INTRODUCTION
Cardiovascular Diseases (CVD) are the secondary cause of deaths in many parts of the world, although modern drugs are effective in preventing the disorders, their use is often limited because of their side effects and adverse reactions. A wide array of plants and its active principles, with minimal side effects, provide an alternate therapy for Ischemic heart disease. Cardiac glycosides & catecholamine have been used as main therapeutic agent in the treatment of congestive cardiac failure. But cardiac glycosides (e.g. digoxin) have narrow therapeutic index & hence cause many a times intoxication. Despite of the advancement of knowledge in understanding the basic pharmacology of cardioactive drugs glycosides still have its adverse effects in terms of toxication. Hence there is a need for new drug research with wide therapeutic index & good cardiac activity, & hence, the present study is aimed to evaluate cardiotonic activity of Portulaca oleracea.

Portulaca oleracea (Linn.) family Portulacaceae commonly known as Brihalloni, Gholika, Lona, Lonamla, Loni, Lonika & Lunia. The juice was claimed to have general cardiotonic activity. Present study was carried out to determine the same by using fresh juice of aerial part Portulaca oleracea with different dilutions & compared with cardiotonic activity of digoxin-the life saving cardiotonic.

The activity was tested by using isolated frog heart assembly. The present preliminary studies confirm the better cardiotonic activity of Portulaca oleracea than digoxin. Further studies can confirm the reduced toxicity & this will be the advantage of Portulaca oleracea over digitals. Thus, in future it will be interesting to isolate the active chemical constituents which are responsible for the cardiotonic activity.

Keywords: Portulaca oleracea, Isolated frog heart, Cardiotonic activity, Digoxin.
bottle containing hypodynamic frog ringer solution. A small cut in one of the aorta was given for the ringer to come out.

5. Heart was isolated and attached to the stand with moderate flow of ringer.

6. A thin pin hook was passed through the tip of the ventricle and with the help of a fine thread attached to the hook; it was tied to the free limb of the Sterling's heart lever which was fixed to a stand. A proper tension was adjusted by altering the height of the lever. The normal heart rate was noted. All test samples that is P1, P2, P3, D1 and D2 were administered in different doses viz. 0.1ml, 0.2ml, 0.3ml respectively. The rate and force of heart contraction were noted as given in (Table 2, 3, 4, 5, 6. Figure 1, 2, 3, 4, 5).

Table 1: Composition of Hypodynamic ringer solution

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Ingredients</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sodium chloride (NaCl)</td>
<td>6.5 gm</td>
</tr>
<tr>
<td>2</td>
<td>Potassium chloride (KCl)</td>
<td>0.14 gm</td>
</tr>
<tr>
<td>3</td>
<td>Calcium Chloride (CaCl₂)</td>
<td>0.03 gm</td>
</tr>
<tr>
<td>4</td>
<td>Sodium bicarbonate (NaHCO₃)</td>
<td>0.2 gm</td>
</tr>
<tr>
<td>5</td>
<td>Glucose</td>
<td>2 gm</td>
</tr>
<tr>
<td>6</td>
<td>Distilled Water</td>
<td>1000 ml</td>
</tr>
</tbody>
</table>
RESULTS AND DISCUSSION

The cardiotonic activity was determined by Hypodynamic frog heart. Results showed that all the dilutions of test solutions of fresh aerial part juice of *Portulaca oleracea* L (Portulacaceae) produced positive ionotropic (increase in height of force of contraction) on Hypodynamic frog heart. From the observations, it was revealed that the test solution P1 (undiluted juice) showed significant response as compared to other test solutions (Figure 1, 2, 3, 4, 5). The graph obtained indicates that at lower dose of undiluted juice had significant action as compared to Digoxin. These preliminary studies confirm the better cardiotonic activity of *Portulaca oleracea*, and it can stand as better option for digitalis. Further studies can confirm the reduced toxicity & this will be the advantage of *Portulaca oleracea* over digitalis. Further investigation is necessary for isolation of active phytochemical constituents which are responsible for cardiotonic activity and to determine the possible mechanism of action.

REFERENCES