



INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact Factor: 6.078

(Volume 10, Issue 6 - V10I6-1227)

Available online at: <https://www.ijariit.com>

Efficacy of a Topical Ayurvedic Preparation (Zandu Universal Oil) – Relief from Cold and Associated Symptoms

Dr. G. Gandhimathi

drgandhigr27@gmail.com

GR Ayurvedic Research Centre, Chennai

Chandra Mohan Nandi

chandran@emamigroup.com

Emami Limited, Kolkata

Sadaf Nadeem

sadafn@emamigroup.com

Emami Limited, Kolkata

ABSTRACT

Zandu Universal Oil is a topical ayurvedic formulation comprising active ingredients such as Mentha sp., Gaultheria fragrantissima, Cinnamomum camphora, Eucalyptus globulus, Melaleuca leucadendron, Elettaria cardamomum oil, and Capsicum annuum in a base (q.s.). This study aims to evaluate the efficacy of this over-the-counter (OTC) product for relieving symptoms of cold and pain. A prospective, open-label, phase 4 study was conducted with consenting adults (n=30) who were experiencing cold-related symptoms. Each participant received one bottle of the product to use over a 6-day period and provided feedback on its effectiveness using a visual analogue scale. Efficacy scores were recorded on days 0, 2, 4, and 6. Results showed significant relief from cold and nasal congestion within 2 days, and a reduction in headache and body pain (measured as backache) associated with cold by day 6 (p < 0.001). Conclusion: Zandu Universal Oil is an effective remedy for alleviating cold symptoms and associated discomfort.

Keywords: Zandu, Common Cold, Pain Relief, Nasal Congestion, Headache

INTRODUCTION

The common cold is one of the most prevalent illnesses among both adults and children, primarily caused by upper respiratory tract infections transmitted through virus-infected droplets or direct contact with contaminated secretions. Common symptoms include cough, sore throat, sneezing, and nasal congestion, which often presents as a runny or blocked nose. Additionally, colds are frequently associated with pain, typically manifesting as headaches or body aches. Since the common cold is a self-limiting condition, it is often managed with over-the-counter (OTC) medications, including topical treatments and tablets. Research on consumer purchasing behavior in retail settings indicates that OTC products for pain relief, allergies, and cough/cold symptoms are among the most frequently purchased items. Topical pain relief products, available as creams, ointments, or gels, commonly contain ayurvedic ingredients. Ayurvedic products have been growing in popularity, with approximately 25% of sales in the OTC market attributed to these remedies. Zandu Universal Oil is an ayurvedic topical formulation containing Mentha sp. (20%), Gaultheria fragrantissima (15%), Cinnamomum camphora (11%), Eucalyptus globulus (8%), Melaleuca leucadendron (2%), Elettaria cardamomum oil (0.15%), and Capsicum annuum (0.0025%) in a suitable base. The product is applied to areas such as the head, neck, chest, and back to relieve pain and congestion. Zandu Universal Oil claims to provide comforting relief from cold symptoms, including blocked nose, headache, and body pain. This study was conducted to evaluate and substantiate these claims.

MATERIAL AND METHODS

Study Design

This prospective, open-label, phase 4 study was conducted using market samples of Zandu Universal Oil. A total of 30 subjects, aged 18–60 years, who were experiencing cold, nasal congestion, headache, and body ache associated with cold were enrolled in the study after providing informed consent in their preferred language (either their mother tongue or English). Participants with pre-existing conditions such as allergies, hypersensitivity, or migraines were excluded.

The study was conducted over a two-month period (from 1st September 2024 to 1st October 2024), with each subject observed for a duration of 6 days. Each participant received one bottle of Zandu Universal Oil (net weight: 28 ml) and provided feedback via a set of tailored questions developed by the investigators. Responses were recorded on a visual analog scale ranging from 0 to 4, with scores defined as follows: 0 - "Poor," 1 - "Fair," 2 - "Good," 3 - "Very Good," and 4 - "Excellent." The evaluated parameters included cold-related issues, nasal congestion, headache due to cold, and body aches associated with cold. Scores were documented on days 0, 2, 4, and 6.

STATISTICAL METHODS

To assess the significance of Zandu Universal Oil's efficacy across the measured parameters, a two-tailed Student's t-test was performed.

RESULTS

An analysis of the demographic data (Tables 1 and 2) revealed that female participants constituted a slightly higher proportion of the study population (56.7%) compared to male participants (43.3%). The average age of female subjects was 41.35 years, while the average age of male subjects was 43.3 years. In terms of occupational distribution (Table 3 and Graph 1), most participants were from the service sector (43.33%), followed by House wife (33.33%). The fewest participants were from the business sector (6.67% each), with students accounting for 10.0%.

Regarding pre-existing conditions (Table 4 and Graph 2), the most commonly reported issue was cold and blocked nose (40.0%), followed by headache due to cold (36.7%) and backache due to cold (23.3%). A two-tailed significance test (Table 5) showed a statistically significant reduction in symptoms from day 0 to day 2 ($p < 0.001$) across all parameters. Improvements in cold and blocked nose, headache, and backache due to cold were significant on days 2, 4, and 6 compared to the baseline (day 0).

Visual analogue scale scores (Table 6) indicated progressive efficacy across different symptoms. On day 6, 83.33% of participants rated relief from cold and blocked nose as "excellent," a notable increase from day 4, where 41.67% rated it as "excellent" (Graph 3). Similarly, for headache relief, 81.82% of participants rated it as "excellent" by day 6, compared to 18.18% on day 4 (Graph 4). For backache relief, 71.43% of participants rated their relief as "excellent" by day 6, an improvement from 14.29% on day 4 (Graph 5).

The overall reduction in symptoms is summarized in Table 7 and Graph 6. Using day 0 as the baseline (100%), cold and blocked nose symptoms decreased to 55.56% by day 2, 17.78% by day 4, and 4.44% by day 6. Headache symptoms reduced from 100% to 53.66% on day 2, 24.39% on day 4, and 4.88% on day 6. Similarly, backache symptoms decreased from 100% to 61.54% on day 2, 26.92% on day 4, and 7.69% on day 6.

DISCUSSION

The efficacy of Zandu Universal Oil, a topical ayurvedic preparation, was assessed in 30 subjects over a 6-day period. Visual analogue scores provided by the subjects on days 0, 2, 4, and 6 were analyzed to measure the product's performance. A two-tailed significance test showed a marked reduction in cold and congestion symptoms as early as day 2 when compared to baseline (day 0) ($p < 0.001$). Other symptoms, such as headache and backache due to cold, also demonstrated significant improvement on days 2, 4, and 6 relative to day 0 ($p < 0.001$), suggesting that Zandu Universal Oil effectively alleviates cold-related symptoms.

The visual analogue scores were converted to percentage distributions to evaluate efficacy parameters more clearly. On day 0, subjects rated the product's effect on cold and congestion symptoms as fair, good, or very good; by day 6, however, 83.33% of the participants reported "excellent" relief.

For symptoms like headache due to cold and backache due to cold, the scores varied between fair, good, and very good on day 2. By day 6, these symptoms saw significant improvement, with 81.82% and 71.43% of subjects reporting "excellent" scores for headache and backache, respectively. Collectively, these data indicate that Zandu Universal Oil effectively improves symptoms associated with colds.

To evaluate overall performance, the reduction in efficacy parameters—cold and congestion, headache, and backache—was also examined. Setting day 0 at 100%, cold and congestion symptoms declined to 4.44% by day 6. Similarly, headache due to cold and backache due to cold were reduced from 100% to 4.88% and 7.69%, respectively, by day 6. This represents an approximately tenfold reduction in cold and associated symptoms, demonstrating the product's strong efficacy in providing symptom relief.

CONCLUSION

The findings from the 60-day prospective open-label clinical trial on Zandu Universal Oil indicate that the product is an effective remedy for headaches caused by cold, nasal congestion, and backaches related to cold symptoms. Participants in the study reported significant relief from these complaints, regardless of their severity. Additionally, there was excellent overall compliance with the treatment, and no clinically significant adverse reactions were observed. Therefore, it can be concluded that Zandu Universal Oil is effective in alleviating headaches due to cold, nasal congestion, and backaches due to cold.

RESULTS

Table 1: Age

	N	Mean
Female	17	41.35
Male	13	43.3
Total	30	42.5

Table 2: Gender

	N	%
Female	17	56.7
Male	13	43.3
Total	30	100.0

Table 3: Occupation

Occupation	Subjects	Percentage
Maid	2	6.67
Student	3	10.00
House wife	10	33.33
Business	2	6.67
Service	13	43.33
Total	30	100

Graph 1: Occupation

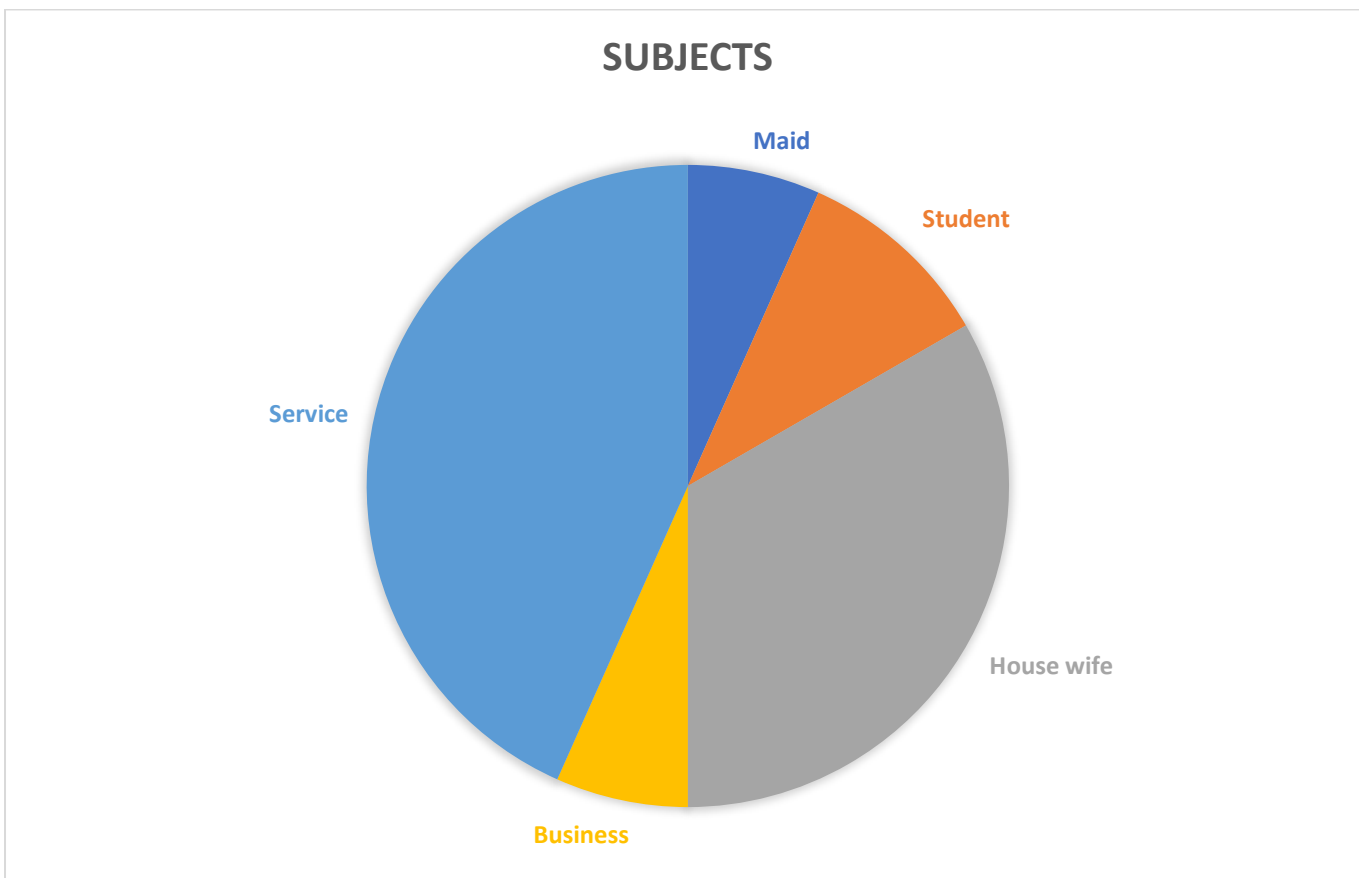


Table 4: Efficacy In Pain Reduction

Existing problems	N	Percentage
Cold & Blocked Nose	12	40.0
Headache due to cold	11	36.7
Back ache due to cold	7	23.3
Total	30	100.0

Graph 2: Existing Issues

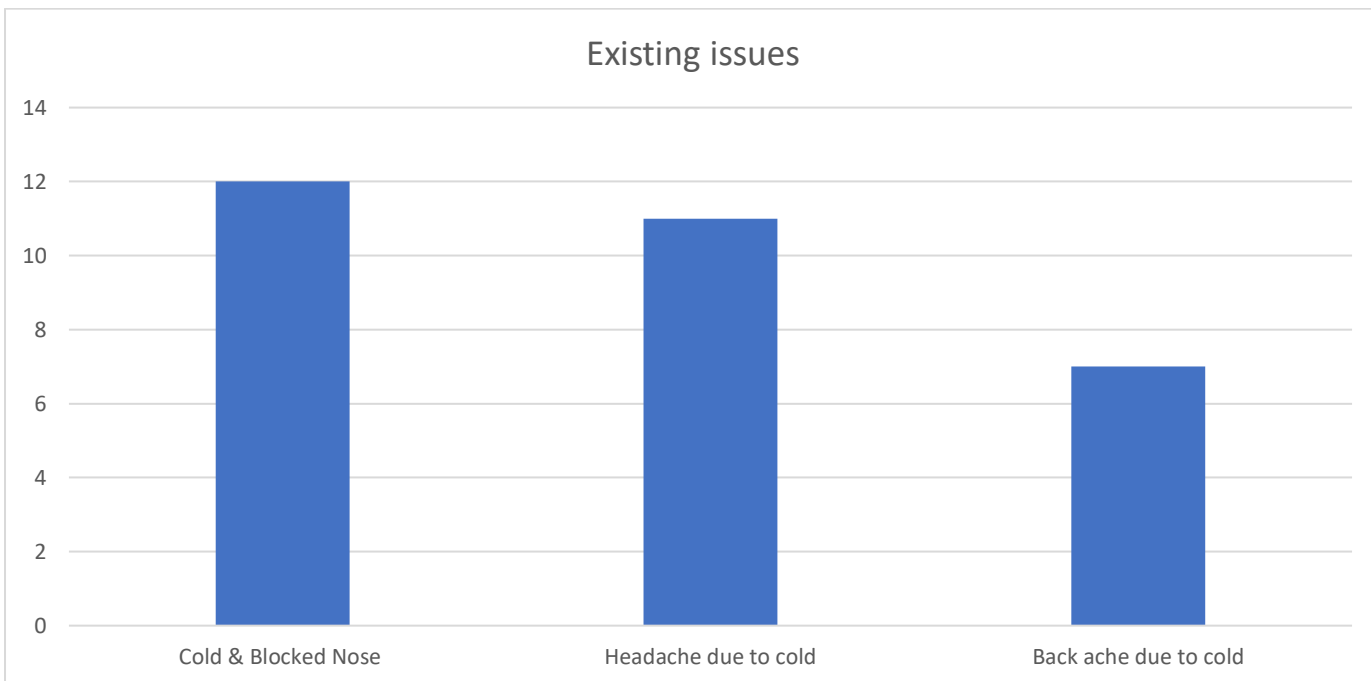


Table 5: zandu universal oil efficacy parameters - test for significance

Efficacy	Cold and Blocked nose		Headache due to cold		Backache due to cold	
	T value	Sig	T value	Sig	T value	Sig
Day 0 vs Day 2	1.474	p<0.001	0.849	p<0.001	4.009	p<0.001
Day 0 vs Day 4	0.586	p<0.001	0.522	p<0.001	0.618	p<0.001
Day 0 vs Day 6	0.071	p<0.001	4.548	p<0.001	0.268	p<0.001
Day 2 vs Day 4	1.193	p<0.001	5.737	p<0.001	4.104	p<0.001
Day 2 vs Day 6	5.539	p<0.001	1.313	p<0.001	6.413	p<0.001
Day 4 vs Day 6	6.872	p<0.1	3.950	p<0.01	8.237	p<0.1

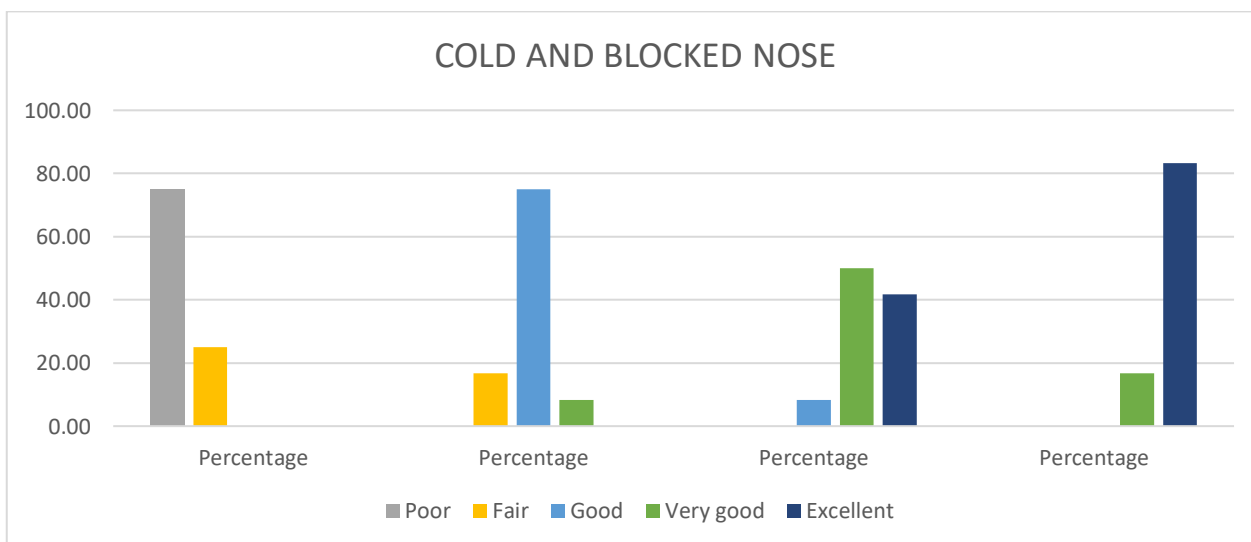
Table 6: Zandu Universal Oil Efficacy Parameters- Percentage Distribution

Efficacy	Day 0		Day 2		Day 4		Day 6	
	N	Percentage	N	Percentage	N	Percentage	N	Percentage
Cold and blocked nose								
Poor	9	75.00	0	0.00	0	0.00	0	0.00
Fair	3	25.00	2	16.67	0	0.00	0	0.00
Good	0	0.00	9	75.00	1	8.33	0	0.00
Very good	0	0.00	1	8.33	6	50.00	2	16.67
Excellent	0	0.00	0	0.00	5	41.67	10	83.33

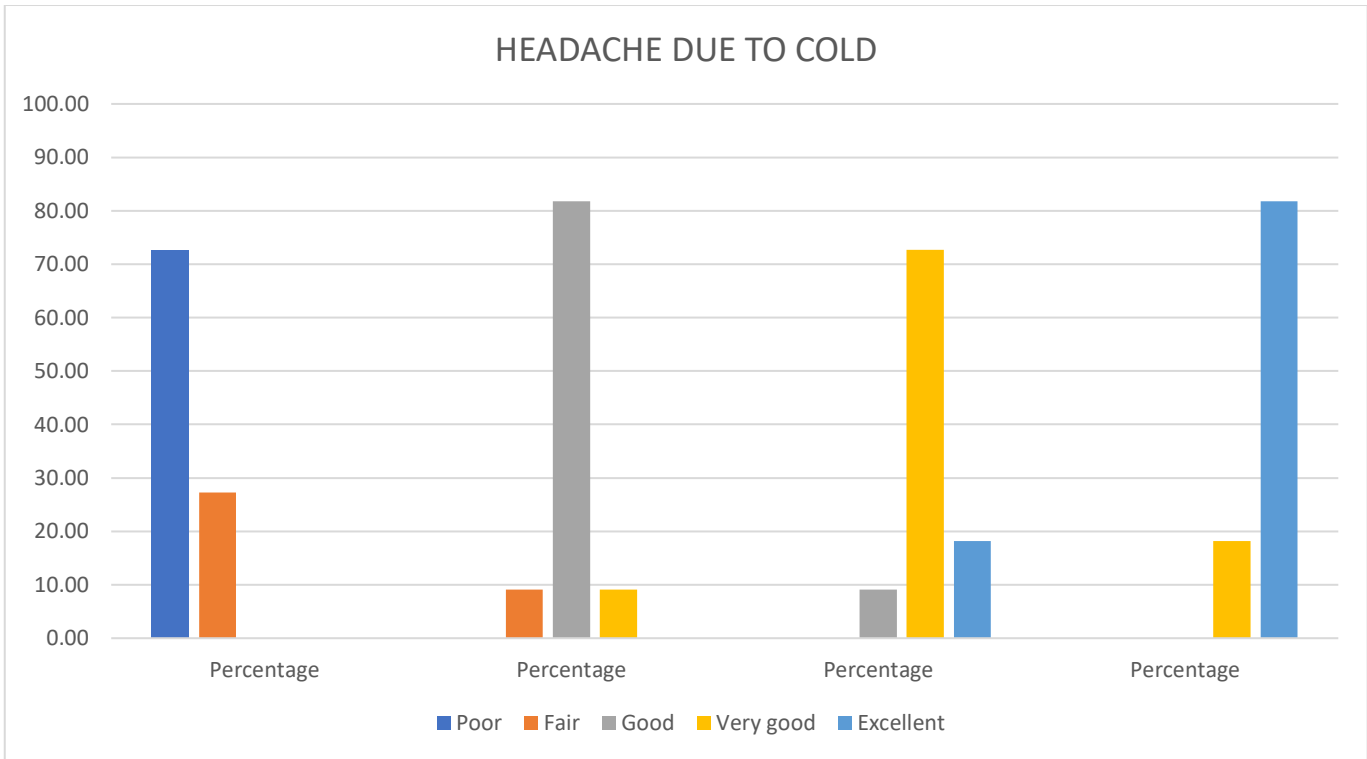
Headache due to cold	Day 0		Day 2		Day 4		Day 6	
	N	Percentage	N	Percentage	N	Percentage	N	Percentage
Poor	8	72.73	0	0.00	0	0.00	0	0.00
Fair	3	27.27	1	9.09	0	0.00	0	0.00
Good	0	0.00	9	81.82	1	9.09	0	0.00
Very good	0	0.00	1	9.09	8	72.73	2	18.18
Excellent	0	0.00	0	0.00	2	18.18	9	81.82

Backache due to cold	Day 0		Day 2		Day 4		Day 6	
	N	Percentage	N	Percentage	N	Percentage	N	Percentage
Poor	5	71.43	0	0.00	0	0.00	0	0.00
Fair	2	28.57	2	28.57	0	0.00	0	0.00
Good	0	0.00	5	71.43	1	14.29	0	0.00
Very good	0	0.00	0	0.00	5	71.43	2	28.57
Excellent	0	0.00	0	0.00	1	14.29	5	71.43

Graph 3: Efficacy Parameters – Cold and Blocked Nose



Graph 4: Efficacy Parameters – Headache Due to Cold



Graph 5: Efficacy Parameters – Backache Due To Cold

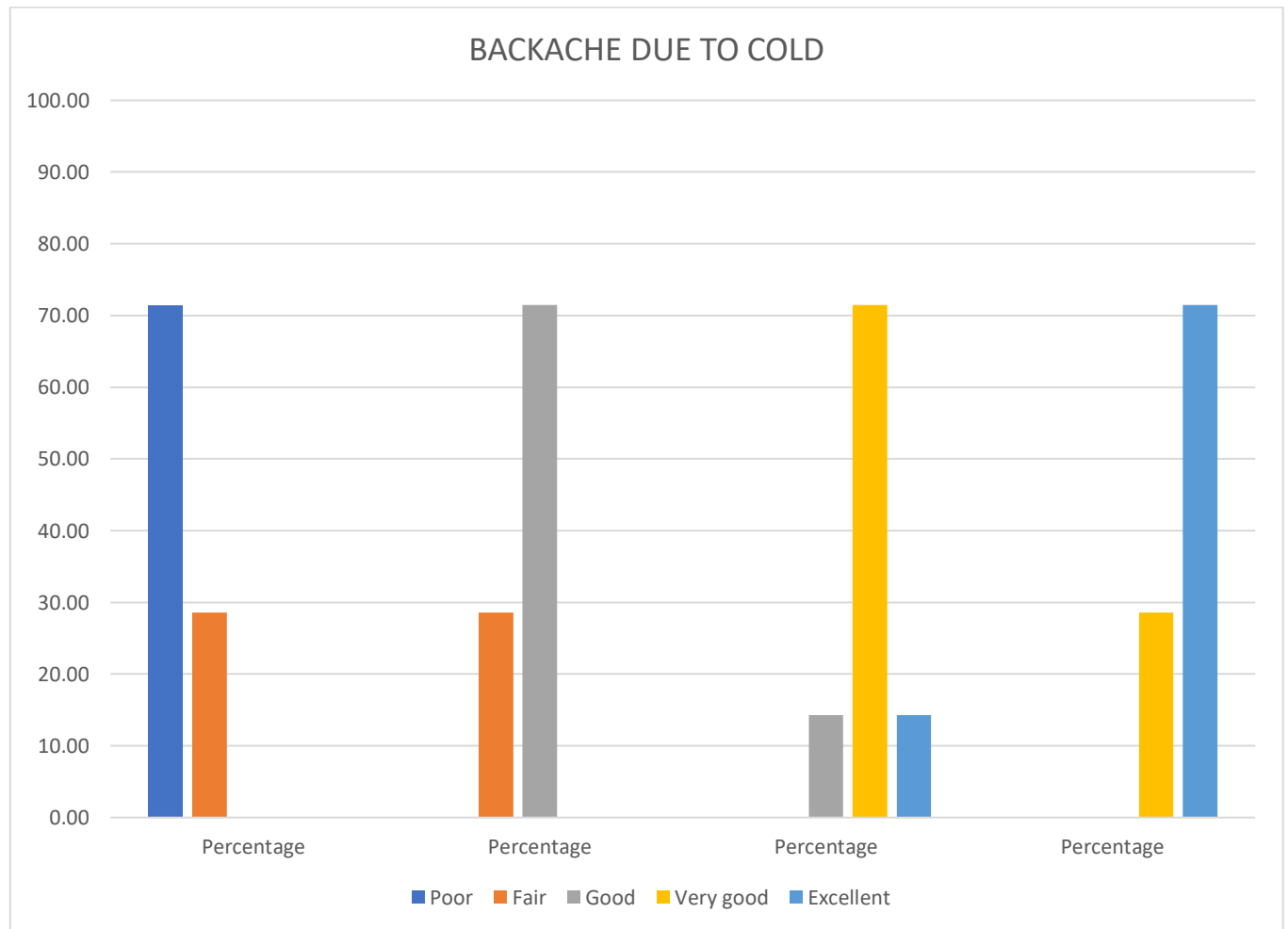
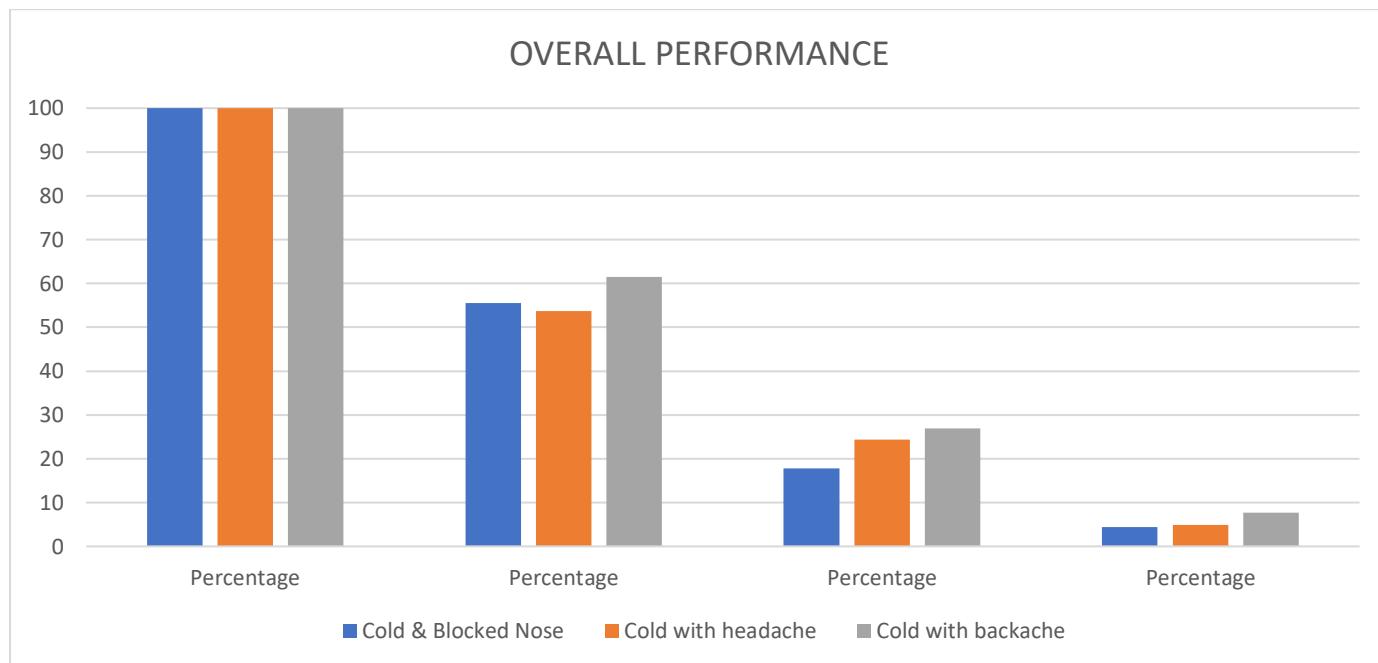


Table 7: Overall Performance

Efficacy parameters	Day 0		Day 2		Day 4		Day 6	
	N	Percentage	N	Percentage	N	Percentage	N	Percentage
Cold & Blocked Nose	3.75	100	2.08	55.56	0.67	17.78	0.17	4.44
Cold with headache	3.73	100	2.00	53.66	0.91	24.39	0.18	4.88
Cold with backache	3.71	100	2.29	61.54	1.00	26.92	0.29	7.69

Graph 6: Overall Performance



REFERENCES

- [1]. Menthol: Galeotti, N., Di Cesare Mannelli, L., Mazzanti, G., Bartolini, A., & Ghelardini, C. (2002). Menthol: A natural analgesic compound with antinociceptive properties. *Neuroscience Letters*.
- [2]. Wintergreen Oil : Leung, A.Y., & Foster, S. (1996). Methyl Salicylate (Wintergreen Oil). In *Encyclopedia of Common Natural Ingredients*.
- [3]. Cinnamomum camphora.: Li, Y., et al. (2020). Anti-inflammatory property of the essential oil from Cinnamomum camphora. *Molecules*.
- [4]. Eucalyptus oil : Cermelli, C., Fabio, A., Fabio, G., & Quaglio, P. (2008). Eucalyptus oil: A review of its traditional uses and medicinal properties. *Fitoterapia*.
- [5]. Cajeput oil (Melaleuca Leucadendron) : Carson, C.F., & Riley, T.V. (1993). Antimicrobial activity of cajeput oil. *Journal of Antimicrobial Chemotherapy*.
- [6]. Elettaria cardamomum : Verma, R.S., & Padalia, R.C. (2014). Cardamom (Elettaria cardamomum): A review of its traditional uses, phytochemistry, and pharmacology. *BioMed Research International*.
- [7]. Capsaicin: McCarty, M.F., & DiNicolantonio, J.J. (2015). Capsaicin: A natural remedy for pain relief and inflammation. *Open Heart*.