towards Herbal Products in Monaragala District, Sri Lanka. *Kelaniya Journal of Management,* 12 (1), *55 -62.* https://doi.org/10.4038/kjm.v12i1.7739.
Vijayadharani, S., Uma, K., Rohini, A., & Vasanthi, R. (2022). Brand awareness and brand preference towards herbal personal care products of FMCG brands: a comparative study between rural and urban consumers of Namakkal District. *Asian Journal of Agricultural Extension, Economics & Sociology*, 40(10), 458 - 463. https://doi.org/10.9734/ajaees/2022/v40i1031097.