International Journal of Psychosocial Rehabilitation, Vol. 24, Issue 06, 2020
ISSN: 1475-7192

Anthelmithic activity of Methanolic extract of Phaseolus semierectus (L.)

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ABSTRACT- *Phaseolus semierectus (L.). is the most significant genus in the family Fabaceae, which is commonly known as Purple been in India[1]. This study evaluates anthelmintic activity of methanol extract of Phaseolus semierectus (L.). on Indian adult earthworms, Pheretima posthuma (annelid).Aerial parts were extracted by using soxhlet apparatus. Phytochemical screening of crude extracts showed the presence of Alkaloids, Tannins, phenolics, flavanoids, terpenoids, steroids and proteins[2]. Various concentrations (25, 50, 100mg/ml) of crude extracts were tested for anthelminthic activity when involved the determination of the time of paralysis and time of death of worms. The activity was compared with standard piperazine citrate. The methanolic extract shows significant activity when compared to the standard piperazine citrate. The paralysis and death time is 56, 32, 18 and 77, 53, 34 minutes respectively at concentrations 25, 50 and 100mg/ml. whereas these are 31, 18, 10 and 63, 41, 22 minutes for piperazine citrate. In order to confirm the studies in vivo studies have to be conducted.*

Key words- *Phaseolus semierectus (L.)., Anthelmintic activity, Piperazine citrate*

I INTRODUCTION

Medicinal plants and their derivatives are widely used in traditional cultures all over the world and they are becoming increasingly popular in modern society as natural alternatives to synthetic chemicals [1].In the last few decades there has been an exponential growth in the field of herbal medicine. It is getting popularized in developing and developed countries owing to its natural origin and lesser side effects.

II METHODOLOGY

COLLECTION OF SAMPLE

Fresh whole plant *Phaseolus semierectus (L.).*Were collected Thirumala hills in Tirupati, Andhra Pradesh, India. The botanical identification of plant was performed by Dr. K. Madhava chetty, Professor, and HOD, Dept Of Botany, SV University, Tirupathi, A voucher specimen (TUR-555) is being maintained in the department of pharmacognosy, And they were washed with distilled water twice. Then they were cutted into small pieces.

PREPARATION OF EXTRACTS

600g of dried rhizomes were suspended in 2lits of distilled water. Extraction was done at 80^0C by using soxhlate apparatus for 1 hour 30 minutes. Followed by filtering of the extracts using what man filter paper no 1.

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Received: 22 Feb 2019 | Revised: 13Mar 2019 | Accepted: 05 Apr 2020

Extract was then concentrated at 80^0 C for 3hours to form a semisolid form and they were transferred into sterile wide mouthed bottles and refrigerated until used.

Animals

Adult Indian earthworms, *Pheretima posthuma* resemble the intestinal round worm parasites[3] of human beings both anatomically and physiologically and hence were used to study the anthelmintic activity. Healthy adult Indian earthworms *Pheritima posthuma* were used for evaluating the anthelmintic activity[4, 5, and 6]. All healthy earthworms were of approximately 5-7cms in size and 0.1-0.2 cm in width. They were collected from local place, washed and kept in water until they were used for screening of activity[7-11].

The activity was compared with standard piperazine citrate. The methanolic extract shows significant activity when compared to the standard piperazine citrate. The paralysis and death time is 56, 32, 18 and 77, 53, 34 minutes respectively at concentrations 25, 50 and 100mg/ml. whereas these are 31, 18, 10 and 63, 41, 22 minutes for piperazine citrate. In order to confirm the studies in vivo studies have to be conducted.

III RESULTS AND DISCUSSION

1. Phytochemical screening

Name of phyto constituent	**Methanolic extract**
Alkaloids	+
Carbohydrates	+
Amino acids	+
Tannins	+
Steroids	+
Saponins	+
Glycosides	+
Mucilages	-
Proteins	-
Flavanoids	+

Preliminary phytochemical screening of the methanolic extract of *Phaseolus semierectus (L.)* reveals the presence of Alkaloids, tannins, Saponins, Carbohydrates, Amino acids, Flavonoids and Glycosides. Different doses of the extracts were screened for their activity mainly due to the presence of flavanoids respectively.

Received: 22 Feb 2019 | Revised: 13Mar 2019 | Accepted: 05 Apr 2020

Figure 1: Phaseolus semierectus (L.)

Figure 2: Adult Earth warms

2. Anthelminthic activity (Paralysis) of Phaseolus semierectus (L.) methanolic extract

Type of extract	Dose (mg/ml)	Time taken (min)
Methanol	25	56
	50	32
	100	18
Piperazine citrate	25	31
	50	18
	100	10
Control	---	---

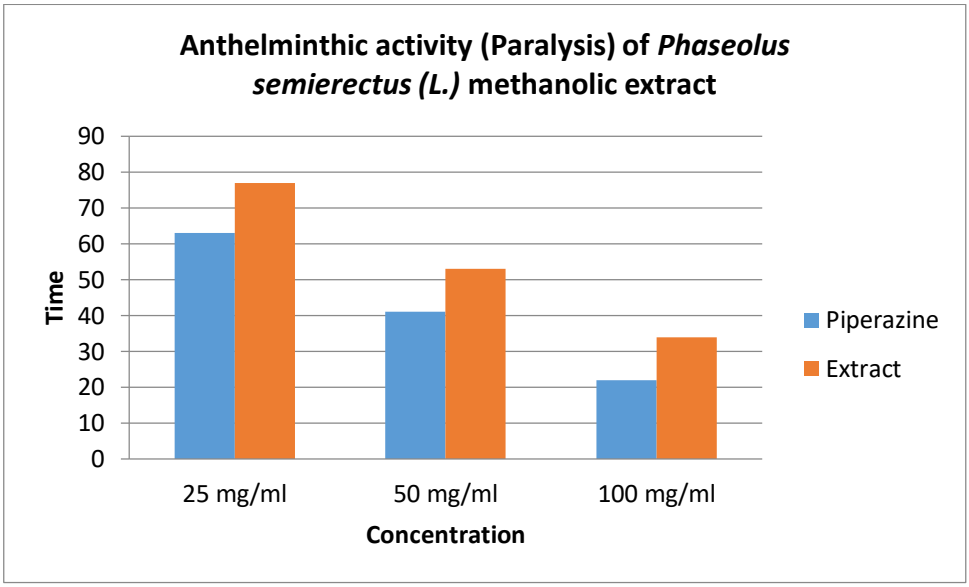

Figure 3: Anthelmenthic activity (Paralysis) of *Phaseolus semierectus (L.)* methanolic extract

3. Anthelminthic activity (Death) of Phaseolus semierectus (L.) methanolic extract

Type of extract	Dose (mg/ml)	Time taken (min)
Methanol	25	77
	50	53
	100	34
Piperazine citrate	25	63
	50	41
	100	22
Control	---	---

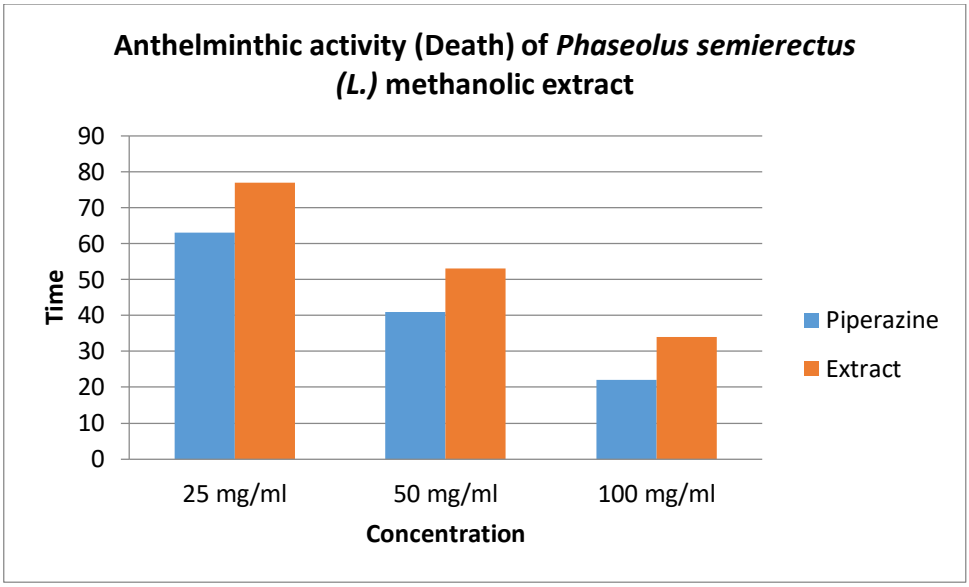

Figure 4: Anthelmenthic activity (Death) of *Phaseolus semierectus (L.)* methanolic extract

IV RESULTS AND DISCUSSION

Methanolic extract has significant anthelmintic activity when compared to standard Piperazine citrate. The paralysis time of methanolic extract was 56, 32 and 18 min at 25, 50 and 100 mg/ml concentrations respectively. The death time is 77, 53 and 34 min at 25, 50 and 100 mg/ml. Whereas these values when compared to standard Piperazine citrate is as follows, 31, 18 and 10 min for paralysis and 63, 41 and 22 min respectively.

V ACKNOWLEDGEMENT

The authors are thankful to Dr. Salahalddin Saeed President of Komar University, for providing necessary requirements and financial support.

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