WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 6.805
Volume 5, Issue 10, 464-467. Research Article ISSN 2277– 7105

ANTIMICROBIAL EXPECTATION OF PHYTOCHEMICAL EXTRACTED FROM *BIXA ORELLANA*

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Article Received on
04 Aug. 2016,
Revised on 25 Aug. 2016,
Accepted on 16 Sep. 2016
DOI: 10.20959/wjpr201610-6071

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ABSTRACT

Mostly Plants produce have an extensive range of phytochemicals, which are used in food nutrition, pharmaceutical and others applications in daily life at traditional times. Plants and their parts extract applying for the treatment of various kinds' diseases arising by microorganisms. In the present study *Bixa orellana* plant fruits in which contained seeds are used for extraction of phytochemicals in methanol, subjected for antimicrobial activity by disk diffusion method compared with standard antibiotic streptomycin.

KEYWORDS: Antimicrobial, *Bixa orellana*, Methanol, Phytochemical, Streptomycin.

INTRODUCTION

A phytochemical is a natural bioactive compound found in plants parts likewise leaves, stem, bark, flowers, fruits, seed and root, that works with nutrients and dietary fiber to protect against pathogens of causes disease.[1,2] The term of phytochemicals is generally used to refer to those chemicals gained from plants that may have biological significance, as essential nutrients.[3] Phytochemicals can be defining as compound found in plants to describe a diverse range of biologically active compounds found in plants. Phytochemicals provide plants with color, flavor and natural protection against pests and microorganisms pathogens. An organic extract of sindur (*Bixa orellana*) seeds obtained in Methanol was examined for *in vitro* antimicrobial activity using disk methods. To investigate the *in vitro* antimicrobial activities along with phytochemical screening of organic extract.[4,5]

Classification of Phytochemicals

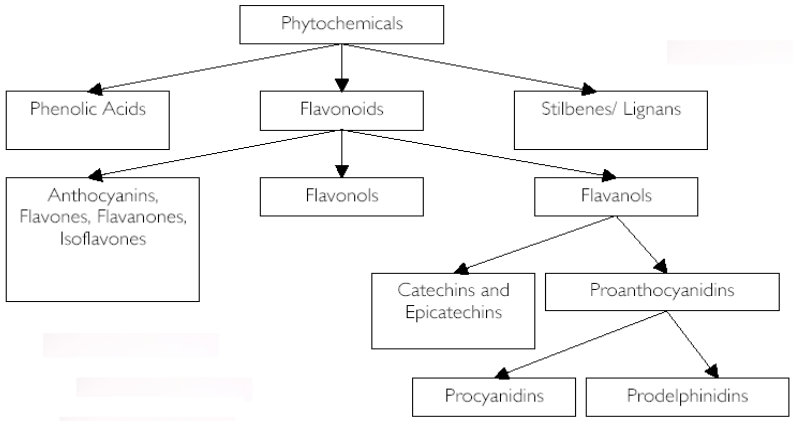


Fig.1: http://nutrition.ucdavis.edu/content/infosheets/fact-pro-phytochemical.pdf.[6]

MATERIALS AND METHODS

Collection of Plants materials: - Fresh fruits materials colleced in bulk from tree species viz., *Bixa orellana,* plants species are located in the local area of Betul district (Madhya Pradesh), India.

Preparation of Extract: - Collected Plant fruits materials was dried in air shade prohibited from direct sun light and break fruit coat and obtained dried seeds, the seeds homogenization in grinder at fine powder form, 100gm seed powder was used for extraction material with 200ml organic solvents likewise methanol using a Soxhlet apparatus total amount of extract obtained in 20ml methanol after that methanol was evaporated and sample was dried in vacuum oven, dry weight of extract powder at 5gm approximate.

Antimicrobial Screening: - The medium NAM was sterilized by autoclaving at 120°C. The media was transferred aseptically into sterilized Petri plate. The Plates were left at room temperature for solidification. After that prepared solution of standard antibiotic streptomycin and plant extract dissolved in various concentrations such as 1mg, 2mg, 3mg, 4mg and 5mg per ml small paper disk dip in solution and disk transfer in petri plate of solid media and plate open in environment for 5min. and kept plate in incubator for 24hours at 37°C.

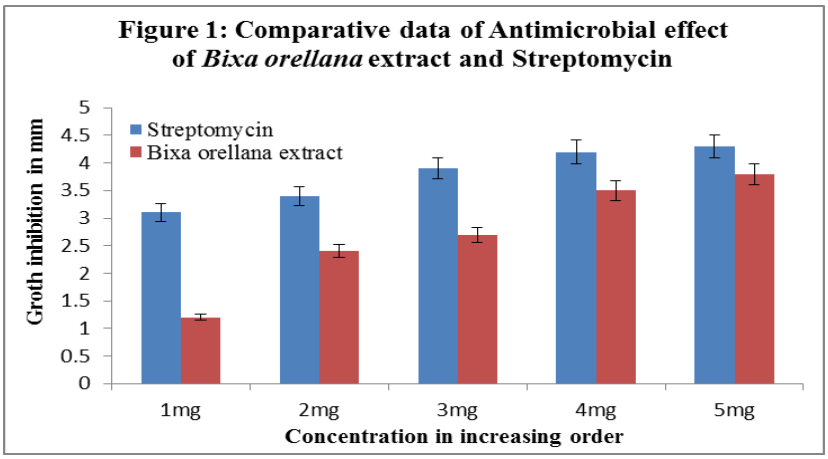
RESULTS AND DISCUSSIONS

Antimicrobial activity of samples of Phytochemical from *Bixa orellana* extract application was screened against air born microorganisms to study antimicrobial properties by plating disk method in which showing growth inhibited zone clear with all applied samples given

efficiency according to used concentration of streptomycin and plant extract. Obtained results streptomycin was given minimum 3.1mm and maximum 4.3mm from outside orient of disk, where similar results with plant extract was given minimum 1.2mm and maximum 3.8 with increasing concentration detailed showed in table1 while we was compared between plant extract and streptomycin than we gained 3mg streptomycin equal 5mg plant extract detailed showed in figure1 from 24 hours of incubation periods

Table No.1: Screening Antimicrobial expect of streptomycin and *Bixa orellana* extract

S.No.	Streptomycin	Antimicrobial effects	Plnat extract	Antimicrobial effects
1	1mg	3.1mm	1mg	1.2mm
2	2mg	3.4mm	2mg	2.4mm
3	3mg	3.9mm	3mg	2.7mm
4	4mg	4.2mm	4mg	3.5mm
5	5mg	4.3mm	5mg	3.8mm



CONCLUSIONS

Bixa orellana extracted phytochemical has properties as an antimicrobial observation on petri plate growth inhibition zone by disk methods apply saturated disk with *Bixa orellana* extract and standard antibiotic streptomycin given clear zone of inhibition against air born microorganisms.

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