

**AIM: TO STUDY THE ANXIOLYTIC ACTIVITY OF DRUGS USING RATS/MICE.**

**INTRODUCTION:**

- Anxiety is chronic condition characterized by an excessive and persistent sense of apprehension with physical symptoms such as sweating, palpitations, and feelings of stress. Anxiety disorders have biological and environmental causes.
- Anxiety is a commonly experienced emotion. It is an uncomfortable feeling of apprehension or fear coupled with sensations of physical arousal.
- If anxiety is excessive or interferes with functioning, it is considered a pathologic anxiety disorder.
- Anxiety is different from fear due to its cognitive component (i.e. fear of the future)
- Anxiety can be helpful and adaptive (e.g. anxiety about giving lectures!)
- An anxiety disorder may be a primary disorder or it may occur secondary to medical causes or substances (e.g., medications or illicit substances); it may occur as a response to acute stressors or it may be associated with another psychiatric disorder.

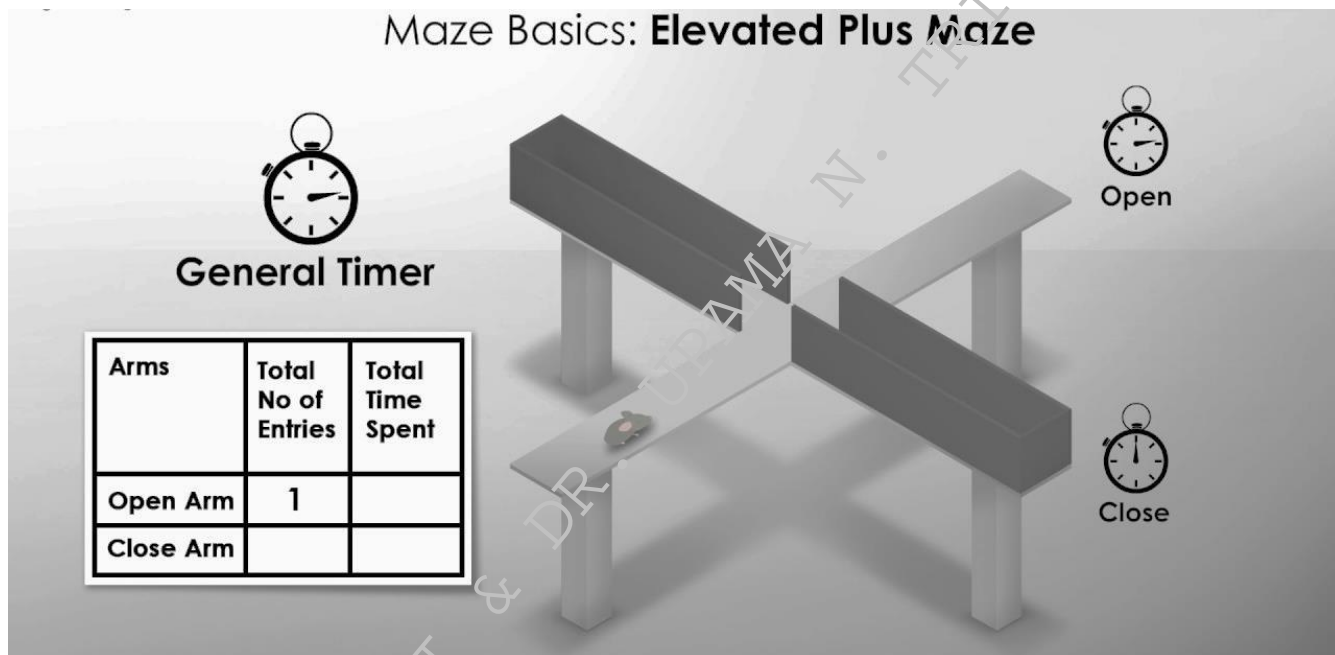
**Types of Anxiety Disorders:**

- 1) Generalized Anxiety Disorder
- 2) Panic Disorder
- 3) Phobic Disorders
  - Agoraphobia, Acrophobia, Aquaphobia
- 4) Obsessive-Compulsive Disorder
- 5) Post-Traumatic Stress Disorder

**ELEVATED PLUS MAZE TEST:**

**Purpose and Rationale:**

- Out of many possibilities to modify maze tests e.g. water maze, the Y-maze, the radial maze and the elevated plus maze have found acceptance in many laboratories.
- The test has been proposed for selective identification of anxiolytic and anxiogenic drugs.
- Anxiolytic compounds, by decreasing anxiety, increase the open arm exploration time; anxiogenic compounds have the opposite effect.



### Procedure

- The plus-maze consists of two open arms,  $50 \times 10 \times 40$  cm, and two enclosed arms,  $50 \times 10 \times 40$  cm, with an open roof, arranged so that the two open arms are opposite to each other.
- The maze is elevated to a height of 50 cm. The rats (200–250 g body weight) are housed in pairs for 10 days prior to testing in the apparatus.
- During this time the rats are handled by the investigator on alternate days to reduce stress.
- Groups consist of 6 rats for each dose.
- Thirty min after i.p. administration of the test drug or the standard, the rat is placed in the center of the maze, facing one of the enclosed arms.
- During a 5 min test period the following measures are taken:
  - The number of entries into and time spent in the open and enclosed arms.
  - The total number of arm entries.

### Evaluation

- Motor activity and open arm exploratory time are registered. The values of treated groups are expressed as percentage of controls. Benzodiazepines and valproate decrease motor activity and increase open arm exploratory time

TEACHER'S SIGNATURE