WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.084
Volume 12, Issue 2, 42-47. Review Article ISSN 2277– 7105

PROTECTIVE EFFECT OF HERBAL MIXTURE ON HELMINTHIASES

Dr. Abhijit Kulkarni*[1], Vishakha V. Kamble[2], Komal R. Pisal[3], Pravin G. Patil[4], Sushil J. Jadhav[5], Saloni S. Ghadigaonkar[6]

[1]Department of Pharmacology, Ashokrao Mane Institute of Pharmaceutical Sciences and Research Save.

[2]B. Pharm (fourth year) Students, Ashokrao Mane Institute of Pharmaceutical Science and Research Center, Save.

Article Received on
30 November 2022,
Revised on 20 Dec. 2022,
Accepted on 11 Jan. 2023
DOI: 10.20959/wjpr20232-26379

***Corresponding Author**
Dr. Abhijit Kulkarni
Department of Pharmacology, Ashokrao Mane Institute of Pharmaceutical Sciences and Research Save.

ABSTRACT

The plant *Kyllinga Monocephala* is belongs to family "*Cyperaceae*" is called as "Anuang & Nirbishi" in Hindi and "Bandar Phool" in Chhattishgarhi. *Kyllinga monocephala* is used in treatment of pain, diarrhea, eye related problems, tumours, measles. In present study hydroalcoholic extract of *Kyllinga Monocephala* contains anthelmintic property. The Anthelmintic activity was evaluated on adult Indian Earthworms (*Pheretima posthuma*). Albendazole suspension used as standard and anthelmintic potential of plant extract was evaluated at three different concentrations. The paralysis time and death time of worms are studied and recorded & found that hydroalcoholic extract of plant *Kyllinga monocephala* contain significant & dose dependent anthelmintic activity.

KEYWORDS: Anthelmintic activity, Kyllinga monocephala. Pheretima posthuma, Hydroalcoholic extracts, Albendazole.

INTRODUCTION

Helminthiasis

Helminthiasis is a disease caused by the parasitic worms. They are transmited by eggs present in human faeces which in turn contaminate soil in areas where sanitation is poor.

Kyllinga Monocephala

Fig 1: *Kyllinga monocephala.*

Kyllinga monocephala belongs to the family of *Cyperaceae* is can also be referred to as Cyprus kyllinga. Its common names in English are whitehead spikesedge, white-unfolded kyllinga.

It is used to kill parasitic worms which causes Helminthiasis.

NEED FOR STUDY

Some parasite infection often cause morbidity & mortality, especially in children.

Side effects.

Nausea, vomiting, diarrhea, stomach,

Abdominal cramps, headache, drousiness.

Dizziness, trouble sleeping.

Lossof appetites.

OBJECTIVES

To investigate the anthelmintic activity of Kyllinga Monocephala. Summarize the management options available for helminthiasis.

To find out phytochemicals in plant extract such as Condensed tannins, flavonoids by phytochemical tests which are essential to anthelmintic activity. The present report deals with the observations recorded On the anthelmintic activity of kyllinga monocephala.

METHOD

Collection of Plant*: Kyllinga Monocephala*

Fig. 2: *Kyllinga monocephala* Plant.

Collection of Worms

Indian adult earthworm *Pheretima Posthuma*

Fig. 3: Earthworm *(Pheretime Postuma).*

PRERPARATION OF EXTRACT

Ingredients of *Kyllinga Monocephala* were powdered Electric grinder sieved by sieve no. 80 to get fine powder 50% Hydroalcoholic extract were obtained by using soxhlet apparatus in different drug and solvent ratios The extraction was done for 8h at temp. 80°C Filtration filtrate was dried on water bath to obtain solid residue of extract % yield of aqueous extract was found to be 22.26% & Hydroalcoholic extract yielded 24.77% Standardization of extract Phytochemical analysis Presence of phytoconstituents like condensed tannins and flavonosid Extract used for anthelmintic activity.

Fig. 4: Extraction of *Kyllinga Monocephala* by using Soxhlet Apparatus.

Phytochemical Tests

Phytochemical analysis of kyllinga monocephala and Extract revealed the presence of phytoconstituents responsible for anthelmintic activity.

For example:- flavonoids, condensed tannins, Phenol and saponin.

ANTHELMINTIC ACTIVITY

1. Anthelmintic study of Kyllinga monocephala extract was carried out at concentrations of 25, 50 & 100 mg/ml against Indian earthworm Pheretima posthuma.
2. Four groups of earthworms each containing 3 earthworms approximately of equal size were used for the study.
3. Three groups of earthworm were tested with extract of different concentrations (25mg/ml, 50mg/ml & 100mg/ml) And one group was treated with albendazole.
4. Observations were made for the time taken to paralysis and death of individual worms continuously for half hour.
5. Paralysis time and death time has been recorded in table.

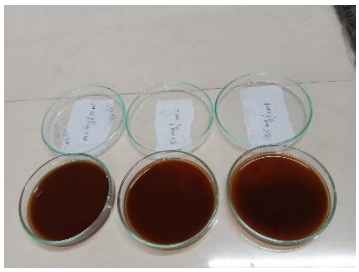

Fig. 5: Earthworms dipped in in solutions.

RESULTS

After observation of results it was found that 100mg/ml dose shows significant anthelmintic activity.

Both aqueous and hydro-alcoholic extracts of the ingredients of Kyllinga Monocephala was found to be less potential than Albendazole.

The anthelmintic activity of extract was directly proportional to the dose.

Groups	Conc. mg/ml	Time taken for paralysis (min)	Time taken for death (min)
Kyllinga Monocephala	25	26.08	37.57
	50	12.37	17.50
	100	**6.20**	**8.48**
Albendazole	25	24.45	30.56
	50	9.20	14.13
	100	4.25	5.55

DISCUSSION

Kyllinga Monocephala is an important herbal formulation which has been described for the treatment of Intestinal helminthiasis especially for earthworms (Pheretima posthuma).

Kyllinga monocephala shows significant effect at 100 mg/ml concentration because of the presence of condensed tannins.

Different in vitro and in vivo models are used for the evaluation of anthelmintic activity. Earthworms have the capability to move by peristalsis.

CONCLUSION

On the basis of results and discussion it can be summarized from the present study that all the dosage forms of ingredient of Kyllinga Monocephala shown promising in vitro anthelmintic activity against adult Earthworm (Pheretima posthuma) in concentration dependent manner.

Among all the dosage forms, hydroalcoholic extract was found to be more potent, could be due to presence of maximum number of phytoconstituents, as revealed by qualitative and quantitative estimation of hydroalcoholic extract.

The wormicidal activity of alcoholic extracts of Kyllinga monocephala suggests that it is effective against parasitic infections of humans at 100mg/ml.

REFERENCE

1. Ganedwari K et al. In vitro anthelmintic activity of Leonotisnepetifolia (L.) R.Br. a potential medicinal plant. J. chem and Pharma Research, 2013; 5: 2345-348.
2. Cordeiro MC. And Kailwal BB Anthelmintic activity of stem bark extract Of BrideliaretusSpeg Intl I App Bio and Pharmal Tech, 2012; 34: 1014.
3. Dika, IK. Correlates of resistance to gastrointestinal nematode infection in Nigerian West African dwarf sheep. Asian Pacific J Tropical Med, 2012; 5: 7 539-532.

4. Hotes PJ et al. Disease control priorities in developing countries. Jamison.
5. DT, Breman JG, Meashan AR. Et al, editors. Helminth infections: Soil Transmitted helminth infections and schistosomiasis 2nd ed.
6. Amor JP Quanico & G.G. Perer. "Analgesic activity of extracts of Kyllinga Monocephala Rotth", InformasHealthcare.(2009) Hennessy D. Modifying the formulation or delivery mechanism to increase the activity of anthelmintic compounds. Veterinary Parasitology, 1997; 72: 367-390.