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Antimicrobial Screening of Siddha Formulation Manosilai Chooranam

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***Abstract*: Manosilai chooranam is a Siddha formulation indicated for mainly Naal patta suram(Chronic fever) . This drug was tested for antimicrobial property against *E. coli, pseudomonas aeruginosa* by agar disc diffusion method and hence the result of In-vitro antimicrobial assay reveals that the formulation Manosilai chooranam (MC) possess significant anti-microbial activity against E-coli, Pseudomonus aeruginosa.**

***Keywords*: Siddha formulation, Anti-microbial activity, Manosilai chooranam.**

1. Introduction

Siddha system of medicine is the ancient, holistic system of medicine. Siddha system of treatment has many formulatory medicines for both internal oral medication and external medicines These formulations are made of herbal, metalic, and animal products. MC used for the treatment of Naal patta suram, as mentioned in the Siddha classical literature (GunaPadam thathu-jeevam part 2 & 3, 2013). The diseases mentioned above are mostly caused by the organisms such as E. coli, pseudomonas aeruginosa etc.

So the novelty of the study is to screen the anti-microbial activity of the trial drug MC herbo minaral formulation and to give added strength for futher more studies on this same drug MC. This study may provide a scientific rationale for its usage. The need for more rigorous scientific research on traditional medicine is strongly advocated for larger acceptance & visibility.

2. Materials and Methods

Ingredients of MC:

- Karunjeeragam (*Nigella sativa*)
- Kasturi manjal (*Curcuma aromatica*)
- Kazharchi kai (*Caesalpinia bonduc*)
- Kombu arakku (*Carteria lacca*)
- Manosilai (*Arsenic disulphidum*)
- Merugankizhangu (*Alocasia indica*)
- Moongiluppu (*Bambusa arundinacea*)

Sample Preparation:

The given sample was dissolved in the concentration of 0.1g/1ml of Aqueous and Ethanol.

Test organism:

The test microorganisums used for antimicrobial analysis for *E. coli* and Pseudomonus aeruginosa isolated from clinical samples inbiotics, kanyakumari

Agar Well Diffusion Test:

The antibacterial screening of the *Manosilai Chooranam (MC)* was carried out by determining the zone of inhibition using agar well diffusion method (Bauer, 1996). The drug extracts were tested against pathogenic bacteria *(Escherichia coli* and *pseudomonas aeruginosa sps).*

Bacterial Inoculums Preparation:

Inoculum of *(Escherichia coli* and *Pseudomonas sps)* were prepared individually in a respective broth and kept for incubation at suitable temperature.

Antibacterial Test:

The medium was prepared by dissolving 38 g of Muller Hinton Agar Medium (Hi Media) in 1000 ml of distilled water. The dissolved medium was autoclaved at 15 Lbs pressure at 121^0C for 15 min (pH 7.3). The autoclaved medium was cooled, mixed well and poured petriplates (25 ml/plate) the plates were swabbed with Pathogenic Bacteria culture viz. analysis analysis *(Escherichia coli* and *Pseudomonas sps)*. Finally, about 25 µL, 50 µL, 75 µL, 100 µL of sample (Aqueous extract of MC) was loaded onto the disc then placed on the surface of Mullar-Hinton medium and the plates were kept for incubation at 37°C for 24 hours. At the end of incubation, inhibition zones were examined around the disc and measured with transparent ruler in millimetres. The size of the zone of inhibition (including disc) was measured in millimeters. The absence of zone inhibition was interpreted as the absence of activity (Kohner*et al*., 1994; Mathabe*et al*., 2006). The activities are expressed as resistant, if the zone of inhibition was less than 7 mm, intermediate (8-10 mm) and sensitive if more than 11 mm (Assam *et al*., 2010).

3. Result

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Table 1
Anti-bacterial potential of aqueous extract of Manosilai Chooranam (MC)

Bacteria Strains Name	Samples Zone of inhibition (mm in diameter)					
	MC 25µg	MC 50µg	MC 75µg	MC 100µg	Positive Control	Negative control
E. coli (G-)	-	9mm	10mm	10mm	10mm	-
Pseudomonus aeruginosa (G-)	-	-	-	-	8mm	-

Keywords: *PC Positive control (Streptomycin), NC Negative control, "- No Zone, mm (Millimetre), G+ (Gram Positive Organism), G- (Gram Negative Organism)*

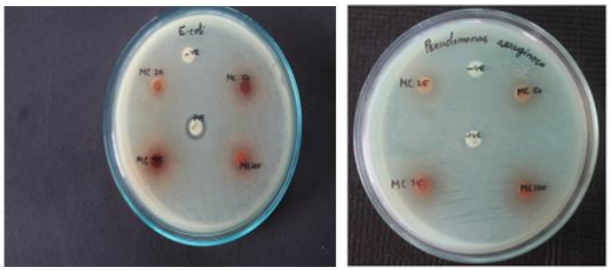

Fig. 1. Anti-bacterial potential of aqueous extract of Manosilai Chooranam (MC)

4. Conclusion

From the antimicrobial screening it was evident that the Siddha formulation MC possess significant antimicrobial activity against the tested microbes. *Escherichia coli* which could be due to the presence of bioactive compounds present in the formulation. The current research examines the antibacterial of traditional Indian medicine in the treatment of a variety of diseases. These activity Siddha formulations could be submitted to further biological and pharmacological studies in order to isolate medicinal components. Antibacterial activity tests on various Siddha formulations have confirmed their medicinal use.

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References

[1] Bauer A. W, Kirby W. M. M., Sherris J. C. & Turck M. Antibiotic susceptibility testing by a standardized single disk method. Amer. I. C/in. Pathol. 45:493-6, 1966.

[2] Assam A J P, Dzoyem J P, Pieme C A and Penlap V B (2010), "In Vitro Antibacterial Activity and Acute Toxicity Studies of Aqueous-Methanol Extract of Sida rhombifolia Linn. (Malvaceae)", BMC Complementary and Alternative Medicine, Vol. 10, No. 40, pp. 1-7.

[3] Kohner PC, Rosenblatt JE, Cockerill FR.1994. Comparison of agar dilution, broth dilution and disk diffusion testing of Ampicillin against Haemophilus spp. by using in house and commercially prepared media J. Clin. Microbiol. 32, 1594 -96.

[4] Mathabe M.C., Nikolova R.V., Lall N., Nyazema N. Z. Antibacterial activities of medicinal plants used for the treatment of diarrhoea in Limpopo Province, South Africa, Journal of Ethnopharmacology, 105 (2006), pp. 286-293.

[5] The Siddha Formulary of India Part-II, First edition, the controller of publications civil lines, Delhi- 54, 2011, pp. 188–189.