WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.63
Volume 15, Issue 12, 731-737. Research Article ISSN 2277–7105

A COMPARATIVE EVALUATION OF NASAL PH BEFORE AND AFTER NASYA KARMA: A STATISTICAL APPROACH

Dr. Divya*[1], Dr. Sangeeta H. Toshikhane[2]

[1]Assistant Professor, Ayujyoti Ayurvedic College & Hospital, Jodhpuria, Sirsa, Haryana.

[2]Professor and HOD, Department of Panchakarma, Parul Institute of Ayurved and Research, Parul University, Vadodara, Gujarat.

Article Received on 14 May 2026,
Article Revised on 04 June 2026,
Article Published on 16 June 2026,

https://doi.org/10.5281/zenodo.20678603

***Corresponding Author**

Dr. Divya

Assistant Professor, Ayujyoti Ayurvedic College & Hospital, Jodhpuria, Sirsa, Haryana.

How to cite this Article: Dr. Divya*[1], Dr Sangeeta H. Toshikhane[2] (2026). A Comparative Evaluation Of Nasal Ph Before And After Nasya Karma: A Statistical Approach. World Journal of Pharmaceutical Research, 15(12), 731–737.

ABSTRACT

This study evaluates the effect of three different types of Nasya therapies (Navan, Avapeedak, and Pradhaman) on nasal pH over a 7-day period. Nasya, an important Ayurvedic therapy, plays a critical role in treating upper respiratory disorders. The study monitored changes in nasal pH before and after therapy using litmus paper in 21 patients divided into three groups. Results showed that Navan Nasya led to a steady increase in nasal pH, with a significant peak on Day 5 (+14.49%). Avapeedak Nasya produced a gradual improvement, with pH reaching a +11.29% increase by Day 7. Pradhaman Nasya demonstrated the most rapid and significant change, with a pH rise of +27.00% by Day 2, stabilizing with high values on later days. These findings suggest that all three types of Nasya effectively shift nasal pH towards alkalinity, enhancing mucosal health and therapy efficacy, with Pradhaman Nasya showing the most pronounced results.

KEYWORDS: Nasya, an important Ayurvedic therapy, plays a critical role in treating upper respiratory disorders.

INTRODUCTION

In Ayurveda, Nasya is an important therapeutic procedure aimed at treating various disorders related to the nasal passages and upper respiratory system. Nasya therapy is a vital aspect of

Ayurvedic medicine that involvesthe administration of medicinal substances through the nasal passages to address a variety of health conditions, particularly those affecting the head, neck, and upper respiratory system. This practice is recognized for its ability to deliver therapeutic agents directly to the site of action, allowing for rapid absorption and systemic effects. One critical factor influencing the efficacy of Nasya therapy is the pH of the nasal environment**.** Among the various forms of Nasya- Navana, Avapidak, and Pradhman Nasya stand out for their distinct formulations and therapeutic properties.

pH as a Vital Parameter in Nasya

The pH level of nasal secretions and administered substances plays a crucial role in the efficacy of Nasya treatments. The pH scale, which ranges from 0 to 14, indicates the acidity or alkalinity of a solution. An optimal pH balance is essential for maintaining mucosal health and function, influencing the absorption and effectiveness of the medicinal agents delivered via Nasya.

Navana Nasya- This type of Nasya typically employs oleaginous substances, such as medicated oils or ghee, combined with various herbal ingredients. The pH of these preparations can affect their viscosity, spread ability, and overall bioavailability in the nasal mucosa. A slightly alkaline pH may facilitate better absorption and enhance the therapeutic effects.

Avapeedak Nasya- In contrast, Avapeedak Nasya utilizes decoctions or infusions of herbs, often in a more liquid form. The pH of these herbal preparations is critical, as it can influence their potency and the degree of mucosal irritation or inflammation. Maintaining an appropriate pH level helps in minimizing adverse effects and optimizing therapeutic outcomes.

Pradhaman Nasya- This Nasya form often incorporates powder designed to deliver potent medicinal effects. The pH of Pradhaman Nasya is particularly significant due to the concentrated nature of the formulations. An optimal pH can enhance the therapeutic properties while reducing the risk of irritation to the sensitive nasal lining.

AIM

This study aims to observe and quantify the changes in nasal pH before and after treatment over 7 days, evaluating whether the treatment produces a significant alkaline shift in the nasal environment.

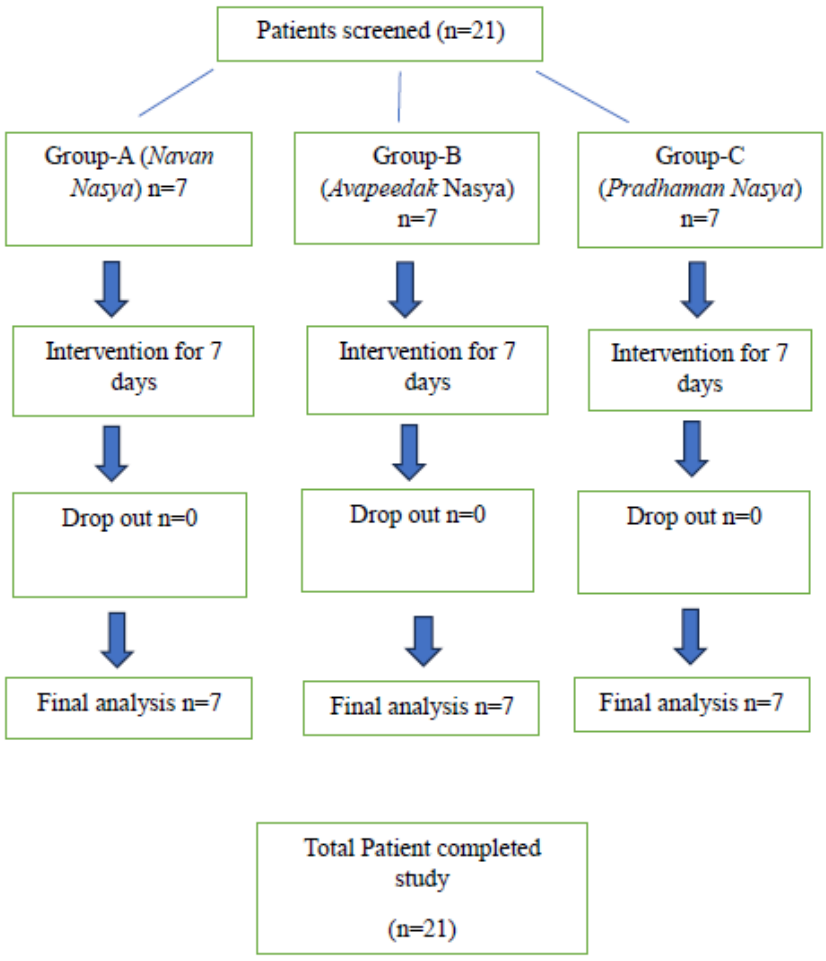
OBJECTIVE

The present prospective study aimed to detect the pH of nasal mucosa by objective method in different nasal diseases before and after of Nasya karma in Navan, Avapidak & Pradhaman Nasya for 7 days.

MATERIALS AND METHODS

The study included 21 persons divided into 3 main groups, Each group included 7 patients suffering from upper respiratory tract. pH of nasal mucosa measured for all members in this study by using litmus paper. Litmus paper inserted 3 cm into the nostrils for 2 minutes.

Murchita Tila Taila is used in Navana Nasya[2,3,4,5], Sunthi Swarasa[6,7] is used in Avapeedaka Nasya, and Vacha Churna[8] is used in Pradhamana Nasya.



OBSERVATION AND RESULT

Nasal pH in Navan Nasya

Statistical Measure	Day 1 (D1)	Day 2 (D2)	Day 3 (D3)	Day 4 (D4)	Day 5 (D5)	Day 6 (D6)	Day 7 (D7)
Mean Nasal pH BT	6.07	6.07	6.07	6.07	5.86	6.07	7.00
Mean Nasal pH AT	6.71	6.71	6.71	6.71	6.71	6.71	7.50
Standard Deviation (BT)	0.25	0.25	0.25	0.25	0.40	0.25	0.00
Standard Deviation (AT)	0.38	0.38	0.38	0.38	0.40	0.38	0.00
Percentage Change	+10.53%	+10.53%	+10.53%	+10.53%	+14.49%	+10.53%	+7.14%
Max Nasal pH BT	7.0	7.0	7.0	7.0	6.0	7.0	7.0
Max Nasal pH AT	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Min Nasal pH BT	5.5	5.5	5.5	5.5	5.5	6.0	7.0
Min Nasal pH AT	6.5	6.5	6.5	6.5	6.5	6.5	7.5

Nasal pH in Avapeedak Nasya

Statistical Measure	Day 1 (D1)	Day 2 (D2)	Day 3 (D3)	Day 4 (D4)	Day 5 (D5)	Day 6 (D6)	Day 7 (D7)
Mean Nasal pH BT	6.07	6.07	6.07	6.07	6.21	6.21	6.29
Mean Nasal pH AT	6.71	6.71	6.71	6.71	6.86	6.86	7.00
Standard Deviation (BT)	0.24	0.24	0.24	0.24	0.33	0.33	0.48
Standard Deviation (AT)	0.38	0.38	0.38	0.38	0.40	0.40	0.47
Percentage Change	+10.53%	+10.53%	+10.53%	+10.53%	+10.47%	+10.47%	+11.29%
Max Nasal pH BT	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Nasal pH AT	7.5	7.5	7.5	7.5	8.0	8.0	8.0
Min Nasal pH BT	5.5	5.5	5.5	5.5	5.5	5.5	6.0
Min Nasal pH AT	6.5	6.5	6.5	6.5	6.5	6.5	6.5

Nasal pH in Pradhaman Nasya

Statistical Measure	Day 1 (D1)	Day 2 (D2)	Day 3 (D3)	Day 4 (D4)	Day 5 (D5)	Day 6 (D6)	Day 7 (D7)
Mean Nasal pH BT	6.07	6.14	7.07	6.07	6.50	7.00	7.00
Mean Nasal pH AT	6.79	7.79	8.00	6.79	7.29	7.79	7.79
Standard Deviation (BT)	0.38	0.21	0.21	0.00	0.00	0.00	0.00
Standard Deviation (AT)	0.38	0.21	0.00	0.00	0.21	0.21	0.00
Percentage Change	+11.85%	+27.00%	+13.06%	+11.85%	+12.31%	+11.29%	+11.29%
Max Nasal pH BT	7.5	7.5	7.5	6.0	6.5	7.0	7.0
Max Nasal pH AT	8.0	8.0	8.0	7.5	7.5	7.5	7.5
Min Nasal pH BT	6.0	6.0	7.5	6.0	6.5	7.0	7.0
Min Nasal pH AT	6.5	7.5	8.0	6.5	7.0	7.5	7.5

DISCUSSION

Measure the nasal pH before and after the Nasya procedure to assess the effectiveness of the drug. Changes in nasal pH were observed before and after the Nasya procedure. After the Nasya procedure, the nasal pH shifts towards alkalinity.

Nasal pH in Navan Nasya

Sr.no	Nasal pH – BT- D1	Nasal pH- AT – D1	Nasal pH – BT- D2	Nasal pH- AT – D2	Nasal pH – BT- D3	Nasal pH- AT – D3	Nasal pH – BT- D4	Nasal pH – AT- D4	Nasal pH- BT – D5	Nasal pH – AT- D5	Nasal pH- BT – D6	Nasal pH – AT- D6	Nasal pH- BT – D7	Nasal pH- AT – D7
1	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5
2	6.5	7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5	7.5
3	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5
4	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5
5	5.5	6	5.5	6	5.5	6	5.5	6	5.5	6	5.5	6	5.5	6
6	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5
7	7	7.5	7	7.5	7	7.5	7	7.5	7	7.5	7	7.5	7	7.5

Sample-wise Nasal pH in Avapidak Nasya

Sr.no	Nasal pH – BT- D1	Nasal pH- AT – D1	Nasal pH – BT- D2	Nasal pH- AT – D2	Nasal pH – BT- D3	Nasal pH- AT – D3	Nasal pH – BT- D4	Nasal pH – AT- D4	Nasal pH- BT – D5	Nasal pH – AT- D5	Nasal pH- BT – D6	Nasal pH – AT- D6	Nasal pH- BT – D7	Nasal pH- AT – D7
1	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5
2	5.5	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5	6.5	5.5	6.5
3	6	7	6	7	6	7	6	7	7	7.5	7	7.5	7.5	8
4	6.5	7	6.5	7	6.5	7	6.5	7	6.5	7	6.5	7	6.5	7
5	6.5	7	6.5	7	6.5	7	6.5	7	6.5	7	6.5	7	6.5	7
6	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5
7	7	7.5	7	7.5	7	7.5	7	7.5	7	7.5	7	7.5	7	7.5

Nasal pH in Pradhaman Nasya

Sr.no	Nasal pH – BT- D1	Nasal pH- AT – D1	Nasal pH – BT- D2	Nasal pH- AT – D2	Nasal pH – BT- D3	Nasal pH- AT – D3	Nasal pH – BT- D4	Nasal pH – AT- D4	Nasal pH- BT – D5	Nasal pH – AT- D5	Nasal pH- BT – D6	Nasal pH – AT- D6	Nasal pH- BT – D7	Nasal pH- AT – D7
1	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6.5	7	6.5	7
2	6.5	7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5	7.5	6.5	7.5
3	7.5	8	7.5	8	7.5	8	7.5	8	7.5	8	7.5	8	7.5	8
4	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5	6	6.5
5	6.5	7	6.5	7	6.5	7	6.5	7	6.5	7	6.5	7	6.5	7
6	7	7.5	7	7.5	7	7.5	7	7.5	7	7.5	7	7.5	7	7.5
7	7	7.5	7	7.5	7	7.5	7	7.5	7	7.5	7	7.5	7	7.5

Discussion on Nasal pH in Different Types of Nasya

The presented data evaluates the nasal pH changes over 7 days across three different types of Nasya (Navan, Avapeedak, and Pradhaman Nasya). Each type shows a unique pattern of nasal pH improvement during treatment. This discussion will focus on the key differences in

nasal pH before and after treatment, the rate of change, and the clinical significance of these findings.

1. Nasal pH in Navan Nasya with murchita tila taila

- Mean Nasal pH BT starts at 6.07 across the first four days, drops slightly to 5.86 on Day 5, and reaches 7.00 by Day 7.
- Mean Nasal pH AT consistently remains at 6.71 for the first six days and rises to 7.50 on Day 7.
- Standard Deviation (BT) remains consistent at 0.25, except on Day 5 when it increases to 0.40. The AT values show a similar pattern, with Day 5 showing a slight increase to 0.40.
- Percentage Change in nasal pH shows a moderate improvement of +10.53% on most days, peaking at +14.49% on Day 5 and +7.14% on Day 7.

2. Nasal pH in Avapeedak Nasya

- Mean Nasal pH BT remains constant at 6.07 for the first four days and gradually increases to 6.29 by Day 7.
- Mean Nasal pH AT follows a similar trend, increasing from 6.71 on Day 1 to 7.00 by Day 7.
- Standard Deviation (BT) is stable at 0.24, but it starts increasing from Day 5 onwards, peaking at 0.48 on Day 7.
- Percentage Change shows a slight increase in nasal pH, ranging from +10.53% on the first four days to +11.29% on Day 7.

3. Nasal pH in Pradhaman Nasya

- Mean Nasal pH BT starts at 6.07 on Day 1, rapidly increases to 7.07 on Day 3, and maintains high values (around 7.00) until Day 7.
- Mean Nasal pH AT shows a significant rise from 6.79 on Day 1 to 8.00 by Day 3, indicating rapid improvement in pH levels, with values stabilizing around 7.79 by Day 7.
- Percentage Change in pH is the most notable here, with significant increases of +27.00% on Day 2, followed by +13.06% on Day 3, and +11.85% on other days.

CONCLUSION

This study shows that all three types of Nasya therapy—Navan, Avapeedak, and Pradhaman—effectively increase nasal pH, enhancing mucosal health.

- Navan Nasya caused a steady increase in pH, peaking at +14.49% on Day 5, with gradual improvement.

- Avapeedak Nasya led to a slower rise, reaching +11.29% by Day 7.

- Pradhaman Nasya produced the most rapid and significant increase, with a +27.00% rise by Day 2.

REFRENCES

1. Amin, Hany. (2012). Nasal Mucosal pH in Different Nasal Diseases. FACULTY OF BENHA MEDICAL JOURNAL.
2. Sri Bhavamisra, Bhavaprakasha, Edited with Vidyotini Hindi Commentary, vol I, Chaukhamba Sanskrit Sansthan, Varanasi, 9th edition 2005, chapter 20/shlok-1 to 7, p541.
3. Vagbhat, Ashtang Hridya, Vaidya Pandit Bhishgacharya Paradkar Harishastri, Krishnadas cademy, Varanasi, reprint, 2011; Su, page 77.
4. Sushrut samhita, Vaidya P.V. Sharma Chaukhamba Surbharati Prakashan, Varanasi, Reprint, 2010; Su.112: 368.
5. Charak Samhita, Vaidya P.Kashinath Shastri, edited Gangasagar Panday Chaukhamba Surbharati Prakashan, Varanasi, Reprint2011, Sutrasthan chapter 13/12, p182 27/13p288 chapter30/26.
6. Charaka Samhita : Agnivesh, Revised by Charaka and Dridhabala, Vidyotini Hindi commentry by Pt. Kashi Nath Shastri and Gorakh Nath Chaturvedi, 13th Edition, 1986; Chaukhamba Sanskrit Series, Varanasi.
7. Sushruta Samhita: Hindi commentary by Kaviraj Ambika Dutt Shastri, 5th Edition, 1982; Chaukhamba Sanskrit Series, Varanasi.
8. Acharya G.S panchakarma illustrated ist edition chaukhamaba surbharati prakashana chp. Nasyakarma, pgno.411.