

## ORIGINAL ARTICLE

## Antimicrobial activity of krimighna yavagu (Rice gruel)

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## Abstract

Diet is an important part of treatment for any kind of patient. There are many food preparations as-described in ayurveda texts which are wholesome and also proves healthy.

Yavagu is such a preparation which is used to enhance the digestive capacity. It gives nourishment and brings the patient back to healthy physical state.

But when food acts as anti microbes, it should be consumed widely. The study is planned to revalidate the ancient Indian wisdom and to observe the antimicrobial activity of krimighna yavagu.

## Introduction

<sup>1</sup>Yavagu is a type of liquid or rice gruel which is prepared from grains specially rice. Yavagu is used in the low digestive capacity, weakness, a ny chronic or acute diseases conditions.

<sup>2</sup>In ayurveda texts Acharya has described many yavagu which are beneficial for digestion, curing loose motions and diarrhea ,relieving digestive problems . Thses yavagu is beneficial in many infectious conditions to provide nourishment and strength.<sup>3</sup> But the specific krimighna yavagu is mentioned in Charak Samhita which can cure the 'Krimija Vyadhi or infectious diseases. This study is planned to evaluate the antimicrobial activity of krimighna yavagu

<sup>4</sup>There are 4 types of krimi mentioned in ayurveda namely purishaj, shleshmaja, shonitaj and malaj. They originate from kapha dosha, excretory products and blood impurities.

Thus this range includes all types of viruses ,bacteria, fungus, insects, amoeba and many microbes causing the diseases.

The Yavagu is a dietary product and has a capacity to nourish the diseased body . But if this function of yavagu is combined with antimicrobial or krimighna activity, it can prove beneficial to many patients suffering from various diseases.

Thus this study is planned to evaluate the antimicrobial activity if yavagu as a food preparation.

## Aims and Objective

1. To evaluate antimicrobial activity of the ayurvedic food preparation Krimighna Yavagu (rice Gruel) by laboratory analysis.

## Objectives

1. To study the yavagu kalpana in detail

## Material and Method

## Krimighna yavagu

## Material :

1. Rice
2. Pippalimula
3. Vidanga
4. Shigru
5. Maricha
6. Takra

## Method of preparation of Yavagu

<sup>5</sup>Yavagu is prepared from shukdhanya or grains like rice, barley wheat, etc. But rice is commonly used. Yavagu is prepared by boiling these grains either with water, medicated decoctions, milk, and buttermilk or meat soup.

There are 3 types of yavagu depending upon its consistency and thickness.

1. **Manda** - It is prepared by boiling the rice with 14 fold of water. When the rice gets perfectly boiled, rice portion is drained out and water portion is used in the patients with low digestive capacity.
2. **Peaya** - It is prepared by boiling the rice with 6 fold of water. After perfect boiling of the rice, small portion of rice and remaining portion of water is used.
3. **Vilepi** - It is prepared by boiling the rice with 4 fold of water. It contains more rice portion than manda and peya.

**Krimighna yavagu** is described in Charak samhita as below :

विङ्गपिप्पलीमूलशिशुभिर्मरिचेन च ।

तक्रसिध्दायवागूःस्यात्क्रिमिघ्नीससुवर्चिका ॥ २३ ॥

Charak sutrasthanam, chapter 2.

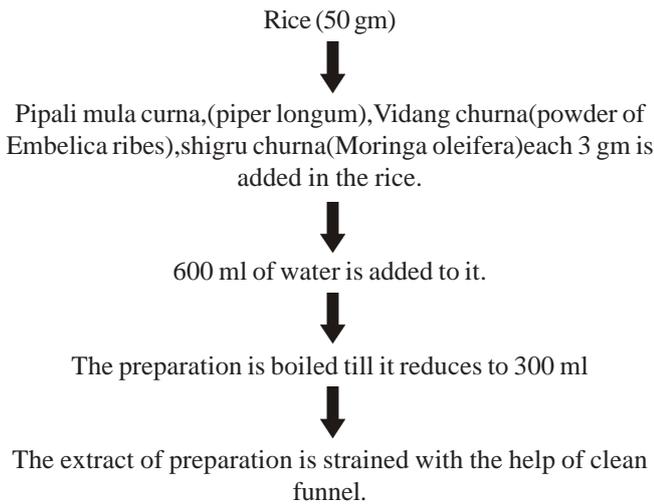
This yavagu is mentioned in charak samhita. There are about 28 Yavagu are described for strengthening of the digestive capacity, for giving pain relief and for instant nourishment. Out of these, krimighna yavagu is selected for the study.

The yavagu is used in patients with low digestive fire. This yavagu is selected to observe its effect on the bacteria and fungi.

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Method of preparation of krimighna Yavagu



The Yavagu is analysed for

1. Sensory analysis (7 hedonic scale)
2. Antimicrobial activity.

**Antimicrobial Analysis**

**4E. WELL DIFFUSION METHOD**

Agar Well Diffusion method is widely used to evaluate the “antimicrobial activity of plants or microbial extracts”.

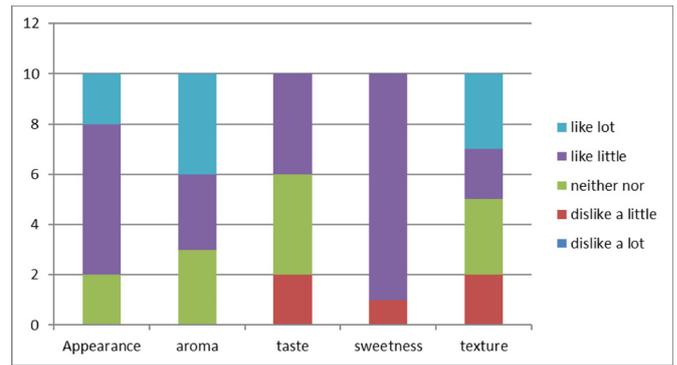
- i. Similarly to the procedure used is disk-diffusion method, the agar plate surface is inoculated by spreading a volume of the microbial inoculum over the entire agar surface.
- ii. Then, a hole with a diameter of 6 to 8 mm is punched aseptically with a sterile cork borer or a tip, and a volume (20-100 µL) of the antimicrobial agent or extract solution at desired concentration is introduced into the well.
- iii. Then, agar plates are incubated under suitable conditions depending upon the test microorganism.
- iv. The antimicrobial agent diffuses in the agar medium and inhibits the growth of the microbial strain tested.

**Observation**

parameters	Results (Zone of Inhibition of S.Aureus)	Test method
Quantity of sample-20ml	0.1	Well diffusion method
Quantity of sample 40 ml	0.5	
Quantity of sample 60 ml	0.5	
Quantity of sample 80 ml	0.4	
Standard concentration on well 20 ml	1.2	

**Sensory analysis :**

	Appearance	aroma	taste	sweetness	texture
dislike a lot					
dislike a little			2	1	2
neither nor	2	3	4		3
like little	6	3	4	9	2
like lot	2	4			3



**Discussion**

Yavagu is a unique preparation of ayurveda. The aim behind the preparation is to provide a healthy and light to digest food to for the patients with low digestive capacity, suffering from infectious or chronic diseases, toxic effects and many more.

Krimighna yavagu is prepared from Pipali mula curna, (piper longum), Vidang churna (powder of Embelica ribes), shigru churna (Moringa oleifera). All these substances possess krimighna activity.

Krimi are referred to bacteria, viruses, fungi and any microbes which acts as etiological factor or root cause for many diseases. There are 4 types of krimi which includes bacteria and viruses of fever, loose motions, skin diseases worm infestations and also the lice in hair.

So the word krimighna refers not only to anti bacterial activity but it has a capacity to encounter with viral, fungal infections and worm infestations.

The piper longum is proved effectively as antimicrobial, anti-fungal, antiamebic, and insecticidal activities. Vidang and shigru have is also good effect for strengthening agni or digestive fire, aampachak and krimighna.

The yavagu, as its name suggests, is known for its kriminashan activity which is evident by lab investigations that revealed antimicrobial activity against S.Aeureus.

S. aureus can cause a range of illnesses, from minor skin infections such as pimples, impetigo, boils, cellulitis, folliculitis, carbuncles, scalded skin syndrome, and abscesses to the life-threatening diseases such as pneumonia, meningitis, osteomyelitis, endocarditis, toxic shock syndrome, bacteremia, and sepsis.

Thus the krimighna activity of the yavagu is proven on the laboratory basis.

In this study, the preparation is alpasikta yavagu or the gruel with more liquid form. But if the bahusikta yavagu or the gruel with more rice is prepared, it can prove more effective in antimicrobial activity.

This food with antimicrobial activity should be used widely as it gives dual benefits for eliminating the cause of disease and for giving strength to digestive capacity.

As yavagu is a food, it should have good palatability. Thus krimighna yavagu is proven good on these parameters by sensory analysis.

Conclusion-The krimighna yavagu possesses antimicrobial activity.

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