



ISSN (E): 2277-7695  
 ISSN (P): 2349-8242  
 NAAS Rating: 5.23  
 TPI 2023; 12(5): 1210-1212  
 © 2023 TPI

[www.thepharmajournal.com](http://www.thepharmajournal.com)

Received: 01-02-2023

Accepted: 03-03-2023

#### Shibanjan Paul Roy

Freelancer Scientist cum  
 Freelancer Research Guide Race  
 course Para, Jalpaiguri, West  
 Bengal, India

#### Kamal Deka

Assistant Professor, Royal  
 School of Pharmacy of The  
 Assam Royal Global University,  
 Sivasagar, Sivasagar, Assam,  
 India

#### Shyam Prakash Rai B

Ph.D. Department of Pursuing  
 Pharm-Sub-Rising Star-  
 Researcher, CGM Office, Dakra  
 Khelari, Ranchi, Jharkhand,  
 India

## Formulation and development of a herbal based mouth gargle by using African black honey

Shibanjan Paul Roy, Kamal Deka and Shyam Prakash Rai

### Abstract

Actually for tonsillitis gargles used for this purpose and these gargles are the aqueous solution as we know. For mild throat infections these gargles are used relieve soreness. In this research galangal directly collected from Thailand, poblano pepper collected from Mexico, Chinese cinnamon collected from china, African black honey from South Africa and vasaka leaf powder collected by online used for this research. In this research total works done under the guidance of Guide-Mr. Shibanjan Paul Roy. Mr. Kamal Deka and Mr. Shyam Prakash Rai performed for the practical works and others work and note the reading.

**Keywords:** Indian mustard, path coefficient analysis

### Introduction

In this research organic galangal roots used for the preparation of gargles for the relieve soreness of mild throat infection. As we know about the definition of gargle that it wash one's mouth and throat with a liquid kept in motion by exhaling through it. As in this research the borosilicate glass bottles closed with plastic screw cap used. The other side it will be labelled – For external use only.

### Gargle with Galangal

By using organic galangal root simmer 15ml grated in a cup of warm water for 12min, after strain the liquid and add 5ml of African black honey or pinch of poblano pepper. For every 32min use this as a gargle until throat feels up to a relaxant mode.

### Method of Preparation

In this research galangal directly collected from Thailand, poblano pepper collected from Mexico, Chinese cinnamon collected from china, African black honey from South Africa and vasaka leaf powder collected by online used for this research.

**Table 1:** The formulas used to prepare the formulation of Gargle

S. NO	Ingredients	F1-Low conc.	F2-Medium conc.	F3-High Conc.
1	Galangal	9.4gm	17gm	26gm
2	Vasaka powder	2.5gm	2.9gm	3.4gm
3	Chinese Cinnamon	0.1gm	0.1gm	0.1gm
4	Poblano pepper	0.5gm	0.05gm	0.05gm
5	African Black Honey	5ml	10ml	15ml
6	Distilled Water	q.s. to 100ml	q.s. to 100ml	q.s. to 100ml

#### Corresponding Author:

#### Shibanjan Paul Roy

Freelancer Scientist cum  
 Freelancer Research Guide Race  
 course Para, Jalpaiguri, West  
 Bengal, India

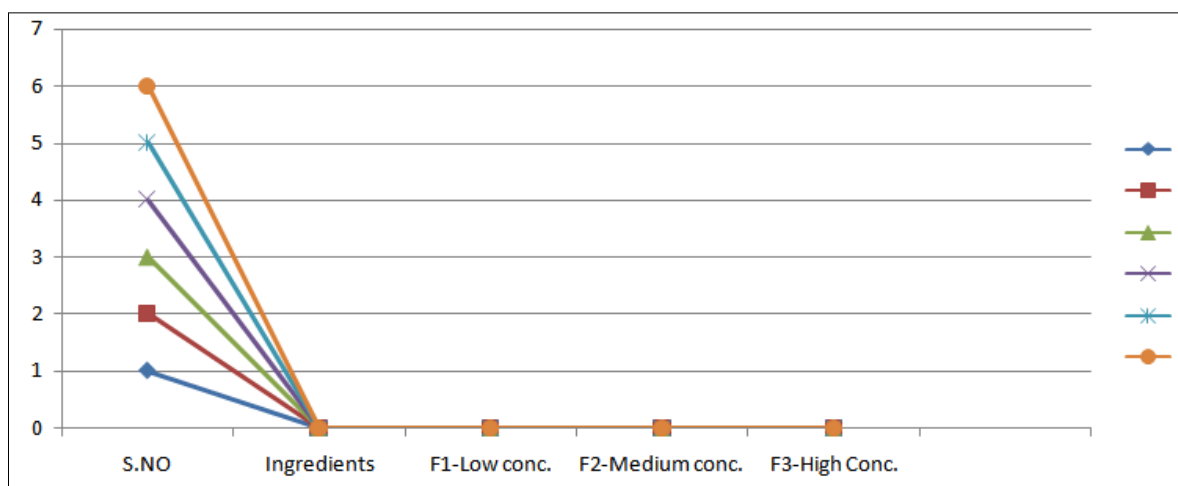


Fig 1: Ingredients F1-Low conc. F2-Medium conc. F3-High Conc.

## Testing of Antimicrobial Effect

### Antibacterial Activity

The bacterial strains collected from Malbazar by Lab. The antibacterial activity of gargle against strain *Streptococcus mutans*, *Staphylococcus aureus* and *E. faecalis*. For this research utilization of MHA agar used for the activity to determine the zone of inhibition. After prepared Muller hinton agar and sterilize for 47 minutes at 120 lbs. After into the sterilized plates media agar poured and let stable for solidification. By using the well cutter the wells were cut and swabbed the test organisms. After by using different concentrations directly loaded and plates will be incubated for 25 hours at 37 °C. After the zone of inhibition incubation time were measured.

## Result and Discussion

### Antimicrobial Activity

The gargle antimicrobial activity contains Galangal, Vasaka powder, Chinese cinnamon, poblano pepper and African black honey. The antimicrobial effect of gargle tested against *Streptococcus mutans*, *Staphylococcus aureus* and *E. faecalis*. The gargle showed zone of inhibition against *S. mutans*, *S. aureus* and *E. faecalis* 19.5, 22.75, 24.37 mm at 100 µL concentration. The antibacterial effect of this herbal based gargle formulation has the capability to attach to the bacterial cell and inhibit it properly.

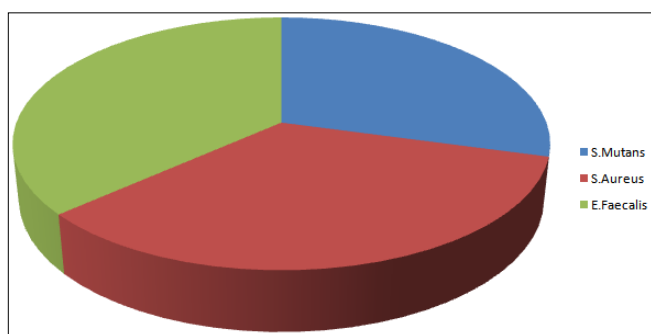


Fig 2: Zone of inhibition (MM)

## Conclusion

Galangal, Vasaka powder, Chinese cinnamon, poblano pepper extracts with African black honey has more potent medicinal properties. Our research showed this formulation has potent positive results.

## Acknowledgement

This research is guided and written skills done by Mr. Shibhanjan Paul Roy who is a Freelancer Scientist cum Author cum Inventor who lives in Race course para, Jalpaiguri. He has 6 international individual research publications with 1 book individual publication with 3 individual patents with 1 groupwise publication and guided in 2 researches with 2 international awards-INSO award and Young Scientist Award and 1 National Award. He guided Mr. Kamal Deka M. Pharm (Pharmaceutics) who is working as an Assistant Professor of Royal School of Pharmacy under The Assam Royal Global University and Former Principal of Crescent Institute of Pharmacy with now Ph.D. Pursuing from 2021, Guwahati with 6 years Experience has 1 patent with 4 National research publications and Mr. Shyam Prakash Rai completed B. Pharm from Assam downtown University 2019 and now working in Bokaro and he is a Sub-Rising Star-Researcher. In this research total works done under the guidance of Guide-Mr. Shibhanjan Paul Roy. Mr. Kamal Deka and Mr. Shyam Prakash Rai performed for the practical works and others work and note the reading.

## References

- Herbal Food Product Development and Characteristics Poonia - Herbal Product Development; c2020.
- Comparative Evaluation of Different Elicitors and Binders for Development of Herbal Formulation Using *Polyalthia longifolia* Leaf Extract for Management of Black Scurf Disease Meena *et al.* - SSRN Electronic Journal; c2022.
- Herbal Supplements and Health Bansal & Bajaj - Herbal Product Development; c2020.
- Formulation And Development of Quetiapine Mouth Dissolving Films Using Doe Approach International Journal of Pharmaceutical Research; c2020.
- Development And Evaluation of Anti - Inflammatory Herbal Formulation Sarin & - International Journal of Ayurvedic and Herbal Medicine; c2017.
- Formulation and evaluation of herbal aqueous gel for mitigation of mouth ulcer International Journal of Biology, Pharmacy and Allied Sciences; c2022.
- Prevention and Management of Prostate Cancer: Mechanistic Insights based on *in vitro* Studies using Herbal Formulation Hsieh & Wu - Herbal Medicine: A Cancer Chemopreventive and Therapeutic Perspective;

- c2010.
8. Development and evaluation of herbal whitener skin formulation using tyro kinase inhibition property International Journal of Biology, Pharmacy and Allied Sciences; c2021.
  9. Aromatic Medicine Bajaj & Bansal - Herbal Product Development; c2020.
  10. Brief Overview of Development and Characterization of Herbal Products Mtewa *et al.* Herbal Product Development; c2020
  11. ITC Ages Antibacterial Effects of Mouth Gargle on Dental Biofilm Choi - Advanced Science and Technology Letters; c2016.
  12. Herbal Therapies Shahrul *et al.* Herbal Product Development; c2020.
  13. Herbal Product Development; c2020.
  14. Medicinal Mushrooms Oyedepo & Morakinyo - Herbal Product Development; c2020.
  15. Formulation of herbal conditioner shampoo by using extract of fenugreek seeds and evaluation of its physicochemical parameters Gholamreza Dehghan Noudeh - African Journal of Pharmacy and Pharmacology; c2011.
  16. African traditional herbal medicine: Addressing standardization and quality control challenges for product development Matsabisa *et al.* Evidence-Based Validation of Herbal Medicine; c2022
  17. Southern Labor and Black Civil Rights: Organizing Memphis Workers Reed & Honey - African Economic History; c1993.
  18. Naturopathy Rane, *et al.* Herbal Product Development; c2020.
  19. Herbal Product Development and Characteristics Pateiro *et al.* - Herbal Product Development; c2020.
  20. Amended 25 Herbal tea bag formulation from a mixture of black tea, cinnamon, and cardamon with mixture design method Chairiyah Batubara, *et al.* 2021.