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A STUDY ON ANAGELSIC ACTIVITY OF POLY HERBAL FORMULATION IN MICE

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ABSTRACT

The present study was taken up for evaluating the analgesic activity of ethanolic and aqueous extracts of the seeds of the *coriandrum sativum* and the fruits of the *momordica dioica*. The results is observed from the phytochemical study that tannins, alkaloids, steroids, glycosides, saponin and aminoacids are absent in all extracts. Flavonoids and triterpens are presents in ethanolic extract and aqueous extract. Carbohydrates, reducing sugars and fixed oils are present all extracts. The phytochemical study it was proved that flavanoides, fixed oils, reducing sugars, triterpens and carbohydrates are present. From the study it was shown that the Aqueous and Ethanolic extracts of high doses shown significant response when compare with control. And it was proved that poly herbal formulation shows fewer side effects than individual. So the present study was in poly herbal formulation.

KEYWORDS

Flavonoids, Triterpens, Aminoacids and *momordica dioica.*

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INTRODUCTION

Coriander (*Coriandrum sativum*) (Figure No.1), also known as cilantro, Chinese parsley or dhania[1], is an annual herb in the family Apiaceae. Coriander is native to regions spanning from southern Europe and North Africa to southwestern Asia. It is a soft plant growing to 50 cm (20 in) tall. The leaves are variable in shape, broadly lobed at the base of the plant, and slender and feathery higher on the flowering stems. The flowers are borne in small umbels, white or very pale pink, asymmetrical, with the petals pointing away from the centre of the

umbel longer (5-6 mm or 0.20-0.24 in) than those pointing toward it (only 1-3 mm or 0.039-0.118 in long). The fruit is a globular, dry schizocarp 3-5 mm (0.12-0.20 in) in diameter. Although sometimes eaten alone, the seeds often are used as a spice or an added ingredient in other foods.
The dry fruits are known as coriander seeds. In Indian cuisine they are called *dhania*[2, 3]. The word *coriander* in food preparation may refer solely to these seeds (as a spice), rather than to the plant. The seeds have a lemony citrus flavour when crushed, due to terpenes linalool and pinene. It is described as warm, nutty, spicy, and orange-flavoured. The nutritional profile of coriander seed is different from the fresh stems and leaves, the vitamin content being less than amounts being displayed in the chart above for the plant, with some being absent entirely. However, the seeds do provide significant amounts of calcium, iron, magnesium, and manganese[4].
The variety *C. s. vulgare* has a fruit diameter of 3-5 mm (0.12-0.20 in), while var. *microcarpum* fruits have a diameter of 1.5-3 mm (0.059-0.118 in). Large-fruited types are grown mainly by tropical and subtropical countries, e.g. Morocco, India and Australia, and contain low volatile oil content (0.1-0.4%). They are used extensively for grinding and blending purposes in the spice trade. Types with smaller fruit are produced in temperate regions and usually have a volatile oil content of around 0.4-1.8%, so are highly valued as a raw material for the preparation of essential oil[5].
It is commonly found both as whole dried seeds and in ground form. Seeds can be roasted or heated on a dry pan briefly before grinding to enhance and alter the aroma. Ground coriander seed loses flavour quickly in storage and is best ground fresh.
Coriander seed is a spice in garam masala and Indian curries, which often employ the ground fruits in generous amounts together with cumin. It acts as a thickener.
Roasted coriander seeds, called *dhana dal*, are eaten as a snack. They are the main ingredient of the two south Indian dishes: sambhar and rasam. Coriander seeds are boiled with water and drunk as indigenous medicine for colds.
Outside of Asia, coriander seed is used widely in the process for pickling vegetables. In Germany and South Africa (see boerewors) the seeds are used while making sausages. In Russia and Central Europe, coriander seed is an occasional ingredient in rye bread (e.g. borodinsky bread), as an alternative to caraway. Coriander seeds are used in European cuisine today, though they were more important in former centuries.
The Zuni people have adapted it into their cuisine, mixing the powdered seeds ground with chile and using it as a condiment with meat, and eating leaves as a salad[6].
Coriander seeds are used in brewing certain styles of beer, particularly some Belgian wheat beers[7]. The coriander seeds are used with orange peel to add a citrus character.
Coriander grows wild over a wide area of the Near East and southern Europe, prompting the comment, "It is hard to define exactly where this plant is wild and where it only recently established itself." [8]Fifteen desiccated mericarps were found in the Pre-Pottery Neolithic B level of the Nahal Hemel Cave in Israel, which may be the oldest archaeological find of coriander. About half a litre of coriander mericarps were recovered from the tomb of Tutankhamen, and because this plant does not grow wild in Egypt, Zohary and Hopf interpret this find as proof that coriander was cultivated by the ancient Egyptians[8].
Coriander seems to have been cultivated in Greece since at least the second millennium BC. One of the Linear B tablets recovered from Pylos refers to the species as being cultivated for the manufacture of perfumes, and it appears that it was used in two forms: as a spice for its seeds and as a herb for the flavour of its leaves[6]. This appears to be confirmed by archaeological evidence from the same period: the large quantities of the species retrieved from an early Bronze Age at Sitagroi in Macedonia could point to cultivation of the species at that time[9].

Coriander was brought to the British colonies in North America in 1670, and was one of the first spices cultivated by early settlers.

Joshi *et al* extracted the anti-H lectin from the seeds of the plant *Momordica dioica Roxb.* (Figure No.2) ex.wild and tested for its hematogglutination and inhibition properties, using standard serological methods and parel RBCs, serum, saliva, milk and oligosaccharides purified from milk. The extract displayed strongest agglutination with group O RBCs and was weakest with group A, B. RBCs in a spectrum. They also concluded that the lectin in the *Momordica dioica Roxb.* ex.wild agglutinated RBCs from persons other than those of the Bombay phenotype[10].

MATERIALS AND METHODS

Plant materials

The seeds of the *coriandrum sativum* and the fruits of the *momordica dioica* of were collected from A.M Reddy Memorial College of Pharmacy, Petlurivaripalam, Narasaropet. The plant materials were identified and authenticated[11] (prof.Dr.V.Satyanarayana rao) at Botanical department, Acharya Nagarjuna University, Guntur.

Preparation of extracts

The seeds and fruit of *coriandrum sativum* and *momordica dioica* were washed, cutted into small pieces, and dried under shade. Coarse powder of the seed and fruits was made and extracted by with 70% aqueous alcohol for 72 h at room temperature. The whole extract of individual plants was collected in conical flasks, filtered and the solvents were evaporated to dryness under reduced pressure. The poly-herbal formulation extract was then analyzed by qualitative tests and was found to contain carbohydrates, flavonoids, glycosides and fixed oils.

Animals

Swiss albino mice weighing 20-25 g of either sex were used for the study. The animals were housed in solid- bottomed polypropelene cages and acclimatized to animal house conditions. The mice were fed with commercial mice's diet and water adlibitium. The experiments were designed and conducted in accordance with ethical norms approved by Committee for the Purpose of Control and Supervision on Experiments on Animals (CPSCEA) and Institutional Animal Ethical Committee (IAEC) [12].

Preparation of poly-herbal formulation

Poly-herbal formulation was prepared according to ED50 of individual herbs. ED50 of individual plants was found to be, *coriandrum sativum* and *momordica dioica* (low dose-250mg/kg, high dose-500mg/kg). The % contents of individual plant extract in poly-herbal formulation.

The poly-herbal formulation was administered orally at doses of 250 mg/kg, 500mg/kg in the form of suspension prepared in double distilled water containing gum acacia (2% w/v) were purchased from local market.

The quantity of ethanolic extracts of leaves required for formulating herbal drug (Group-3,4,5) are calculated on the basis of human dose of powder form and percentage practical yield of respective crude drugs. Two formulations are prepared using 2% w/v gum acacia as suspending agent and considered as Lower dose and higher dose formulation 250mg/kg, 500mg/kg.

Drug treatment

Swiss Albino mice were divided into five groups of 4 animals each.

- Group I served as Control.
- Group II was administered standard drug paracetamol (80 mg/kg intraperitoneal route).
- Group III-IV served as test groups (test-A and test-B) and treated with poly-herbal formulation (low dose-250, high dose- 500 mg/kg, oral in double distilled water containing gum acacia (2%w/v).
- Group V served as test groups (test-A+B) and treated with poly-herbal formulation (250, 500 mg/kg, oral in double distilled water containing gum acacia (2%w/v).

Acute toxicity study

Acute toxicity study was performed in accordance with OECD guidelines[13]. No adverse effect or mortality was detected in albino mice up to 20-25gm/kg, p.o of poly-herbal formulation during the 24 to 72 hrs observation periods. For this period the

mice were continuously observed for 5 hrs for any gross behavioral, neurological or autonomic toxic effect and lethally after 24 to 72 hrs.

Acute toxicity studies were carried out on Wister albino mice according to method proposed by Ghosh. The prepared formulation were subjected to toxicity study and were found to be safe up to daily dose of 500 mg/kg of body wt. in mice of either sex with no toxic reaction being observed.

Phytochemical screening

Test for alkaloids

The small portion extracts were stored separately with a few drops of dilute hydrochloric acid and filtered. The filtrate was tested with various alkaloidal agents, such as Mayer's reagent (cream precipitate) and Dragendorffs reagent (orange brown precipitate).

Test for carbohydrates and glycosides

Small quantity of extracts were dissolved separately in 5mL of distilled water and filtered. The filtrate was subjected to Molisch's test to detect the carbohydrates. Another small portion of extract was hydrolyzed with dilute hydrochloric acid for few hours in a water bath and was subjected Liebermann-Burchard's, legal and Borntrager's test to detect different glycosides. (Pink to red color indicates presence of glycosides.

Test for flavonoids

5 mL of dilute ammonia solution were added to a portion of aqueous filtrate of plant extract followed by addition of concentrated H_2SO_4. A yellow coloration observed in extract indicated presence of flavonoids.

Test for steroids

2 mL acetic anhydride was added to 0.5 g extracts with 2mL H_2SO_4. The colour changed from violet to blue or green in samples indicated presence of steroid.

Test for terpenoids (Salkowski test)

Five mL of extracts were mixed in 2 mL of chloroform, and then concentrated H_2SO_4 (3 mL), was carefully added to form a layer. A reddish brown coloration formed at the interface indicated presence of terpenoids.

Test for saponin

About 1 mL of extract were diluted with distilled water to 20 mL and shaken in graduated cylinder for 15 minutes. One cm layer of foam indicated presence of saponin.

Test for tannin

When extract were treated with vanillin-hydrochloric acid reagent, pink or red colour was formed due to formation of phloroglucinol.

Test for protein

Mellon's reaction: Million's reagent (mercuric nitrate in nitric acid containing a trace of nitrous acid) usually yields a white precipitate on addition to a protein solution, which turns red on heating.

Test for volatile oil or essential oil

A thick section of extract was placed on a glass slide. A drop of Sudan red reagent was added and after two minutes, it was washed with 50% alcohol mount in glycerin.

Determination of analgesic activity by various methods

Analgesia

Deadening or absence of the sense of pain without loss of consciousness. Loss of sensation of pain that results from an interruption in the nervous system pathway between sense organ and brain. Different forms of sensation (e.g., touch, temperature, and pain) stimulating areas of skin travel to spinal cord by different nerve fibers in the same nerve bundle. Therefore, any injury or disease affecting the nerve would abolish all forms of sensation in the area supplied by it. When sensory nerves reach the spinal cord, however, their fibers separate and follow different courses to the brain. Thus it is possible for certain forms of sensation to be lost, while other are preserved in diseases that affect only travel the same path, both may be lost together. Diseases of the spinal cord that may cause analgesia without loss of the sensation of touch aretabes, dorsalis, syringomyelia and tumours of the cord. The term is also used for pain relief induced by the action of such medications as aspirin, codeine, and morphine.

Types of Methods

- Eddys hot plate method
- Tail-flick method

- Tail-immersion method
- Acetic acid induced writing tip

Eddy's hot plate method

Instrument description

The hot-plate method performs rapid and precise screening of analgesic drug properties on small laboratory animals according to the 'hot plate test'. The animal's pain sensitivity alterations induced by a specific experimental context change and or genetic manipulations can be evaluated by this method (Figure No.3).

The hot-plate test initially described by N.B.Eddy and D.Leimbach (1953)[14] evaluates thermal pain reflexes due to footpad contact with a heated surface. During the experiments, the animal is confined in a removable clear acrylic cylinder where the latency time to the first hind paw or jumping response is measured.

In the hot plate, a thick aluminium plate (10mm) provides a high temperature stability and even surface distribution. The plate temperature can be held at a set point between 45 and 62^0C ($\pm 0.1^0$C) by multiple proportional feedback circuits that minimize overshoot. A built in timer activated by an external foot switch allows precise measurement of reaction (0.1 sec precision).

A remote foot-switch controls the test start/stop allowing rapid hands-free experiments. The operator can read the animal reaction time from the display or from the PC computer using the SeDaCom software. Trail number, plate temperature and reaction time are sent to PC through a RS-232 port.

Principle

Analgesia is defined as a state of reduced awareness to pain and analgesics are substance which decreases pain sensation (pain killers) by increasing threshold to painful stimuli. In this method, heat is used as a source of pain. Animals are individually placed maintained at constant temperature (55^0C) and reaction of animals such as paw licking or jump response is taken as the end point. Analgesics increase the reaction time. The method was first described by eddy and limbach.

Procedure

- Weigh and number the mice.
- Take the basal reaction time by observing hind paw licking or jump response in animals when placed on a hot plate maintained at constant temperature. Normally animals show such response in 6-8 sec, a cutoff period of 15 sec is observed to avoid damage to the paws.
- Inject seed extract 0.1 ml to animals and note the reaction time of animals on the hot plate at 15, 30, 60 and 120 min after drug administration. As the reaction time increase with the drug, 15 sec is taken as maximum analgesic and animals are removed from the hot plate to avoid injury to the paws.
- Calculate percent increases in reaction time (as index of analgesic activity) at each time interval.

Tail-Flick Method

Instrument description

The hot plate analgesia is instrument is for rapid screening of drugs for central analgesic effects. The animal is dropped onto a hot surface as a foot pedal is pressed to start a clock. The observer presses the foot pedal again when the animal makes a stereotyped paw lick response to the hot surface. This latency is strongly affected by analgesic drugs. Improved design temperature regulation and surface distribution is improved by a 4mm thick copper plate, held at a set point between 30 and 60^0C to an accuracy of 0.1^0C by multiple proportions feedback circuits that minimize overshoot (Figure No.4).

Principle

Analgesia is defined as a state of reduced awareness to pain and analgesics are the substance which decreases pain sensation (pain killers) by increasing threshold to painful stimuli Painful reaction in experimental animals can be produced by applying noxious unpleasant stimuli such as thermal, chemical, physical, pleasure. In this laboratory commonly used procedures are tail flick method using analgesiometer, hot plate method and acetic-acid induced writing. Students are advised to study pharmacological of analgesics before performing this experiment.

Procedure

- Weight and number the mice.

- Take basal reaction time to radiant heat by placing the tip of the tail ion the radiant heat source the tail withdrawal from the heat is taken as the endpoint. Normally a mouse withdraws the tail in 3-5 sec. a cut off period of 10-12 sec is observed to prevent the tail damage. Any animal failing to withdraw its tail in 3-5 sec is rejected from the study. Take at least 3-5 basal reaction times for each mouse a gap of 5 min to confirm normal behavior of the animal.
- Inject standard drug and note the reaction time, 15, 30, 45 and 60 min after the drug. As the reaction time reaches 10 sec it considered maximum analgesia and the tail removed from the sources of heat to avoid tissue damage.
- Calculate percentage increase in reaction time at each time interval.

Tail-Immersion Method

The tails of the mice were marked 2 cm from the tip. The tails were immersed up to the mark in warm kept constant at 55°C. The reaction time was determined. It was the time taken by the mice to deflect their tails. The first reading was discarded and the mean of the next three readings was recorded as the reaction time. The reaction time was recorded before and 0, 30, 60, and 90 minutes after administration of the drugs.

Acetic acid Induced Writing Tip

Principle

Painful reaction in animals may be produced by chemicals also. Intraperitoneal injection of phenyl quinine, bradykinin or acetic acid produces pain reaction which is characterized as a writing response. Constriction of abandon turning pf trunk and extension of hindlegs are taken as reaction to chemically induced pain analgesic both narcotic and non-narcotic type, inhibit writing response.

Procedure

- Weigh and number the animals.
- Divide the animals in to two groups each containing of 5 animals. Administrate appropriate volume of acetic acid solution to the first group (control), lace them individually under glass jar for observation.
- Note the onset on writhes record the number of abdominal contractions, trunk twist response and extension of hind limbs as well as the number of animals showing such response during a period of 10 min.
- To the second group pf animals inject standard drug. Fifteen minutes later, administer acetic acid solution tip these animals. Note the onset and severity of writing response as done in step 3.
- Calculate the mean writing score in control.

METHODOLOGY

Soxhlet Apparatus

Extractio[15]

First, Separate *coriander sativum* (seed) and *momordica dioica* (fruit) were dried in shade and powdered coarsely. Extraction was done according to standard procedure using analytical grade solvents (Figure No.5).

The authenticated poly herbal formulation mixture of *coriander sativum* (seeds) and *momordica dioica* (fruit) were dried in shade and powdered coarsely. Extraction was done according to standard procedure using analytical grade solvents. The coarse powder of the mixture of *coriander sativum powder* and *momordica dioica fruit powder* was Soxhlet extracted with the solvents with increasing order of polarity i.e. petroleum ether (60-80^{o}C), chloroform (59.5-61.5^{o}C), ethanol (64.5-65.5^{o}C), and distilled water. The extracts obtained were concentrated under reduced pressure.

Solvent Selection

Solvent selection is critical to the type of material extracted as well as the extraction efficiency. Solvent should have high solubility for the desired organcis, a low miscibility with water and low boiling point to the facilitate removal of solvent from the extracted other solvents have been used such as ethanolic extract (alcohol, ethanol). Various preparations are prepared by using above methods are infusion, decoction, spirits, elixirs, etc.

Process

Extraction is defined as the process of isolation of soluble from an insoluble residue which may be

liquid or solid by treatment with solvent. For extraction of ethanolic extract, water solvent coriander *sativum, momordioica dioica* fruit soxhlet apparatus method is to be followed.

Requirement

- Conical flask, condenser, heating metel, beaker stands
- Ethanol (alcohol)
- Distilled water
- Filter paper
- Plant materials (coarse powder).

Principle

Continuous hot percolation process is used for those drugs where the penetration of the menstruum into the cellular tissues is very slow and the solute is not readily soluble into the solvent and the quantity of menstruum is very less. In such cases soxhlet extractor is used where small volume of hot menstruum is passed over the drug time and again to dissolve out the active constituents until the drug is exhausted. This process is known as Soxhlation.

- The soxhlet apparatus required for the continuous hot percolation is made from a very high grade of glass and consists of three points (a) a flask in which the menstruum is boiled (b) an extraction chamber in which drug is filled, is fitted with a side tube and a siphon.
- The drug to be extracted, in suitably comminuted form is usually packed in a 'thimble' made of filter paper which then placed into the wider part of the extractor.
- This process is not suitable for the drugs containing thermolabile active constituents.

Procedure

- The extraction of fixed oil from polyherbal formulation by the cold maceration.
- First we selected four mice and find out the individual weight of each mice. Then calculate the average weight of animal.
- Place the mice on Eddy's hot plate (55^0C) and record the basal reaction response (Jump response) in seconds. It is noted as blank (control).
- Before keeping the mice on hot plate, adjust the temperature of Eddy's hot plate at 55^0C.
- Record the basal reaction responses at regular intervals of time 0 min, 30 min, 45 min and 60 min.
- Calculate the average basal reactions responses at 0 min, 15 min, 30 min, 45 min and 60 min.
- Four mice we have taken for standard.
- Inject standard drug, paracetamol is to mice through intrapertioneal route. The dose of paracetamol is calculated based on their strength and animal body weight.
- Inject paracetmol (80mg/kg).
- Dose 80 (mg/kg) and record the basal reaction responses at 0 min, 15 min, 30 min, 45 min and 60 min.
- Record the responses of each animal and calculate the average basal reaction response.
- After the washout period (Three days), total eight mice for test-A ethanol extract was given oral dose (low dose-250mg/kg and high dose-500mg/kg) we have the animals to observe the test dose. Oral doses of test drug as same doses of test water extract and record the basal reaction responses at regular intervals of time 0 min, 15 min, 30 min, 45 min and 60 min. then calculate the average basal reaction response.
- Next, total eight mice for test-B ethanol extract was given oral dose(low dose-250mg/kg and high dose-500mg/kg) we have the animals to observe the test dose. Oral dose of test drug as same doses of test water extract and record the basal reaction responses at regular intervals of time 0 min, 15 min, 30 min, 45 min, 60 min. then calculate the average basal reaction response.
- Mixed (polyherbal formulation) total eight mice for test-(A+B) ethanol extract was given oral dose (low dose-250mg/kg and high dose-500mg/kg) we have the animals to observe the test dose. Oral dose of test drug as same doses of test water extract and record the basal reaction responses at regular intervals of time 0 min, 15 min, 30 min, 45 min, 60 min. then calculate the average basal reaction response.
- Compare the blank (control), standard responses and by plotting a graph between time (min) on

- X-axis and basal reactions (jump response) in seconds on Y-axis.
- Compare the control, standard, test-A(ethanol-low dose and high dose), the control, standard, test-A(water extract-low and high dose) and compare the control, standard, test-B (ethanol-low and high dose), the control, standard, test-B(water extract-low and high dose)and by plotting a graph between time(min) on X-axis and basal reactions(jump response) in seconds on Y-axis.
- Compare the control, standard, test-A+B (ethanol-low dose and high dose), the control, standard, test-A+B, (water extract-low and high dose) and by plotting a graph between time (min) on X-axis and basal reactions (jump response) in seconds on Y-axis.

RESULTS

Phytochemical investigation studies

Phytochemical investigation of various extract of *coriander sativum* and *momordica dioica* is observed. The results are showed in Table No.1.

Phytochemical screening

- It is observed from the phytochemical study that tannins, alkaloids, steroids, glycosides, saponin and aminoacids are absent in all extracts.
- Flavonoids and triterpens are presents in ethanolic extract and aqueous extract.
- Carbohydrates, reducing sugars and fixed oils are present all extracts (Table No.2).

DISCUSSION

- The medicinal plant is poly herbal formulations (*coriander sativum, momordica dioica*) are collected from the medicinal plant garden of A.M Reddy Memorial College of Pharmacy, petlurivaripalam, Narasaraopet, Guntur (d.t). This plant authentification was done in dept of botany in Acharya Nagarjuna University.
- In order to test the analgesic activity we have taken the reference or standard drug paracetamol. We selected the 32 mice for testing blank, test and standard samples with regular intervals and taken the wash out period three days for each type of sample. Inject the sample to the mice through intraperitoneal route and oral dose in certain doses at regular intervals of time 0min, 15min, 30min, 45min, 60min and note the basal reaction response (jump response) in seconds by using Eddy's hot plate method at 55^0C.
- Compare the response of test blank, standard drug and observe the responses by plotting the time(min) on X-axis and basal reaction response(jump response) in sec on Y-axis.so the standard response is increases compare to test blank, the standard response has more significant value.
- Test - A when compare with ethanolic extract low dose and high the ethonolic high dose shown more significant value than control.
- Test - A when compare with aqueous extract low dose and high the aqueous high dose shown more significant value than control.
- Test - B when compare with ethanolic extract low dose and high the ethanolic high dose shown more significant value than control.
- Test - B when compare with aqueous extract low dose and high the aqueous high dose shown more significant value than control.
- Test - A+B (mixed) when compare with ethanolic extract low dose and high the ethanolic high dose shown more significant value than control.
- Test - A+B (mixed) when compare with aqueous extract low dose and high the aqueous high dose shown more significant value than control (Figure No.6-18).

Table No.1: Phytochemical investigation of various extract of *coriander sativum* and *momordica dioica*

S.No	Test for active constituents	Petroleum extract	Chloroform extract	Ethylacetate extract	Ethanolic extract	Aqueous extract
1	Alkaloids	-ve	-ve	-ve	-ve	-ve
2	Carbohydrates	+ve	+ve	+ve	+ve	+ve
3	Reducing sugers	+ve	+ve	+ve	+ve	+ve
4	Steroids	-ve	-ve	-ve	-ve	-ve
5	Glycosides	-ve	-ve	-ve	+ve	-ve
6	Flavonoides	-ve	-ve	-ve	+ve	+ve
7	Triterpens	-ve	+ve	-ve	+ve	+ve
8	Saponins	-ve	-ve	-ve	-ve	-ve
9	Proteins	-ve	-ve	-ve	+ve	-ve
10	Tannins	-ve	-ve	-ve	-ve	-ve
11	Aminoacides	-ve	-ve	-ve	-ve	-ve
12	Volatile oils or essential oils	+ve	+ve	+ve	+ve	+ve

+ indicate – present, - Indicate - absent

Table No.2: Phytochemical screening

S.No	Parameters	Dose(mg/kg)	Basal reaction (jump response) in sec (avg)				
			0 min	15min	30min	45min	60min
1	Control		0	9.4	9	9.2	9.6
2	Standard	80mg/kg	0	22	22.8	22.2	21
3	Test-A		0	12.2	12.4	12	12.4
	(a) ethanolic extract-low	250mg/kg					
	Ethanolic extract-high	500mg/kg	0	15.6	16	15.2	15.4
	(b) water extract-low	250mg/kg	0	7	7	7.2	7.4
	Water extract-high	500mg/kg	0	7.6	8	7.8	7.4
4	Test-B		0	12.8	13	13.2	13.4
	(a) ethanolic extract-low	250mg/kg					
	Ethanolic extract-high	500mg/kg	0	16.8	17.4	17.6	17.4
	(b) water extract-low	250mg/kg	0	7.4	7.6	7.4	7.4
	Water extract-high	500mg/kg	0	8.2	8.2	8.4	8
5	Test-(A+B)		0	14	14.2	14.4	14.2
	(a) ethanolic extract-low	250mg/kg					
	Ethanolic extract-high	500mg/kg	0	19	18	17.2	17
	(b) water extract-low	250mg/kg	0	11	12.0	9.8	12.3
	Water extract-high	500mg/kg	0	13.2	13.4	12.8	12.5

Figure No.1: Coriander (*Coriandrum sativum*)

Figure No.2: Momordica dioica (*Momordica dioica. Roxb)*

Figure No.3: Eddy's hot plate

Figure No.4: Tail-Flick Method

Figure No.5: Soxhlet Apparatus

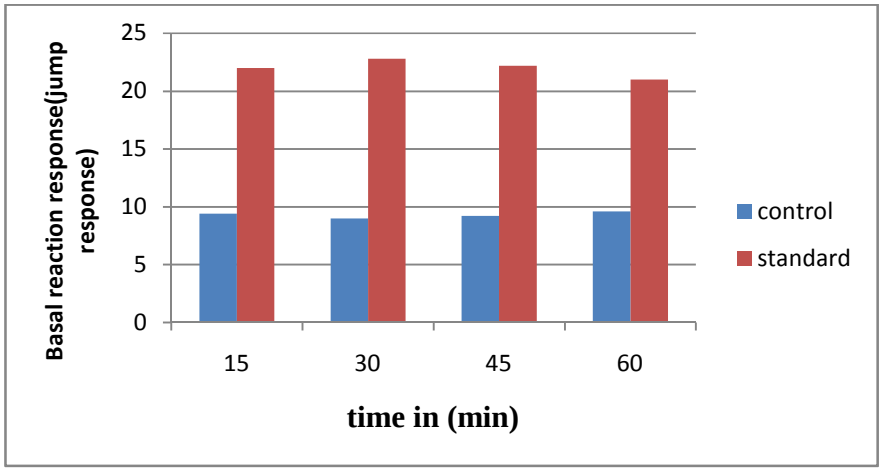

Figure No.6: Control + Standard

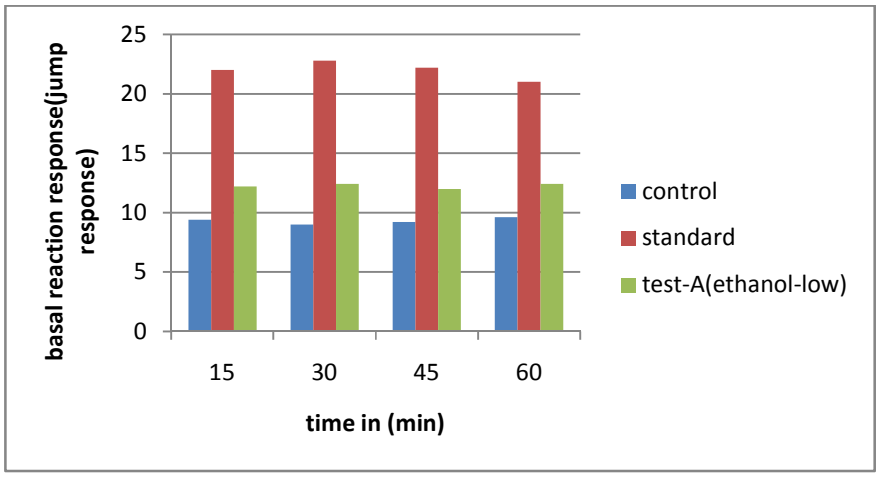

Figure No.7: Test-A-ethanolic extract-low dose

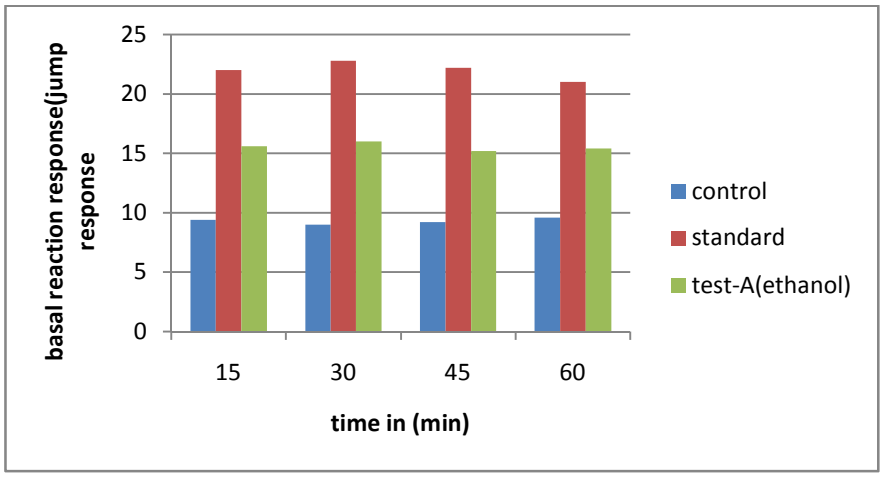

Figure No.8: Test-A-ethanol extract-high dose

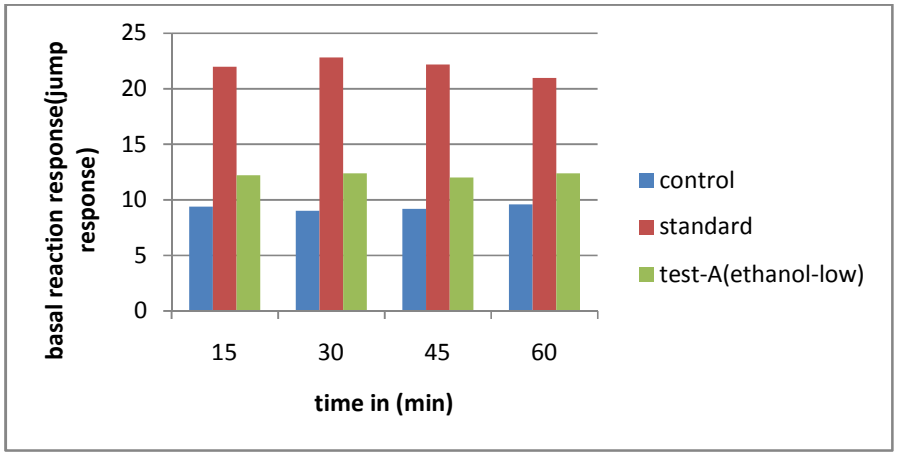

Figure No.9: Test-A-water extract-low dose

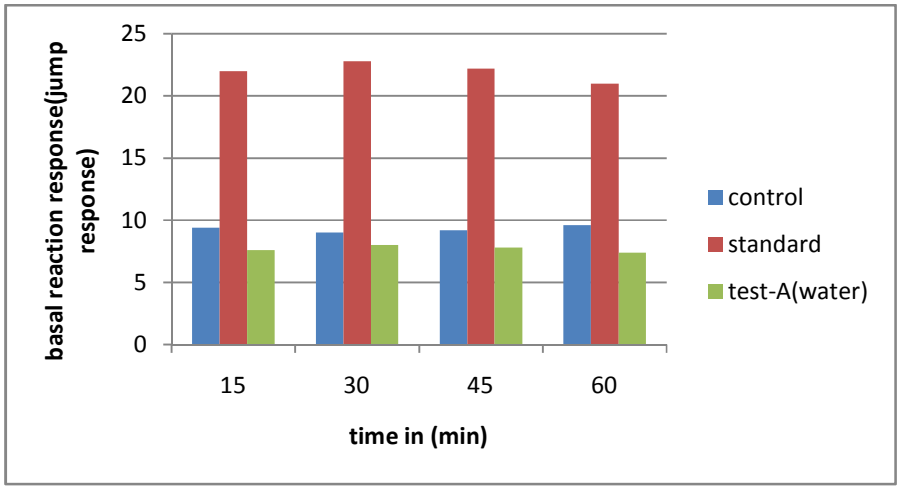

Figure No.10: Test-A-water extract-high dose

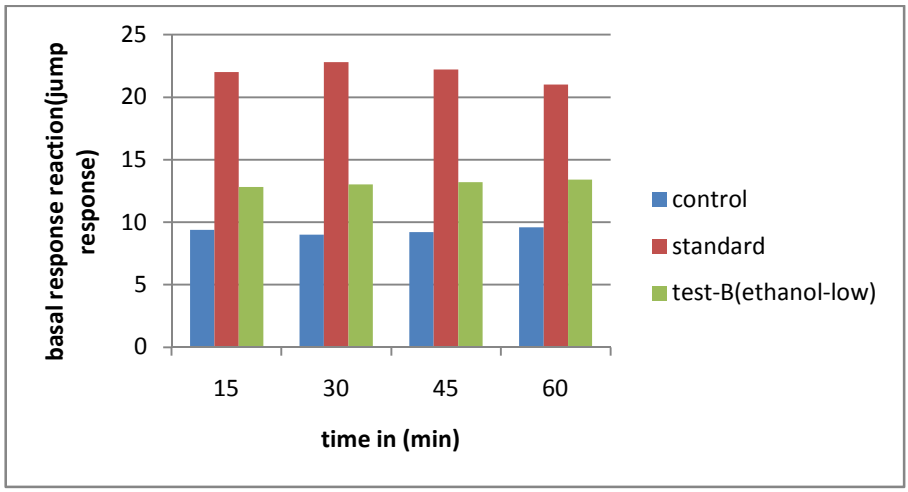

Figure No.11: Test-B-ethanol extract-low dose

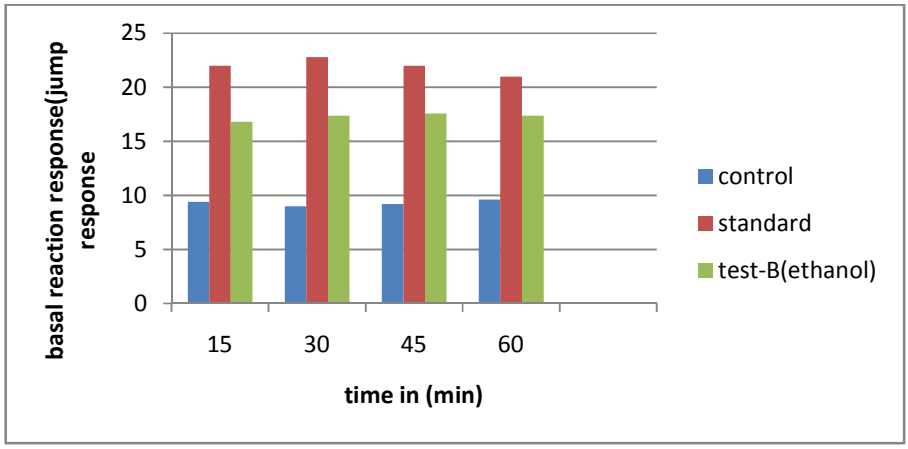

Figure No.12: Test-B-ethanolic extract-high dose

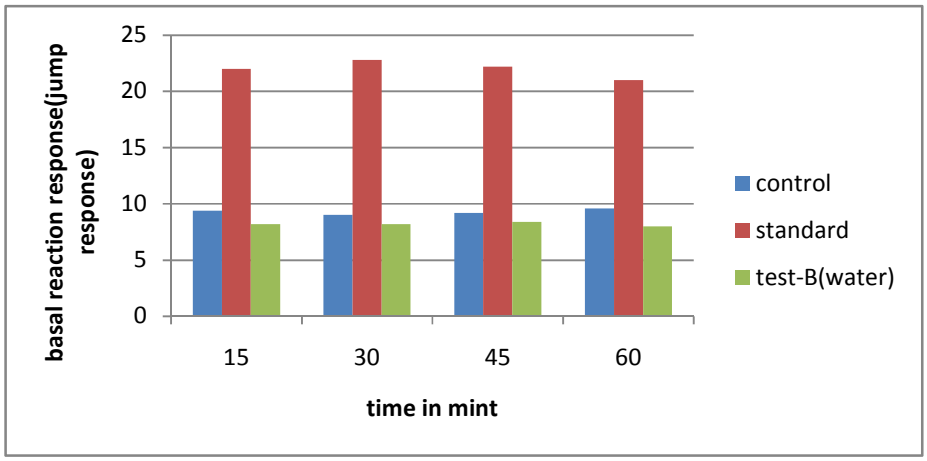

Figure No.13: Test-B-water extract-low dose

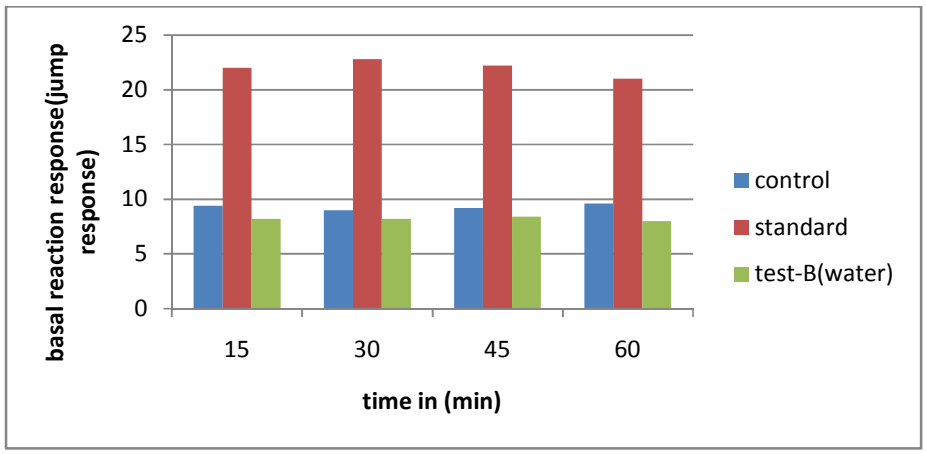

Figure No.14: Test-B-water extract-high dose

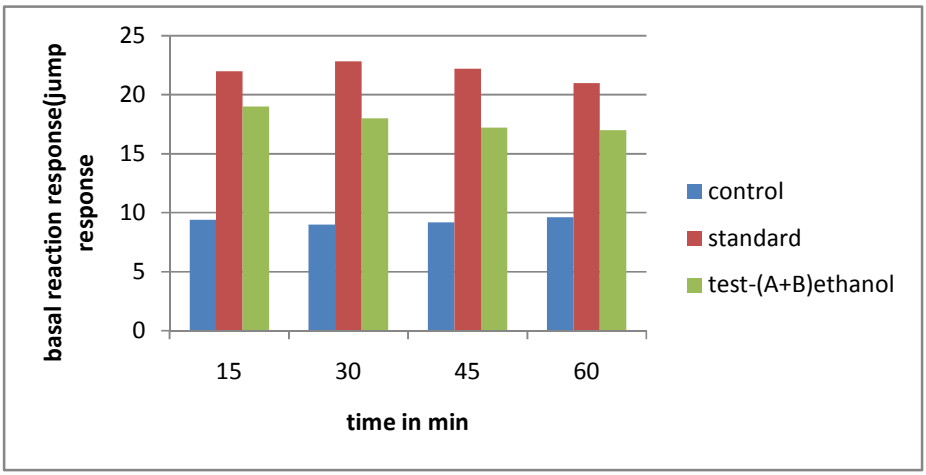

Figure No.15: Test-A+B-ethanolic extract-low dose

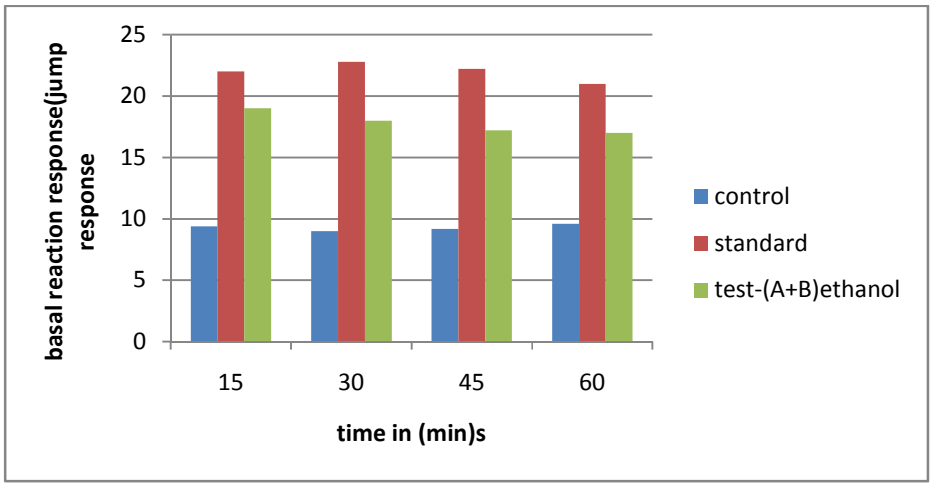

Figure No.16: Test (A+B)-ethanol extract-high dose

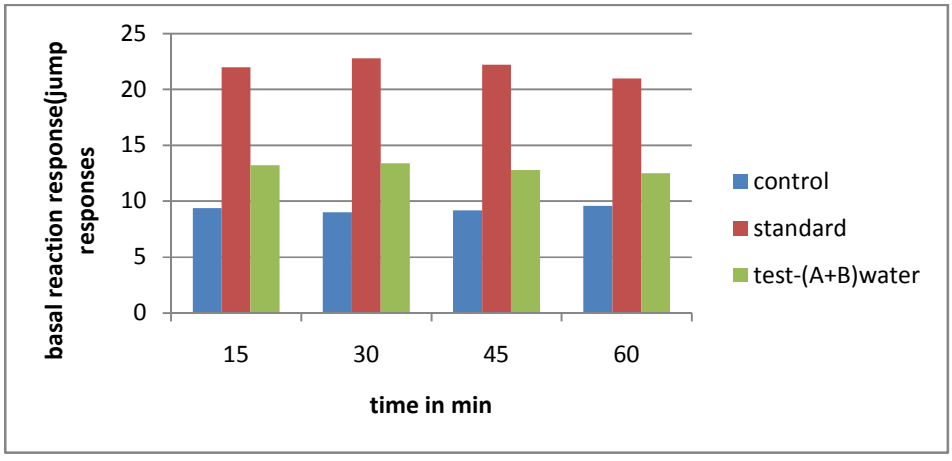

Figure No.17: Test-A+B-water extract-low dose

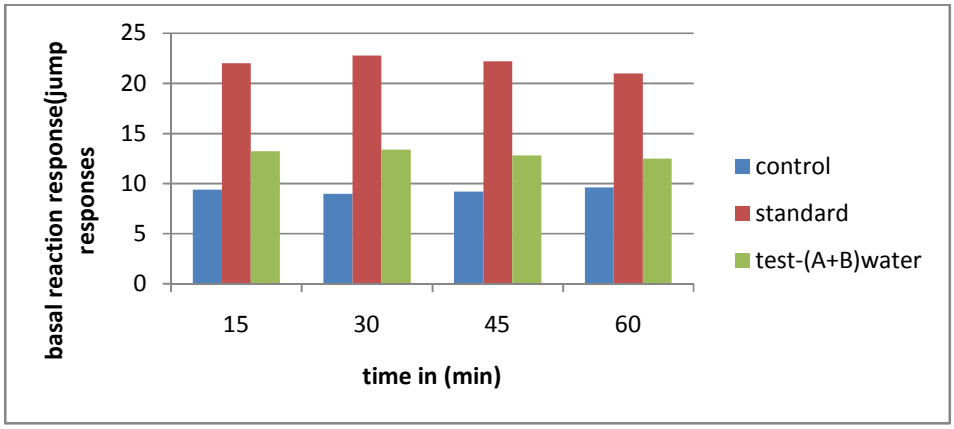

Figure No.18: Test (A+B)-water extract-high dose

CONCLUSION

In pharmacological screening method, the polyherbal formulations (*coriander*, *momordioca*) seed extraction when administered in mice shown less potent analgesic activity when compared to the standard drug, by using Eddy's hot plate method maintained at 55˚C temperature. The phytochemical study it was proved that flavanoides, fixed oils, reducing sugars, triterpens and carbohydrates are present. From the study it was shown that the Aqueous and Ethanolic extracts of high doses shown significant response when compare with control. And it was proved that poly herbal formulation shows fewer side effects than individual. So the present study was in poly herbal formulation.

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BIBILOGRAPHY

1. "Dhania". Oxford Advanced Learner's Dictionary.
2. "Dhania". Oxford English Dictionary, *Oxford University Press*, 3rd edition, September 2005.
3. "Coriander". Tarladala.com.
4. Nutritional Data, coriander seed spice, nutritionaldata.self.com, accessed 2013.08.10.
5. Bruce Small field (June 1993). "Coriander - Coriandrum sativum". Archived from the original on 4 April 2004.
6. Stevenson, Matilda Coxe. Ethnobotany of the Zuni Indians. SI-BAE Annual Report #30, 1915, 66.
7. Wheat Beers.
8. Daniel Zohary and Maria Hopf. Domestication of plants in the Old World, *(Oxford:* Oxford University Press, 3rd edition, 2000.
9. Fragiska M. "Wild and Cultivated Vegetables, Herbs and Spices in Greek Antiquity", *Environmental Archaeology*, 10(1), 2005, 1-10.
10. Josh S R, Vasantha K, Robb J S. Joshi et al extracted the anti-H lectin from the seeds of the plant *Momordica dioica Roxb.* ex.wild and tested for its hematogglutination and inhibition properties, 2005.
11. Prof. Dr.V. Satyanarayana, Botany department, Anu, Guntur.
12. Control and supervision experimental on animals (CPCSEA) and Institutional animal ethical committee (IAEC).
13. Acute toxicity study in accordance with OECD guidelines.
14. Kulkarni. A text book of practical pharmacology, 2008.
15. Kulkarni and Suresh. A text book of experimental pharmacology, Eddy's hot plate method.