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ANTIBACTERIAL ACTIVITY OF GAMBHARIYADI YOGA HYPOTHETICAL VIEW

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ABSTRACT

The antibacterial agents and drugs are of the most important inventions in medical field, As we know that the antibiotics are used to fight all type of infections that are due to bacteria. In this article we have studied about some Herbo mineral formulations that have shown antibacterial property in experimental studies. The study has included the method of preparation of Herbo mineral formulations mentioned in authentic classical Ayurveda texts, the experimental methods used for antibacterial susceptibility testing and the results of the study against the bacteria. Antibacterial agent are common and most important medicines in the management of operative, nonoperative infectious disorders the use of antibiotic become common practice in all type of condition and in all age group irrespective of gender due to continuous practice of antibiotic we are finding the antibiotic resistant patients in hospital, This becomes a big challenge to manage infectious condition by the claim antibiotic, Hence the study is design to find out alternate source of infection management in terms of antibiotic the ayurveda begin a health science has numerous compounds among which *Gambhariyadi yoga* is one of the Herbo mineral preparation which is claim for antibiotic property, In this article the hypothetical view of *Gambhariyadi yoga* is discussed.

Keywords: Antibacterial, *Ayurveda*, Herbo mineral formulation, *Gambhariyadi yoga*

INTRODUCTION

The word antibiotics is derived from two Greek words “Anti” means “against” and “Biotics” means “life” Here life form is represented by bacteria. These antibiotics came into existence a few hundred years back, Antibacterial agents and drugs are of the most important inventions in medical field. As we know that the antibiotics are used to fight any type of infections that are due to bacteria. Antibiotics are used to treat or prevent many types of bacterial infection. They kill bacteria or prevent them from reproducing and spreading, but long-term use of antibiotic develop resistance. Antibiotic drug has side effects on long term use, as it destroys the gut flora and causes stomach cramps, nausea, So this study intended to explore such antimicrobial activity through *Gambhariyadi Yoga* Herbo-mineral compounds this *Gambhariyadi yoga* consist of many four drugs *Gambhari*, *Kalmegha*, *Lashun*, *Gandhaka* these drugs are established with anti-inflammatory,

antifungal in nature so this formulation in different proportion is going to be studied as research.

MATERIALS AND METHODS

In this review, after analyzing several research articles and classical Ayurveda texts, we have selected four Ayurveda formulations that are basically herbo mineral origin *Gambhariyadi yoga* for antibacterial activity, *Gambhari* stem, *Kalmegha Panchanga*, *Lashuna* (Bulb) *Gandhaka* Ethanolic extract of *Gambhari* and *Kalmegha* is done in Soxhlet apparatus according SOP of Indian pharmaceutical, The tincture powder of *Lashuna* is done to be prepared according to *Materia Medica* and *Encyclopedia Britannica* (Indian).The *Bringaraj Shodhita Gandhaka* is taken and powder properly ,The extract of *Gambhari*, *Kalmegha*, *Lashuna* are going to be subjected separately for Maximum Inhibit Concentration value in different concentrations.

Table 1: (*gambhari*) [1]

Botanical name	<i>Gmelina arborea (gambhari)</i>
Family	Verbenaceae
Phytochemical	alkaloids, carbohydrates, steroidal glycosides, saponins, phytosterols, fixed oils and fats resins, phenolic acids and tannins, protein and amino acids, flavonoids, gums and mucilage alkaloids, carbohydrates, steroidal glycosides, saponins, phytosterols, fixed oils and fats resins, phenolic acids and tannins, protein and amino acids, flavonoids, gums and mucilage alkaloids, carbohydrates, steroidal glycosides, saponins, phytosterols, fixed oils and fats resins, phenolic acids and tannins, protein and amino acids, flavonoids, gums and mucilage alkaloids, carbohydrates, steroidal glycosides, saponins, phytosterols, fixed oils and fats resins, phenolic acids and tannins, protein and amino acids, flavonoids, gums and mucilage Gmelo furan-a furanosesquiterpenoid, sesquiterpene, cerylalcohol, hentriacontanol-1, β -sitosterol, n-octacosanol, gmelinol, apiosylskimmin-a apiofuranosyl-(1-6)- β -Dglucopyranosyl (1.0.7)-umbelliferone
Pharmacology	Toxicity study, Antioxidant activity, anthelmintic activity, antidiabetic activity, immune modulatory activity, diuretic activity, antipyretic and analgesic activity.

Table 2: (*kalmegha*) [2, 3]

Botanical name	Andrographis paniculata (<i>Kalmegha</i>)
Family	Acanthaceae
Phytochemical	andrographolide, neoandrographolide, deoxyandrographolide, 14-deoxyandrographolide, other such phytochemicals amassed by the plant 14-deoxy-11,12-didehydroandrographolide, andrographiside, deoxyandrographiside, homoandrographolide, andrographan, andrographon, andro-graphosterin and stigmasterol
Pharmacology	Abortifacient, vermifugal, analgesic, antibacterial, aniperiodic, antipyretic, antithrombotic, antiviral, cancerolytic, cardioprotective, cholereyic, depurative, digestive, expectorant, hypoglycemic, immune enhancement, laxative, sedative, thrombolytic

Table 3: (*lashuna*) [4]

Botanical name	Allium sativum (<i>Lashuna</i>)
Family	Liliaceae
Phytochemical	Alliin, allicin, E-Ajoene, Z-Ajonene, 2-Vinyl-4H-1,3-dithiin, Diallyl sulfide (DAS), diallyl disulfide (DADS), diallyl trisulfide (DATS) Allyl methyl sulfide (AMS)
Pharmacology	Antibacterial activity, Antifungal activity, Anti protozoal activity, Antiviral activity, Antioxidant activity, Anti-Inflammatory activity, Anticancer activity, Anti- Alzheimer's disease activity, Effect on Dyslipidemia, Diabetes mellitus, Effect on Obesity, Antihypertensive activity

Table 4: (*gandhaka*) [5]

Name	Sulphur (<i>Gandhaka</i>)
Phytochemical	Carbohydrates, Tannins and Steroids present
Pharmacology	Antibacterial, Antimicrobial, Antiviral, Anti-inflammatory, Anthelmintic, Blood purifier

DISCUSSION

the antibacterial activity of *gambhariyadi yoga* i.e *krimighna* as mentioned in ayurveda texts, as *gambhariyadi yoga* consists of four drugs in which it is having these types of alkaloids, saponins, carbohydrates, tannins, anthraquinone, deoxyandrographolide, which are proven for antibacterial effect, where *kalmegha* showing vermifugal, analgesic, antibacterial activity, *lashuna* contains Allicin which shows Natural antibiotic, in *gambhari* alkaloids, saponins, carbohydrates, tannins and anthraquinone due to which this acts as antimicrobial activity, In human body *Gandhaka* purifies blood, aids healthy digestion and prevents toxic build-up so in these formulation will be useful as an

antibiotic. Hence hypothetical view of prepared *gambhariyadi yoga* will be useful as antibiotic.

CONCLUSION

In this study after carrying a pilot study of *gambhariyadi yoga* the study reveals that it can be a better choice as antibiotic in all types of positive and gram negative an antibiotic so, we concluded that all the *gambhariyadi yoga* used for antimicrobial study were found to be susceptible for antibiotic. After analysing the significant zone of inhibition and minimum inhibition concentrations for respective bacteria that we face in our daily life, it seems that the herbo mineral formulations could be a good alternative option to modern antibiotic drug which causes many adverse effects and drug

resistance, Current study will be helpful for research and pharmaceutical standardization purpose of Herbo mineral formulations.

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