In Vitro Anthelmintic Activity of Guru Nanak Chyawanprash

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ABSTRACT:

The present study was designated to evaluate the in vitro anthelmintic activity on Guru Nanak Chyawanprash. The gastrointestinal nematode, Pheretima posthuma, has caused severe health problems to millions of people worldwide. Records show that many of the aqueous extracts obtained from various parts of different herbal plants exhibited significant anthelmintic activity against Pheretima posthuma. This gave us a lead to prepare new components resulting in the manufacturing of Guru Nanak Chyawanprash. The vermicidal activity in four respective concentrations 25, 50, 75 and 100 mg/ml each were studied and in each concentration the time of paralysis and time of death of the worm were determined. Guru Nanak Chyawanprash exhibited significant anthelmintic activity. At highest concentration of 100 mg/ml excellent anthelmintic activity compared to Dabur Chyawanprash was shown. Guru Nanak Chyawanprash is very easy to prepare and is cost effective.

KEY WORDS: Guru Nanak Chyawanprash, Pheretima posthuma, Anthelmintic activity, Time of paralysis, Time of death.

INTRODUCTION:

Herbal medicine is also called as botanical medicine or photo medicine which refers to using plant’s seeds, berries, roots, leaves, bark, and flowers for medicinal purposes1-3. Extracts from many plants like Nicotiana tabacum, Nicotiana rustica, Azadirachta indica, Artemisia mexicana, Terminalia chebula, Juglans nigra, Ananas Comosus show antianthelmintic qualities4-6. Some synthetic drugs also used for Anthelmintiasis like Albendazole, Mебendazole, Abamectan, Thiabendazole, Niclosamide and Fenbendazole12.

Most of the marketed drugs have been effective in controlling the infection but some drugs are not only expensive but also show the side effects. The purpose of these research works of the anthelmintic activity on Guru Nanak Chyawanprash against Pheretima Posthua is simple and cheap for people worldwide7-9. Immature forms of the parasites invade the gastrointestinal tract of human beings and evolve into well differentiated adult worms that have characteristics tissue distribution e.g. Taenia solium (Nematodes), Ankylostoma duodenale (Hookworm), Ascaris lumbricoids (roundworm), Schistosoma mansoni, Schistosoma hematobium (flukes) and trematodes10-11. An Anthelmintic drug acts locally to expel worms from the GIT or systematically to eradicate adult helminthes or developing forms that invade organs and tissues causing paralysis and death13-14.
MATERIALS AND METHODS:

MATERIALS:

Various herbals parts such as: Ashwagandha Roots (1.0gm), Ginger (1.5gm), Turmeric (1.5gm), Fennel (1.0gm), Cinnamon (Dalchini) (0.5gm), Bilva Fruit (2.0gm), Vasaka Leaf (0.5gm), Shatavari (0.5gm), Amalaki (5.0gm), Hibiscus Flower (Japaa) (0.5gm), Manjishtha root (0.5gm), Pippali Fruit(0.5gm), Shalaparni Root (0.5gm), Kutaja Bark (0.5gm), Chebulic Myrobalan (Bibhitaki Fruit) (0.5 gm), Yashtimadhu Root (Licorice Root) (1.0gm), Cardamom Seed (Ela Chhoti) (1.0gm), Bringraj or Bhringaraj (0.25gm), Musta (Nut Grass) (1.0gm), Kashmiri Root (1.0gm), Asoka Bark (1.0 gm), Dates (10gm), Ghee (25mL), and Honey (50 gm).

PROCEDURE:

Accurately weigh, mix and grind all the above mentioned ingredients together in correct proportions. The mixture must be kept in a soil pot with honey, dates and Ghee and must be mixed properly. Cover the soil pot with a cloth and keep it in a pit (4-5 feet deep) and cover the pot with soil for 90 days. Ensure that sufficient moisture is present. After 90 days remove the pot from the pit and collect the product.

ANTHELMINTIC ACTIVITY:

Anthelmintic activity on the Indian earthworm (Pheretima posthuma) was determined during the preparation of Guru Nanak Chyawanprash. The paralysis time and death time at respective concentrations (25mg, 50mg, 75mg and 100mg) were calculated. The anthelmintic activity in all the concentration was prominently shown and the result was better than the standard Dabur Chyawanprash.

RESULTS AND DISCUSSION:

ANTHELMINTHIC ACTIVITY:

Data in the table no.1 clearly indicates that the newly prepared Guru Nanak Chyawanprash exhibits excellent anthelmintic activity. The paralysis time and death time at 25mg, 50mg, 75mg and 100mg concentrations are enlisted in the table below. The values of Dabur Chyawanprash preparation under similar conditions were used for the study.

<table>
<thead>
<tr>
<th>TEST AND STANDARD COMPOUNDS</th>
<th>CONC. (mg/ml)</th>
<th>PARALYSIS TIME (min.)</th>
<th>DEATH TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guru Nanak Chyawanprash (T)</td>
<td>25</td>
<td>00:15:54</td>
<td>00:58:39</td>
</tr>
<tr>
<td>50</td>
<td>00:10:50</td>
<td>00:45:32</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>00:08:35</td>
<td>00:33:54</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>00:07:46</td>
<td>00:23:42</td>
<td></td>
</tr>
<tr>
<td>Dabur Chyawanprash (S)</td>
<td>25</td>
<td>01:51:38</td>
<td>02:15:37</td>
</tr>
<tr>
<td>50</td>
<td>01:35:53</td>
<td>01:52:26</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>01:09:55</td>
<td>01:38:52</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>00:51:11</td>
<td>01:20:23</td>
<td></td>
</tr>
</tbody>
</table>

Result expressed as mean ± SEM from observations.

CONCLUSION:

In the present study Anthelmintic Activity of aqueous solution Of Guru Nanak Chyawanprash was performed. Various herbal drugs present in the Guru Nanak Chyawanprash are responsible for the Anthelmintic Activity. In comparison to the standard Dabur Chyawanprash, Guru Nanak Chyawanprash has shown excellent results.

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REFERENCES:

6. The useful plants of India publication and Information Directorate, CSIR New Delhi, 1992, 163.