Evalution Of Zetrofa Curcas Extract Used Of Ethanol For Treatment Of Anxiety

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ABSTRACT

India is still a backward and developing country. It is no surprise then that in a country such as ours depression is one of the most prevalent and common "**mental health illnesses**" that people suffer from along with "**anxiety**". Depression is a common mental disorder with over 280 million people of all ages, an estimated 3.8 per cent of the population suffering from it globally, as per the World Health Organization, It is thus expected that in the next ten years, depression will put more burden on nations than any other disease, as per World Bank.Jatropha curcas (Linnaeus) is a plant which belongs to family ''**Euphorbiaceae and genus Jatropha''**. This plant is native of America and is widely distributed, is also located in India, Africa, Asia and Europe where it grows in arid, tropical and sub-tropical environments. Its name derives from the Greek words "Jatros" (doctor) and "trophe" (food) which translates its medicinal traditional use.1 Such medicinal use is reported in diverse consumption of different parts of J. curcas, some of them through infusions for various conditions such as fever, burn, rheumatism, allergies, diarrhea, antidepressant intestinal cramping, healing , headach, sleeping.

1. INTRODUCTION :-

India is still a backward and developing country. It is no surprise then that in a country such as ours depression is one of the most prevalent and common "**mental health illnesses**" that people suffer from along with "**anxiety**". Depression is a common mental disorder with over 280 million people of all ages, an estimated 3.8 per cent of the population suffering from it globally, as per the World Health Organization, It is thus expected that in the next ten years, depression will put more burden on nations than any other disease, as per World Bank. Health issues are becoming more and more important to people due to the continuous development of health care. The social pressures on people are becoming more and more pronounced in a social environment that is developing at an increasing rate. Prolonged exposure to stress can have a negative impact on brain development , and depression is one of the more typical disorders that accompany it. Stress will increase the incidence of depression , depression has become a common disease , endangering people's physical health.
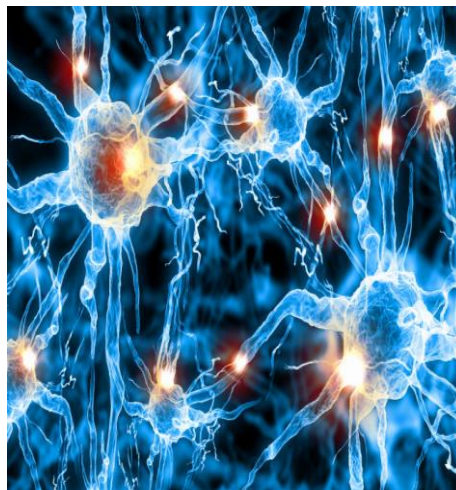
FIG1:- **DEPRESSION INFLICT ON BRAIN**

2 FACTORS RELATED TO DEPRESSION :-

few studies have evaluated the factors associated with the development of depression in children and adolescents. Most of the studies which have reported factors associated with depression have been "**clinic-based or school-based**" and have evaluated life events, demographic factors, or clinical factors associated with the development of depression. These factors can be categorized as those related to studies **or "educationn, relationship issues in the familial context, familial issues, economic difficulties",** and other factors.

2.1 Factors associated with depression in children and adolescents :-

- Not performing well
- Physical punishment at school
- Stress at school
- Students staying away from home
- Change of schooling
- Studying in class X and XII
- Lower academic performanc
- Failure in examination
- Relationship issues with parents or at home Argument with our parents
- Familial discord
- Poor relationship with family
- Relationship difficulties
- Parental fights
- Stress in the family
- Family-related issues
- RejectionPunishments, Death of a family member
- Alcohol use and smoking
- Prolonged absence or death of a parent
- Economic difficulties
- Not having a hobby
- End of a relationship.

2.2 Some common symptoms of Depression include :-

- having little interest or pleasure in doing things
- feeling hopeless
- dealing with erratic sleep cycles
- poor eating habits
- low levels of energy
- low self esteem
- having trouble concentrating
- being restless
- having thoughts of self-harm
- irregular mood cycles
- social isolation

2.3 Jatropha curcus root :-

Jatropha curcas (Linnaeus) is a plant which belongs to family "**Euphorbiaceae and genus Jatropha''**. This plant is native of America and is widely distributed, is also located in *India*, Africa, Asia and Europe where it grows in arid, tropical and sub-tropical environments. Its name derives from the Greek words "Jatros" (doctor) and "trophe" (food) which translates its medicinal traditional use.1 Such medicinal use is reported in diverse consumption of different parts of J. curcas, some of them through infusions for various conditions such as fever, burn, rheumatism, allergies, diarrhea, antidepressant intestinal cramping, healing ,headach, sleeping. [1]

Health issues are becoming more and more important to people due to the continuous development of health care. The social pressures on people are becoming more and more pronounced in a social environment that is developing at an increasing rate. Prolonged exposure to stress can have a negative impact on brain development , and depression is one of the more typical disorders that accompany it. Stress will increase the incidence of depression , depression has become a common disease , endangering people's physical health. Depression is a debilitating mental illness with mood disorders, also known as major depression, clinical depression, or melancholia. In human studies of the disease, it has been found that depression accounts for a large proportion of the affected population. According to the latest data from the World Health Organization (WHO) statistics in 2019, there are more than 350 million people with depression worldwide, with an increase of about 18% in the last decade and an estimated lifetime prevalence of 15% , it is a major cause of global disability and disease burden , and depression has quietly become a disease that threatens hundreds of millions of people worldwide[2].

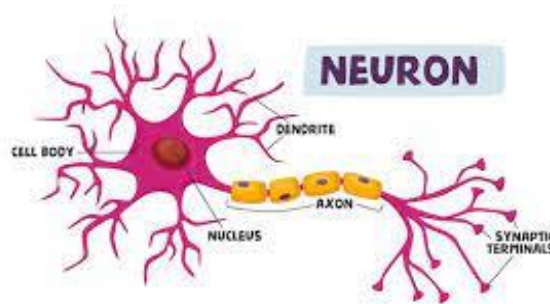**FIG 2**:- *Jatropha Curcas plants*   **FIG 3**:-*Jatropha curcas root*

FIG 4 :- *J.CURCAS DRY ROOT*

India is still a backward and developing country. It is no surprise then that in a country such as ours depression is one of the most prevalent and common mental health illnesses that people suffer from along with anxiety. Depression is a common mental disorder with over 280 million people of all ages, an estimated 3.8 per cent of the population suffering from it globally, as per the WHO.(7) "Find healthy coping skills for stress and improve your self-esteem.Take good care of yourself physically, mentally and emotionally. This means getting enough sleep, eating well, and exercising regularly.Reach out to family, friends and other loved ones when times get hard.Get regular medical checkups, and see your provider if you don't feel right.Get the necessary help if you think you're depressed. If you wait, it could get worse".

3.MATERIALS & METHODS:-

3.1 Nervous system of brain

The brain is one of the important, largest and central organ of the human nervous system. It is the control unit of the nervous system, which helps us in discovering new things, remembering and understanding, making decisions, and a lot more. It is enclosed within the skull, which provides frontal, lateral and dorsal ''protection''. The human brain is composed of three major parts:-

3.2 Plant material and extraction :-

1. It was used Jatropha curcas root which was collected from Balaghat (M.P) , Gondia road .

2. Then, it was put immediately into a field press.

3. After that, it was dried , and prosess on this plant.

4. who is biologist of The Research Centre of Tradition Me Jatropha curcas according to Peruvian31-33 and all continent America, South 'Africa, and Asia, also in "india" flora references'. The extract was prepared from dried and ground root of J. curcas. dicine and Pharmacology, FMH-USMP, authenticated the taxonomy of the plant.

 EXPERMENTAL

3.3 JATROPHA OIL EXTRACTION WITH USE OF ETHANOL :-

FIG:- 5   J.CURCAS ROOT EXTRACTION BY SOXHLET

COLOR :- When the set up the assembaly in the Laboratory with the use of ethanol Its give a "Red color" extract.

FIG:- 6 J.CURCAS ROOT OIL

4 Chemical Sample:-

Diclofenac ampoules 75 mg/3 Ml , Lambda Carrageenan 25 g, code 80 K 1334; Caffeine tablet 100 mg, code 1060522, RS: N-24400; Diazepam ampoules 5 mg/m .

5.TEST :-

5.1 Acute Toxicity Test

The method described by [13] Lorke was used to determine the LD50. Briefly, male Swiss albino mice (20–25g) were divided into three groups of three animals each in the initial dose finding procedure. Doses of EEJC (10, 100, 1000mg/kg) were administered intraperitoneally (i.p.), one dose for each group. The treated animals were monitored for 24 hours mortality and "**general behavior**".

5.2 Tail Suspension Test (TST)

The animals were divided into six groups (n = 5). Group 1 was given the vehicle (0.2 mL/20 g distilled water), while group 2 – 4 were given EEJC (1.25, 2.5, 5 mg/Kg; i.p.) respectively and group 5 received imipramine (10 mg/Kg). Thirty minutes after a single i.p. injection of extract and control, each mouse individually was suspended on the edge of the table 50 cm above the floor by adhesive tape placed 1 cm from the tip of the tail for the period of 5 minutes .

5.3 Chronic Unpredictable Mild Stress (CUMS)

Chronic unpredictable mild stress (CUMS) paradigms aim to model a chronic depressive-like state that develops gradually over time in response to stress, and is thus considered more naturalistic in the induction. CUMS paradigm was first studied by Katz and colleagues, and this idea was further developed by Willner [20]. Mice were divided into six groups of five each. Group 1 mice were treated daily with distilled water i.p.; groups 2, 3, 4 were treated daily with EEJC (1.25, 2.5 and 5 mg/Kg, i.p.) respectively; group 5 .

IMAGE FOR RECORDED TRIALS :-
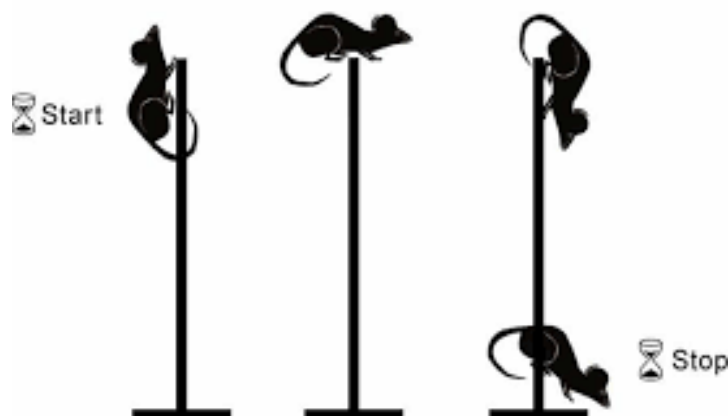
Level of drug trial :-
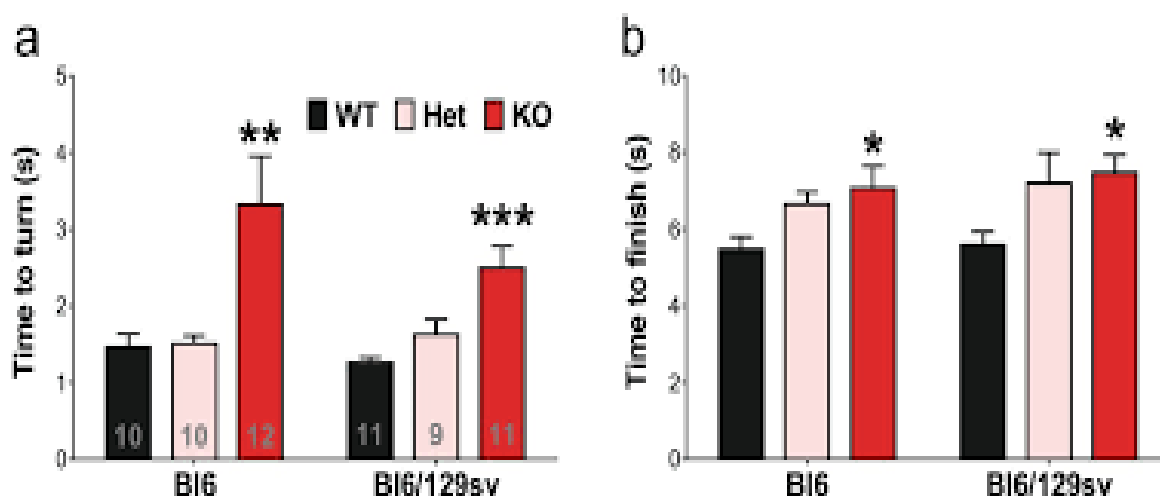
6. Biochemical Assay:-

Biochemical assays are analytical methods used to measure and quantify metabolic reactions and cellular processes such as cell signaling and apoptosis. Biochemical assay development and analysis is utilized as a routine, reliable procedure to aid target characterization and enable a useful understanding of biomolecular functions during drug discovery and development exist for quantifying metabolic activity and measuring the functional behavior of biomolecules such as enzymes, proteins, cofactors, and small molecules.

7. Statistical analysis :-

Statistical analysis is the process of collecting and analyzing data in order to discern patterns and trends. It is a method for removing bias from evaluating data by employing numerical analysis. This technique is useful for collecting the interpretations of research, developing statistical models, and planning surveys and studies.
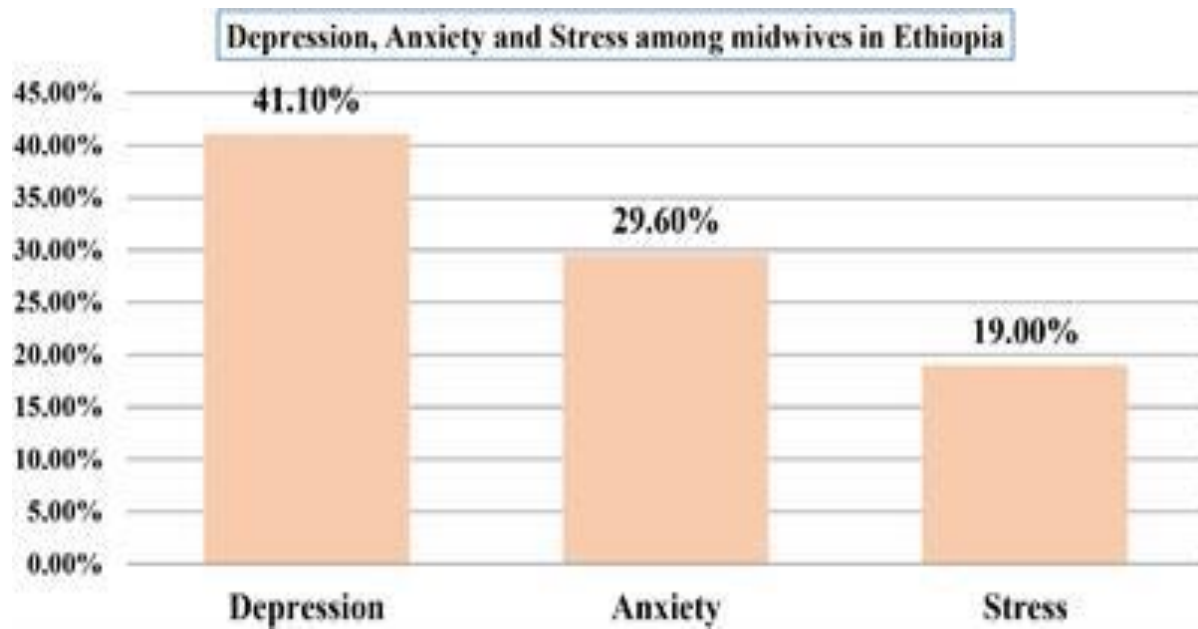
Level of Anxiety and Stress :-

Fig :-7 Depression , Anxiety and Stress

Role of the funding source :-

The funders of the study had no role in study design, data collection, data analysis, data interpretation, or writing of the report. All authors had full access to all the data in the study and had final responsibility for the decision to submit for publication. All researchers listed as authors are independent from the funders and all final decisions about the research were taken by the investigators and were unrestricted.

Characteristics of included studies :-

Key characteristics of the included studies are presented in Table 1. Eleven studies were aimed at children up to 12 years of age, while 29 studies were aimed at adolescents (between 12 and 18 years). In 10 studies, all participants were recruited from clinical samples, while the other 30 studies recruited participants through the community or mixed sources. Seventeen studies were aimed at youth with a diagnosed depressive disorder, 16 used a cut-off score on a self-rating depression scale to include participants, and 7 were aimed at youth with a subthreshold depression (depressive symptoms, but not meeting criteria for a diagnosed depressive disorder). The proportion of girls ranged from 32 to 100% (median 60%). The 40 studies included 46 psychotherapy conditions that were compared with a control condition (6 studies included 2 psychotherapy arms). A total of 31 of the 46 psychotherapies were CBT, 6 were IPT and 9 were characterised as another type of therapy (including problem-solving therapy, behavioural activation, family therapy, supportive therapy, among others).

CONCLUSION :-

The ethanolic extract of the root of j.curcas presented "central nervous system" activity and **"skin allergy".** For both behavioral tasks, already tested mice were placed in a diferent cage in order to not interfere with the behavior of non-tested animals. Te behavioral apparatuses were thoroughly cleaned with a 10% ethanol solution between trials to reduce odors from previous subjects.