THE EFFECTS OF NOOTROPIC ACTIVITY & EVALUATION OF PHYTOCHEMICAL SCREENING USING ETHANOLIC EXTRACTS OF FICUS RELIGIOSA ROOT BARK & VACCINIUM CORYMBOSUM FRUIT IN RATS

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***Abstract*: The drugs and other extractives were utilised to calculate the factual data and were handled 30 minutes in advance. Extracts of plant medicines are noticed in the assessment, after which psychotherapy action is demonstrated. Since they have been united in group 8, it may be concluded that both the *Ficus religiosa* root bark and the *Vaccinium corymbosum* extricates dried natural product are more tenuous. When cared for in moderate quantities, the detachments were less accessible. However, all the detachments with excessive dosages seemed to be promptly considered. In this study, plant extracts were shown to have likewise a critically greater nootropic effect in animal models. Groups four and six exhibited less successful outcomes than group five and seven, with dosages greater than group four and six, while groups eight together demonstrated a balanced, effective outcome.**
Support for combination dose support is suggested for additional study in order to create the development of an appropriate human-use medication design. It is also recommended that human clinical trials should be undertaken to get more strong evidence for psychotherapy.

***Keywords*: *Ficus religiosa, Vaccinium corymbosum* and psychotherapy**

INTRODUCTION

NOOTROPICS:

Dr.Giurgea invented the expression "nootropics" in the year 1972 from the Greek terms nous and trope. They are referred to as clever medications, emotional enhancers, cerebral enhancers, and nootropics. Another possible paraph: Known as "Nootropics."[1]

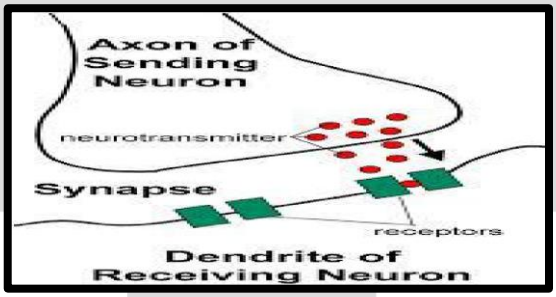


Fig 1: Dendrites of receiving neuron

Often known as: allotropic medicines, these are the diverse category of medications applied to conditions that impair the cognitive function of the elderly. But medications are suggested, according to others, but some therapies vary with regard to mode of action. The benefits provided by therapy are transient, however long-lived.[2]

THE REASONS BEHIND PEOPLE USE NOOTROPICS:

Like the most similar medications for the medical conditions such as ADHD, these supplements help control the activity level and executive function associated with it, but don't induce general mental changes like those with Huntington's and Parkinson's disease People utilise these substances for academic and workplace benefits for many purposes.

Such as a way to improve the ability to think and study faster. As an example, consider this second century engineering: the aqueducts, bathyut.[3]

1. **Medical Treatment**: These conditions are like ADHD (one way to think approximately it:psycatomdramental), may give uneasiness and stress-based pharmaceutical to decrease push, in arrange to assist them with more focus. Patients that have non-

specific short-term impacts, useful substantial torment disorder/people who do not respond to normal painkillers. Treating individuals enduring from Neurodegenerative disarranges: Parkinson's, Huntington's, and Alzheimer's, as well as the other brain maturing disarranges, are as of now managed with nootrophetics

2. **Performance Enhancement** :Nootropics are commonly utilized by competitors and experts for the purpose of bettering or increasing one's possess abilities.

   The diverse conceivable applications of keen drugs may be compared to: Any understudies are given such stimulant drugs, such as amphetamines, to help them in doing well in recalling and studying Some individuals select these cognitive enhancers for work when competition is tall and they accept it gives them an edge. Extensive investigate on sports and physical execution has appeared to demonstrate that a few supplements upgrade athletic performance

3. **Bio hacking :**For anybody who had to require such supplements, there was no issue with the wide utilization of nootropics. It takes on numerous shapes in terms of center, motivation, acknowledgment, review, and memory.

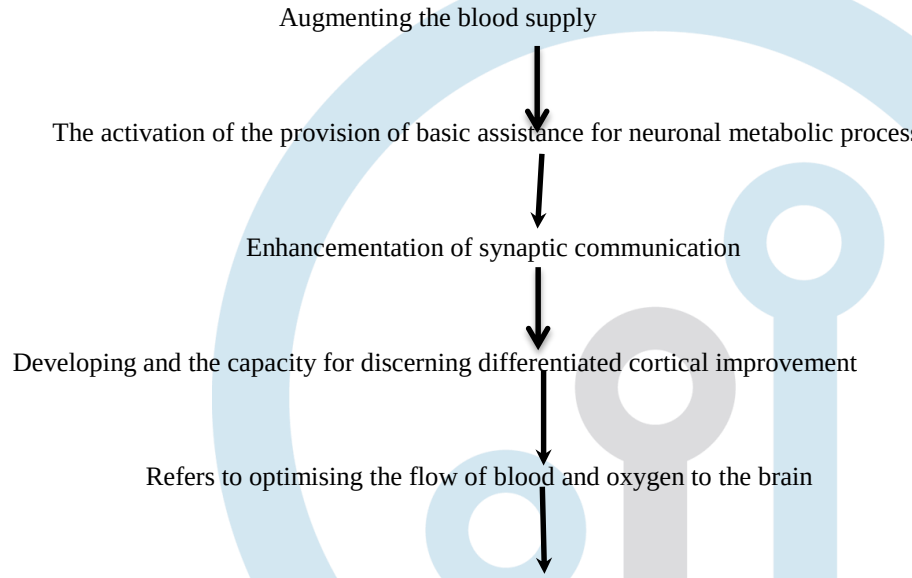


Fig 2: Mechanism of action of Nootropics

PLANT PROFILE [A]

Peepal Tree

Classification

Family : Moraceae

Genus : Ficus

Species : religiosa

Scientific Name :*Ficus religiosa*

Synonyms :

(the Bodhi tree of enlightenment, an enlightenment tree, and also known as) Ashva tree

It may be a tremendous, verdant tree of the Frelighia it has petioles that drop off the applaud, cordate, cordate, and foliate-shaped takes off that sparkle Green clears out grow abundantly develop on the trees. The bark is lean and flaky; the base contains a or maybe particular dark and delicate to medium brownish dark and light coloured particles. Between the months of Walk and April, the takes off are dropped. A department of the fig tree covers the sweet natural products of the pea. May is the month in which the figs are best for eating. Leaflores which create underneath the blossoms, but don't deter their development have a companion beneath-leaved figs as their source. The Peepal tree is considered to be the longest live individuals of the cuckoo species.[6]

PLANT INTRODUCTION [B]

Highbush Blueberry

Classification

Family : Ericaceae

Scientific Name :*Vacciniumcorymbosum*

Synonym :

(namely, the cyanobacteria and the bacterium Vacciniumaliformis, Vacciniumalifornutum, and the Vacciniumalbine), are cyanophilic, cyanoclastic, and cyanoclastic, respectively.

MATERIALS & METHODS :

Plant Material: The plant material *Ficus religiosa* bark was collected from the natural source and the plant material *Vacciniumcorymbosum* dried fruit was collected from the market store.After the collection of the plant materials the authentication was done by department of the horticulture, college of agriculture , professor jayashankartelangana state agricultural university.

Plant Material Extraction: The metod used for extraction was maceration technique**.** In this method the air dried *Ficus religiosa* root bark and *Vaccinium corymbosum* dried fruit was coarsely powdered and 500 gms of powder was subjected for extraction using 99% pure ethanol in the ratio1:2 (w/v) .These plant material powders were taken separetely in a clossed vessel and the solvent(ethanol)added with continuous stirring. It was allowed to stand for 3 to 7 days.Then the liquid was strained of using muslin cloth or through nets or seives.The solid residue (marc) pressed. The extract was formed and kept for evaporation until it was dried. The extractives were calculated as % w/w yield. The weight of dried crude extract of F.religiosa root bark was found to be 24gm and the percentage yield(4.8%).The weight of dried crude extract of *V.corymbosum* was found to be 16gm and the percentage yield (3.2%).

Phytochemical screening: The ethanolic extracts obtained above were subjected to qualitative analytical test for the detection of various chemical constituents viz. Steroides, carbohydrates, glycosides, tannins, proteins, saponin and flavonoids.

EXPERIMENTAL STUDIES:

Nootropic activity with crude extracts of plant materials was performed using experimental animal models after the approval of Committee For The Purpose Of Control and Supervision of Experiments on Animals (**CPCSEA**).The male rats of size 150gm-200gm were used.The experimental animals were maintained under standard laboratory conditions.

EXPERIMENTAL METHODS:

- Elevated Plus maze test using rats
- Y-maze test using rats
- Cook's pole climbing apparatus
- Forced swim test
- Tail suspension test
- Estimation of vitamin B12
- Estimation of MDA levels
- Histopathological studies

A) Brain
B) sciatic nerve

ACUTE TOXICITY STUDIES:

PLANT [A] *Ficusreligiosa*

The acute toxic effect of bark extract of *Ficus religiosa*was performed on albino rats using modified method of Lorke (1983). The healthy female albino rats fasted for 12 hours were divided into control and extracted treated groups. They were lodged in separate rat cages and treated with 2000 mg extract/kg body weight by oral gavage needle.The rats in both test and control group were allowed to access food and water easily.The rats were observed for clinical signs and symptoms of toxicity and mortality from the time of extract administration to 14thday.At the end of the experiment all animals were sacrificed.The results of this study showed no changes in the behaviour,no toxic symptoms and changes in the body weight,foodintake,and relative organ weight .The haematological parameters are differed from each other but the histoarchitecture of the vital organ did not show any damaged cells.Thus, The study revealed that ethanolic extract of *Ficus religiosa*bark did not produce any toxic effect at the high dose of 2000mg/kg body weight and is found to be safe in rats.[23]

PLANT [B] *Vacciniumcorymbosum*

The *Vacciniumcorymbosum* is an edible fruit so there are no such acute toxicity effects were studied.

EXPERIMENTAL DESIGN :

Group I : Control rats (n=6) only given vehicle P.O (10ml/kg)

Group II : Treated (n=6) with negative control (Scopolamine) I.P (0.3 -1 mg/kg)

Group III : Treated (n=6) with negativecontrol (Scopolamine) I.P (0.3 -1 mg/kg)+standard drug (Piracetam) I.P (100mg/kg)

Group IV : Treated (n=6) with negative control (Scopolamine) I.P (0.3 -1 mg/kg) + ethanolic extract of***" Ficus religiosa"*** P.O(200mg/kg)

Group V : Treated (n=6) with negative control (Scopolamine) I.P (0.3 -1 mg/kg) + ethanolic extract of***" Ficus religiosa"*** P.O (400mg/kg)

Group VI : Treated (n=6) with negative control (Scopolamine) I.P (0.3 -1 mg/kg) + ethanolic extract of ***" Vacciniumcorymbosum"*** P.O (200mg/kg)

Group VII : Treated (n=6) with negative control (Scopolamine) I.P (0.3 -1 mg/kg) + ethanolic extract of ***" Vacciniumcorymbosum"*** P.O (400mg/kg)

Group VIII : Treated (n=6) with Scopolamine I.P (0.3 -1 mg/kg) + combination of ethanolic extracts of ***" Ficus religiosa"and " Vacciniumcorybosum"*** P.O (100mg/kg and 200mg/kg)

DRUGS USED : Normal saline was used as vehicle,scopolamine was used as negative control is an anti cholinergic drug, piracetam was used as standard drug improves the function of neurotransmitter.

EXPERIMENTAL PROCEDURE

Elevated Plus Maze test using Rats :

Mazes are traditional tools in assessing learning and memory performance in laboratory animals. The elevated plus maze consists of two open and two enclosed arms.The rats weighing around 150 to 200gm housed in pairs for 10days prior to testing ,

6animals are selected for each group.Test drug administered 30mins prior to experiment by i.p route. Animals spend more time in the enclosed arms because they dislike the open arms.The aversive quality of open arms is not apparent until the animals enter them.Based on this parameter it is demonstrated that transfer latency was markedly shortened if the animal has previously experienced entering the open arms.This shortened transfer latency has been shown to related to memory processes.It is a simple and less time consuming procedure.Plus maze studies have also indicated a role of neurosteroidsina variety of behavioral and cognitive functions.

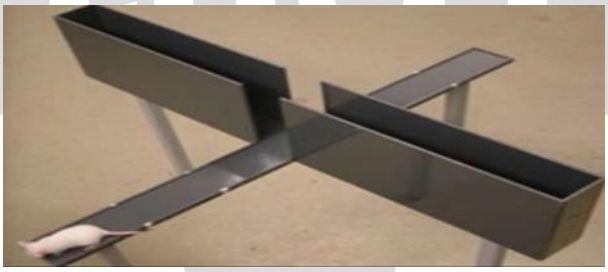


Fig 3:Elevated plus maze model

Y-Maze test using rats :

Y-maze consisted of three arms (30 cm length, 8 cm width and 15 cm height) with an angle of 120° between each two arms. The arms were randomly designated start arm (S), novel arm (N) and familiar arm (F). During the training, rats were placed in the start arm in the first trail. Rats were allowed to explore the start arm and familiar arm which was opened, whereas the novel arm was closed.

In the second trail rats were allowed to explore the three arms; the number and order of arm entries for total 6 min duration was recorded.

Total number of arm entries indicates the locomotor activity and successive entries into the three arms on overlapping triplet sets (SFN, FNS, and NFS etc) were used to calculate the spontaneous alteration behavior. Cognitive behavior and working memory was calculated by the formula (Robert et al. 2004).

Fig 4: Ymaze model

% Alterations = (Number of positive alterations made / Total number of arm entries – 2) × 100

Pole Climbing Test:

Cook's Pole Climbing Apparatus use to study cognitive function, mainly a response to conditioned stimuli during learning & its retention. The apparatus has an experimental chamber (25 × 25 × 25 cm) with the floor grid in a soundproof enclosure. Scrambled shock (6mA) is delivered to the grid floor of the chamber composed of stainless steel rods. A pole, 2.5 cm in diameter, hangs inside the chamber through a hole in the upper center of the chamber. The study rat was placed in the chamber and allowed to explore the chamber for 45 seconds. Conditioned stimulus (CS) i.e buzzer signal was turned on and unconditioned stimulus (US) i.e electric shock delivered through grid floor for 45 Sec. Animal learned to associate the buzzer with the impending foot shock and was capable of avoiding the foot shock by climbing the pole after buzzer signal. Avoidance response was defined as climbing reaction time <10 Sec only; and escape response was climbing after applying reaction time >10 Sec.

Fig 5 : Pole climbing apparatus

Every rat was subjected to maximum 05 trials on 1st day, and 24 hrs later, rat was subjected to Relearning trials (2nd day 3 trials and on 3rd day one trial) and transfer latency was noted to check the retention of Conditioned Avoidance Response (CAR) and escape response. Animals were screened by using this model and those who demonstrated at least one escape response either on day one or two were included in the study.

Forced swim test (FST)

Forced swimming test in mice, set up already, may be a behavioral lose hope test. The mice were put exclusively in glass barrels (10 cm tallness, 5 cm breadth) containing 5 cm profundity of water at 25◦C. After 5 minutes, the creatures were expelled from water, dried, and returned back to their home cages. They were once more put within the cylinder 24 hr afterward, and after the beginning 1min acclimatization period, the full length of fixed status was measured for 5mins.

Fig 6:Forced swim test model

Mice were considered to be stationary when they were drifting still. The term of swimming was recorded for 5min.

Tail suspension test (TST)

The tail suspension test (TST)was performed concurring to themethod depicted already. The mice were separately suspended within the snare of the tail suspension test box, 60 cm over the surface of table with an cement tape set 1 cm absent from the tip of the tail.

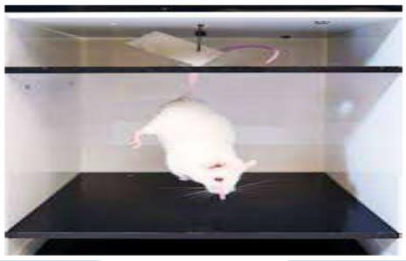


Fig 7 : Tail suspension apparatus

After 1min acclimatization, fixed status term was recorded for 5 minutes from side see utilizing little fire-wire cameras and the ANY-maze program (StoeltingCo.,Wood Dale, IL).Mice were considered stable as it were when they hung inactively and were totally still.

RESULTS :

Table 1 : Phytochemical screening

Chemical constituent	Test	FR Extract	VCExtract
Tannins	Ferric chloride test	+	-
	Lead acetate test	+	-
	Acetic acid sol.	+	-
	Dil. Iodine sol.	+	-
Alkaloids	Mayer's test	+	-
	Dragendroff's test	+	-
	Hager's test	+	-
	Wagner's test	+	-
Glycoside			
A. Cardiac glycosides	Baljet's test	+	+
	Legal's test	+	+
	Keller-killiani test	+	+
	Liebermann's test	+	+
B. Steroids	Salkowski test	+	-
	Liebermann-burchard test	+	-
	Liebermann's test	+	-
C.Saponins	Foam test	+	-
D. Flavonoids	Schinoda test	+	+
	Lead acetate test	+	+
	NaOH test	+	+
E. Anthraquinones	Borntrager's test	+	+

	Modified-borntrager's test	-	+
Carbohydrates	Molisch test	-	-
	Fehling's test	-	-
	Benedict's test	-	-
Proteins	Biuret's test	-	-
	Millon's test	-	-

Fig 8 : *Ficus religiosa* extraction procedure

Fig 9: *Vaccinium corymbosum* extraction procedure

Fig 10 : Plant dilutions & Phytochemical screening

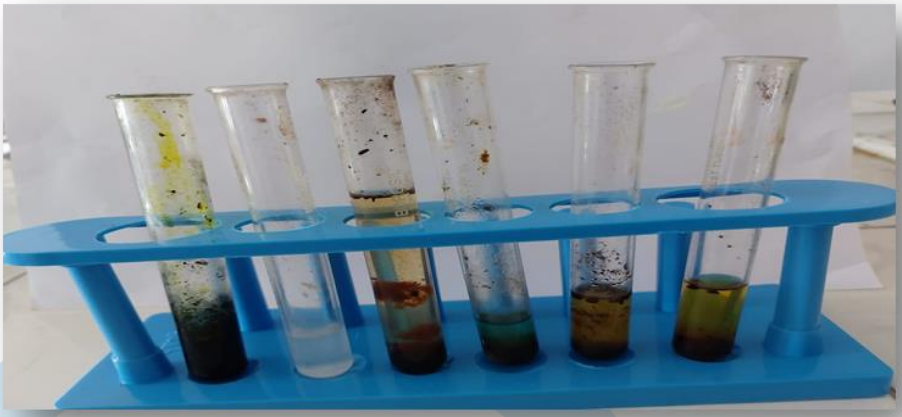


Fig11: Grouping of animals

Body weight of Rat

Fig 12: Dissection of animal

Fig 13:Intraperitoneal administration

Vitamin B12 (Cobalamin)

Piracetam

Fig 14 Oral route of administration

Fig 15 :Retro orbital Puncture

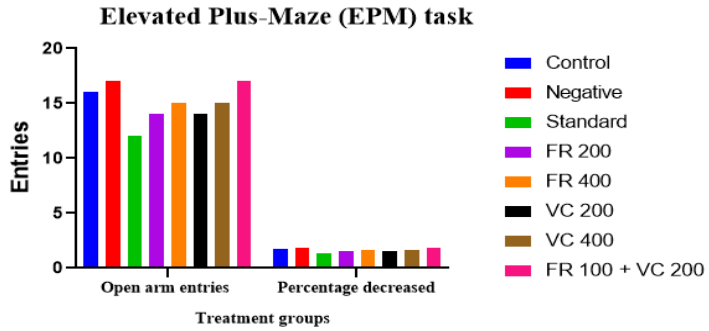
Blood collection

Animal model for activity

Table 2 : Elevated plus-maze (EPM) task

Treatments	Open arm entries	Percentage decreased in Open arm entries
Group 1(Control)	16± 0.003	1.758 ± 0.004
Group 2 (Negative)	17± 0.005	1.868 ± 0.002
Group 3 (Standard)	12± 0.004	1.318 ± 0.003
Group 4 (FR 200)	14± 0.002	1.538 ± 0.002
Group 5 (FR 400)	15± 0.004	1.648 ± 0.005
Group 6 (VC 200)	14± 0.003	1.538 ± 0.002

Group 7 (VC 400)	15± 0.004	1.648 ± 0.004
Group 8 (FR 100 + VC 200)	17± 0.005	1.868 ± 0.005
SD	1.690	0.185
SEM	±0.597	±0.0657



EPM Graph

Table 3 :Y-maze task

Treatments	**Complete arm entries**	**Percentage decreased in Open arm entries**
Group 1(Control)	13 ± 0.003	1.585 ± 0.005
Group 2 (Negative)	14 ± 0.004	1.707 ± 0.002
Group 3 (Standard)	13 ± 0.005	1.585 ± 0.003
Group 4 (FR 200)	13 ± 0.002	1.585 ± 0.005
Group 5 (FR 400)	15 ± 0.004	1.829 ± 0.004
Group 6 (VC 200)	14 ± 0.005	1.707 ± 0.002
Group 7 (VC 400)	15 ± 0.003	1.829 ± 0.003
Group 8 (FR 100 + VC 200)	15 ± 0.005	1.829 ± 0.005
SD	0.925	0.112
SEM	±0.327	±0.039

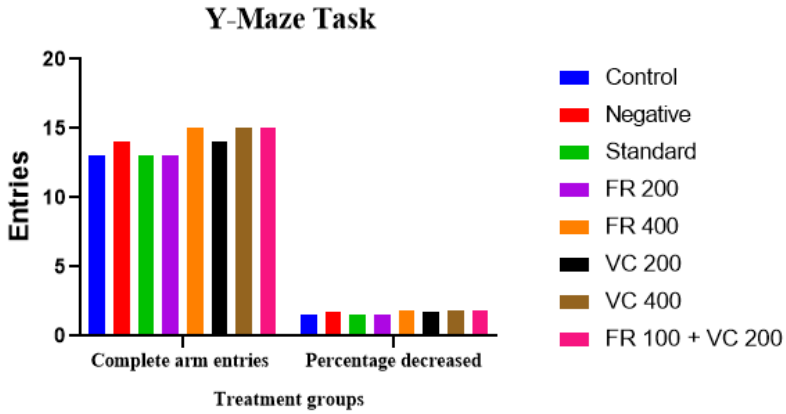


Table 4 :Pole Climbing Test:

Groups	**0**	**60**	**120**	**180**	**240**
Group 1(Control)	0	105± 0.004	102± 0.003	95± 0.004	88± 0.003
Group 2 (Negative)	0	137± 0.005	124± 0.005	105± 0.002	96± 0.004
Group 3 (Standard)	0	112± 0.004	104± 0.003	97± 0.002	84± 0.005
Group 4 (FR 200)	0	138± 0.002	127± 0.004	115± 0.003	87± 0.004
Group 5 (FR 400)	0	129± 0.005	103± 0.003	92± 0.004	83± 0.005
Group 6 (VC 200)	0	137± 0.004	126± 0.004	116± 0.003	88± 0.002
Group 7 (VC 400)	0	130± 0.002	102± 0.005	93± 0.005	84± 0.005
Group 8 (FR 100 + VC 200)	0	126± 0.005	115± 0.004	103± 0.004	93± 0.005
SD	0	12.209	11.419	9.486	4.580
SEM	0	±4.316	±4.037	±3.354	±1.619

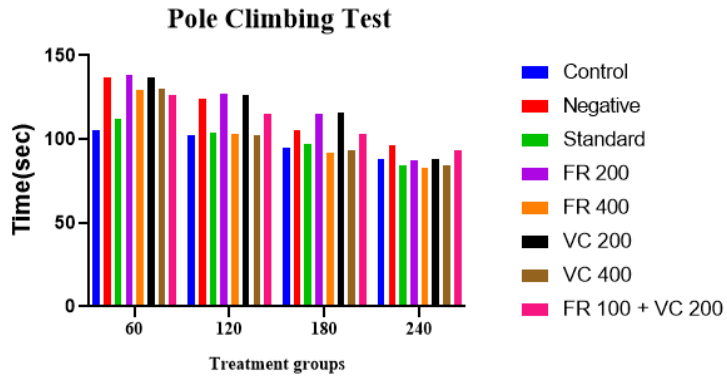
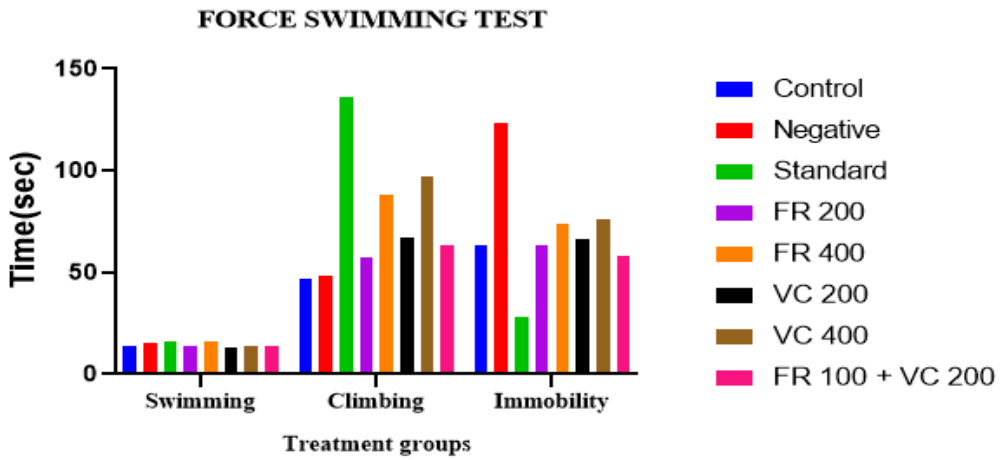


Table 5 :Forced Swim test

Groups	Swimming	Climbing	Immobility
Group 1(Control)	14± 0.002	47± 0.004	63± 0.002
Group 2 (Negative)	15± 0.003	48± 0.002	123± 0.004
Group 3 (Standard)	16± 0.004	136± 0.003	28± 0.005
Group 4 (FR 200)	14± 0.005	57± 0.002	63± 0.004
Group 5 (FR 400)	16± 0.002	88± 0.004	74± 0.003
Group 6 (VC 200)	13± 0.003	67± 0.004	66± 0.002
Group 7 (VC 400)	14± 0.002	97± 0.005	76± 0.004
Group 8 (FR 100 + VC 200)	14± 0.005	63± 0.005	58± 0.003
SD	1.069	30.279	26.384
SEM	±0.377	±10.705	±9.328

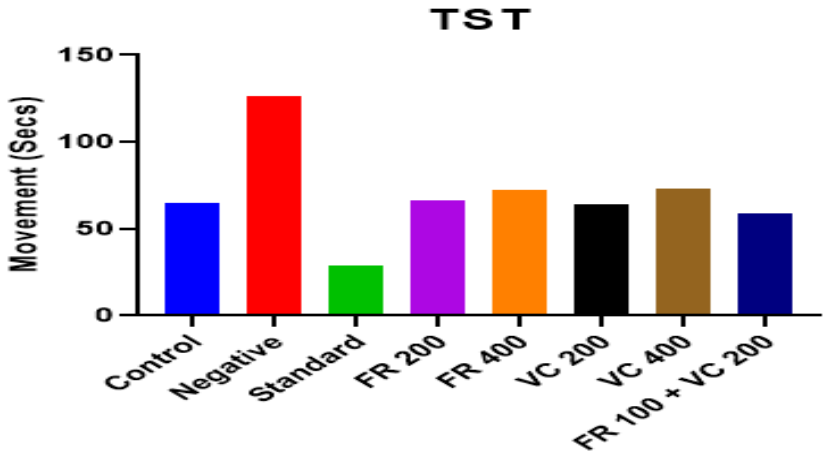


FST Graph

Table 6 :Tail Suspension Test

Groups	Movement
Group 1(Control)	65± 0.002
Group 2 (Negative)	126± 0.003
Group 3 (Standard)	29± 0.003
Group 4 (FR 200)	66± 0.004
Group 5 (FR 400)	72± 0.005
Group 6 (VC 200)	64± 0.002
Group 7 (VC 400)	73± 0.003
Group 8 (FR 100 + VC 200)	59± 0.005

SD	26.788
SEM	±9.471



TST Graph

Biochemical estimations such as Neurotransmitter test (Dopamine, serotonin, glutamate, GABA)

Table 7: Neurotransmitter test

Chemical	Internal standard	Linear range (ng/g)	Correlation coefficient	LOD (ng/g)	LOQ (ng/g)
Dopamine	Dopamine-D_4	10–10000	0.9938	1	10
Serotonin	Serotonin-D_4	20–10000	0.9959	2	20
Glutamate	Glutamate-D_5	200–200,000	0.9985	20	200
GABA	GABA-D_6	200–200,000	0.9973	20	200

Effect of Extracts on malondialdehyde (MDA) level

Table 8 :MALONDIALDEHYDE (MDA) LEVEL

Treatments	Cerebellum	Hippocampus	Cortex
Group 1(Control)	0.239± 0.005	0.315± 0.003	0.13± 0.003
Group 2 (Negative)	0.245± 0.003	0.383± 0.004	0.15± 0.004
Group 3 (Standard)	0.275± 0.004	0.374± 0.005	0.13± 0.005
Group 4 (FR 200)	0.263± 0.005	0.353± 0.004	0.14± 0.002
Group 5 (FR 400)	0.235± 0.003	0.327± 0.005	0.13± 0.003
Group 6 (VC 200)	0.232± 0.002	0.316± 0.004	0.14± 0.004
Group 7 (VC 400)	0.234± 0.004	0.328± 0.003	0.12± 0.004
Group 8 (FR 100 + VC 200)	0.228± 0.005	0.363± 0.005	0.13± 0.003
SD	0.0165	0.0267	0.0091
SEM	±0.0058	±0.0094	±0.0032

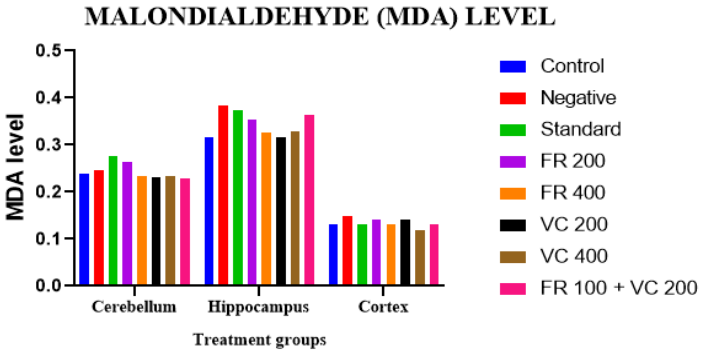
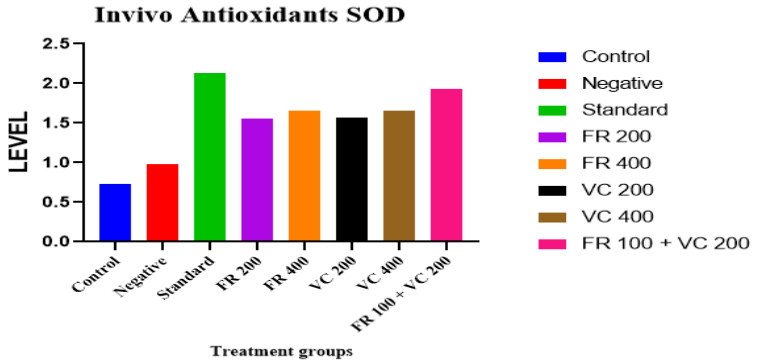
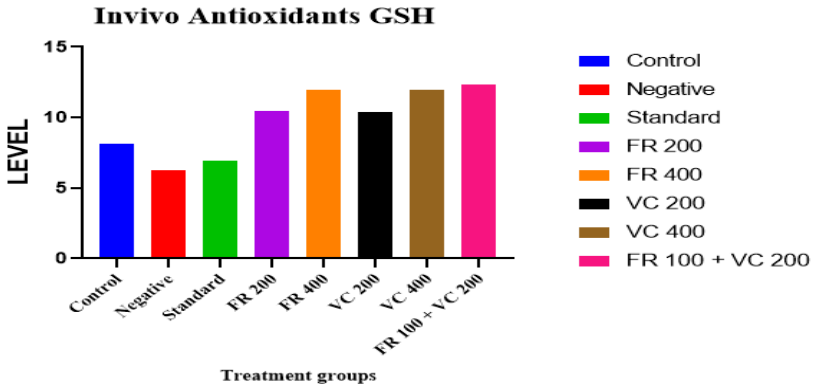


Table 9 : Effect on *In vivo* antioxidants

Group	SOD(unit/min/mgprotein)	GSH (Glutathione µg/mg)
Group 1(Control)	0.73± 0.003	8.13± 0.003
Group 2 (Negative)	0.98± 0.004	6.24± 0.002
Group 3 (Standard)	2.13± 0.002	6.93± 0.004
Group 4 (FR 200)	1.56± 0.004	10.43± 0.005
Group 5 (FR 400)	1.66± 0.002	11.95± 0.004
Group 6 (VC 200)	1.57± 0.004	10.42± 0.003
Group 7 (VC 400)	1.65± 0.003	11.98± 0.002
Group 8 (FR 100 + VC 200)	1.93± 0.005	12.35± 0.003
SD	0.462	2.401
SEM	±0.163	±0.848



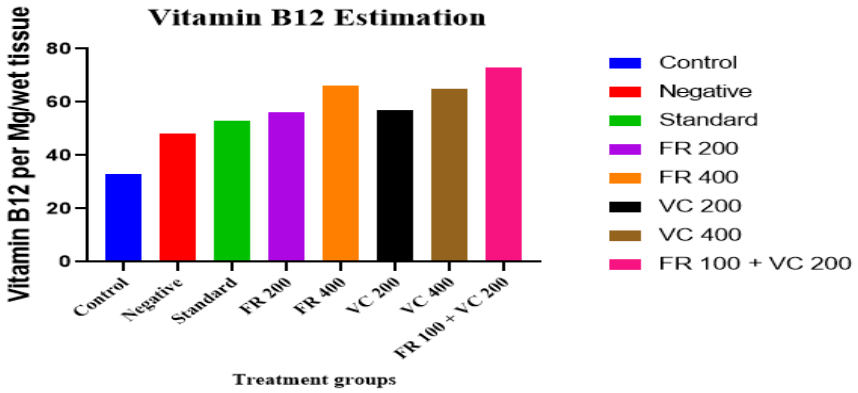
Effect on SOD



Effect on GSH level

Table 10:VitaminB12

Group	Vitamin B_{12}perMg/wet tissue
Group 1(Control)	33± 0.003
Group 2 (Negative)	48± 0.004
Group 3 (Standard)	53± 0.002
Group 4 (FR 200)	56± 0.004
Group 5 (FR 400)	66± 0.005
Group 6 (VC 200)	57± 0.004
Group 7 (VC 400)	65± 0.003
Group 8 (FR 100 + VC 200)	73± 0.005
SD	12.374
SEM	±4.375



Histopathological Results:

Group 1 (Control): The ordinary cortex of the brain was obvious. Smooth signs of advance in Dendate Gyrus degeneration have been found. The ventricle of the brain showed up to be conventional.

Sciatic nerve: Low perineural space was seen between the bundle of nerve fibers

Group 2 (Negative): Rot injuries or neuron apoptosis have been found inside the hippocampus. Dendate have been found to have a combination of apoptotic neurons and degenerative changes. Fibrosis and hemorrhagic were found inside the meninges of the brain. The prefrontal cortex highlights central gliosis.

Sciatic nerve: Thickening of perineurium is observed

Group 3 (Standard): It was found that there was multi-focal disturbance and dying. Focusal gliosis was found inside the frontal district of the brain. Delicate carnage has been recognized in meninges with covering cerebral.

Sciatic nerve: Large perineural space was seen between the bundle of nerve fibers.

Group 4 (FR 200): Multifocal necrotic or autophagy neurons, glial cell assault, and red hot cells have all been recognized. Smooth degenerative alterations have been showed up inside the Dendate Gyrus. The nearness of fluids inside the ventricles was found.

Sciatic nerve: Very high thickening of perineurium was seen.

Group 5 (FR 400): More number of Smooth degenerative alterations have been showed up inside the Dendate Gyrus.

Sciatic nerve: Normal perineural space was seen between the bundle of nerve fibers

Group 6 (VC 200): Extraordinary irritation happens within the ventricles of the brain. Within the frontal cortical region, hemorrhages happened. Concentrations of aroused cells. Apoptotic neurons and vacuolar degeneration are related to dentate gyrus.

Sciatic nerve: Normal perineural space was seen between the bundle of nerve fibers.

Group 7 (VC 400): More number of Concentrations of kindled cells were watched. Apoptotic neurons and vacuolar degeneration are related to dentate gyrus.

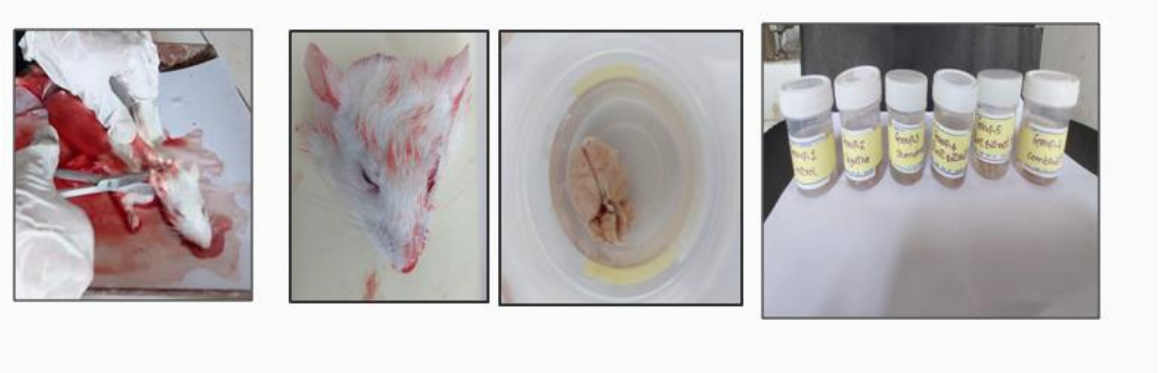
Sciatic nerve: Multiple perineural spaces was seen between the bundle of nerve fibers

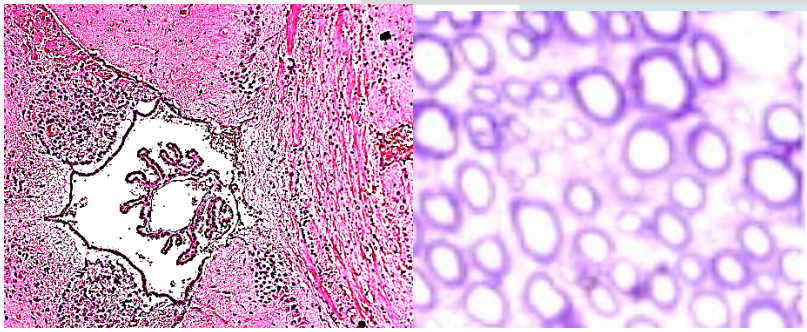
Group 8 (FR 100 + VC 200): Extraordinary dying, glial cell attack, and provocative cells of multifocal necrotic or apoptotic cell neurons. The Dendate Gyrus appeared a few degenerative changes.

Sciatic nerve: Thickening of perineurium is observed.

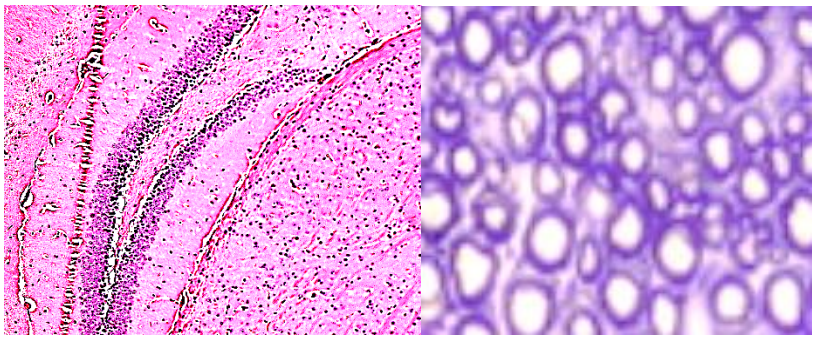
Fig 16 :Histopathological studies of sciatic nerve

Fig 17 :Histopathological studies of Brain

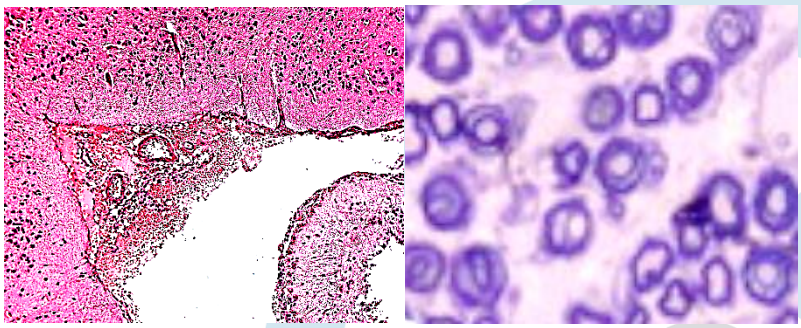




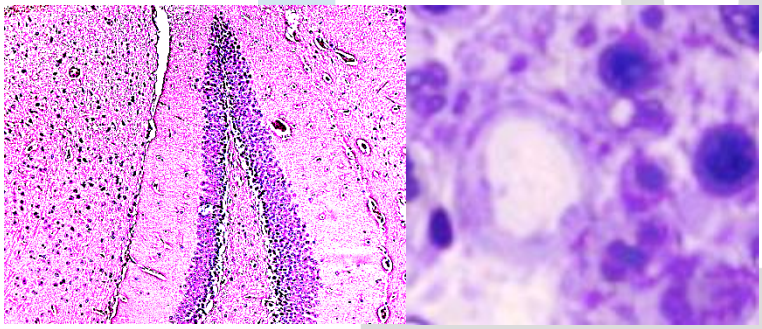
Group 1 (Control) (Brain) **Group 1 (Control) (Sciatic Nerve)**



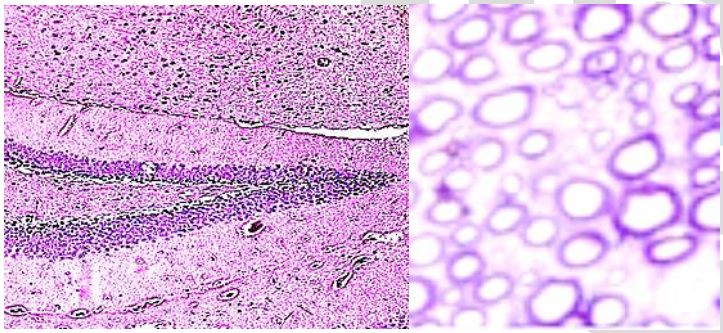
Group 2 (Negative) (Brain)Group 2 (Negative) (Sciatic Nerve)



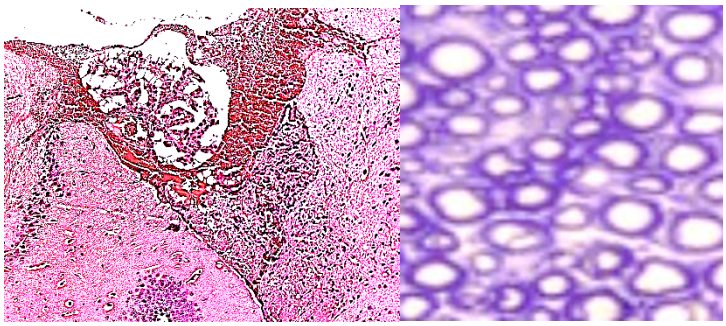
Group 3 (Standard) (Brain)Group 3 (Standard) (Sciatic Nerve)



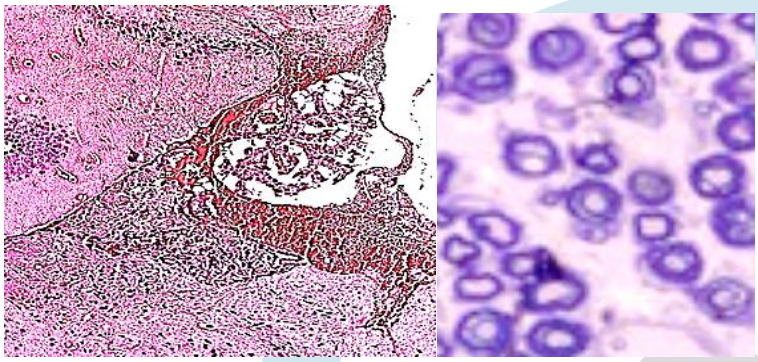
Group 4 (FR 200)(Brain)Group 4 (FR 200): (Sciatic Nerve)



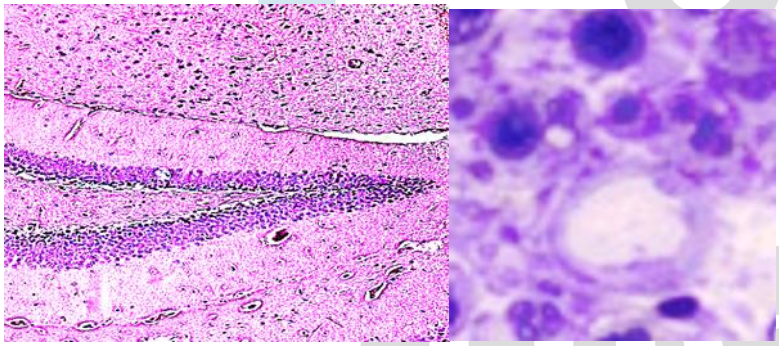
Group 5 (FR 400) (Brain)Group 5 (FR 400) (Sciatic Nerve)



Group 6 (VC 200) (Brain)Group 6 (VC 200) (Sciatic Nerve)



Group 7 (VC 400) (Brain)Group 7 (VC 400) (Sciatic Nerve)



Group 8 (FR 100 + VC 200) (Brain)Group 8 (FR 100 + VC 200) (Sciatic Nerve)

DISCUSSION:

Various extractives, distinctive fixes, tea, flower, and roots were physically evaluated to differentiate hues, chemical components, and upper function. Rats were used for the higher level at random. Dried extractives are suspended in volumetric jars.The FST and Tail Suspension Test are used for drug screening . The medicines and other extractives were used to compute the factual data and were handled 30 minutes beforehand. Extracts of plant remedies are observed to be remarkable within the evaluation, following that, psychotherapeutic activity is shown.Given that they are in combined dosage in group 8 , we can infer that both the root bark of *Ficus religiosa* and the dried natural product of *Vaccinium corymbosum* extricates have greater noteworthy tenacity. When taken care of in modest doses, the extricates looked less reachable, but all of the extricates with excessive dosages appeared to be quickly contemplated.

CONCLUSION

During this investigation, it was discovered that plant extracts also have a critical higher nootropic action within the animal models. The extractions *Ficus religiosa* & *Vaccinium corymbosum* didn't show any toxic effects in rats. The *Vaccinium corymbosum* is rich in anti oxidants.The group 4 and 6 showed less effective results than group 5 and 7 in which the doses are higher than group 4 and 6, whereas group 8 in combination showed a balanced effective result. The histopathological studies were performed on rat brain and sciatic nerve the results were observed like the average damage of cells ,neuroapoptosis etc.The biochemical extimations were performed in serum to estimate the levels of MDA(oxidative stress biomarker) and vitamin B12 estimation levels.The vitamin B12(cobalamin) has shown the neuroprotective activity .The phytochemical screening has shown the active constituents present in extractions.

Support assistance for combination dosage is recommended for further research effort in order to develop the construction of a suitable drug design for human use. It is also suggested that human clinical studies be carried out in order to get more powerful data for psychotherapy action.

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