Clinical Evaluation of Herbal Formulation Qurs Deedan Jadeed for its Anthelmintic Activity

Qazi Zaid Ahmad¹, Santosh Joshi², Aziz Ur Rahman¹, Md Imran Khan², Asad Mueed³

¹Dept. of Saidla A.K.Tibbiya College AMU Aligarh, India
²Hamdard Laboratories, India.

Abstract

Helminthic infection has a worldwide distribution with the greatest incidence and intensity occurring in developing countries. It is estimated that as much as 60% of the world’s population is infested with intestinal worms. Helminthic infections are the main cause of loss of appetite, iron deficiency anemia, gastrointestinal or biliary obstruction, they also cause malnutrition in children which leads to impairments in physical, intellectual, and cognitive functions. Due to the increased resistance and adverse effect of the synthetic anthelmintic drugs led to the increase in interest of ethnomedical practices across the world for the use of medicinal plants in treatment of helminthic diseases. Unani System of Medicine also possesses several drugs both single and compound which are useful against intestinal worms. Some of them are described as Mukhrije deedan (vermifuge) and Qatel-e-deedan (vermicidal) while others may comprise both these properties. Qurs Deedan Jadeed is one such preparation which was selected for clinical trial. An Open, Observational, clinical trial conducted on 50 Diagnosed patients of helminthic infection, qualifying the inclusion criteria, invited for clinical trial after having their informed consent. QDJ was administered orally in dosage of 2 tablets daily at bed time with a glass of water for a period of 12 days. This study demonstrates that the test drug has significant anthelmintic activity as 60% of the patients have shown removal of ova & cyst at 7th days and at 12th days 97% of the patient got dewormed. The present study showed that the test drug possessed significant anthelmintic effect as mentioned in ancient Unani literature and the study also scientifically substantiated the therapeutic use of Qurs Deedan Jadeed as safe and effective therapy in the management of intestinal worms.

Keyword: Qurs Deedan Jadid, Unani Medicine, Anthelmintic Activity, Herbal formulation

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*Corresponding author
Qazi Zaid Ahmad
E-mail: zaidnim@gmail.com
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1. Introduction

Helminthic infections continue to be a major health hazard of people, especially those living in tropical developing countries. Current estimates suggest that over half of the world population is infected with intestinal helminths, such as *Ascaris*, hookworms, *Trichuris, Enterobius, Strongyloides*, and tapeworms, and that most of these infected people live in remote rural areas in the developing countries (De Silva et al. 2003). Infections with gastrointestinal helminths often lead to malabsorption, diarrhoea, anaemia and other states of poor health, particularly in infants and school-age children (P.J Hotez et al.2007). Though there are several synthetic anthelmintics available at the present time against these parasites, the fact remains that a large proportion of the world’s population still do not have access to, or cannot afford to pay for modern medicines, particularly in remote rural areas in poor countries (WHO.2003). Besides, the continued usage of current anthelmintic drugs is also posing a major problem of drug resistance in several parasite species as well as unwanted adverse effect such as abdominal discomfort, nausea vomiting, diarrhea, drowsiness vertigo, rashes are common and they are also contraindicated for certain groups of patients like pregnant and lactating woman (Savioli et al. 2003).

This has led to the increase in interest of ethnomedical practices across the world for the use of medicinal plants in treatment of helmintic diseases (Alawa et al. 2003; Satyavati et al. 1976). Plants are known to provide a rich source of herbal anthelmintics, antibacterials and insecticides remedies.(Lewis et al.1977; Nadkarni 1954). A number of medicinal plants have been used in the treatment of parasitic infections in man as well as in animals(Chopra et al. 1958; Akhtar et al. 2000). In recent years, there has been a rapid increase in new reports of the antiparasitic activity of natural products, both from scientific studies and from studies into the traditional uses of these products for treating diseases (Akhtar et al. 2000; Prakash et al.1987). Thus, plant/herbal based medicines have become indispensable and are forming an integral part of the primary health care system the world over (Girendra Kumar et al 2014; Amita Pandey et al. 2014) Reports from around the world include an exhaustive list of medicinal plants that have been found to possess significant activity against helminth parasites. (Akhtar et al. 2000; Mali et al. 2008; Prakash et al.1987). Unani System of Medicine also possesses several drugs both single and compound which are useful against intestinal worms. Some of them are described as Mukhrije deedan (vermifuge) and Qatel-e -deedan (vermicidal) while others may comprise both these properties. Qurs Deedan Jedeed is one such preparation which was selected for clinical trial. Its ingredients are shown in table 1.

2. Materials and methods

The study was conducted on 50 diagnosed patient of helmintic infection. The positive cases were administered with Qurs Deedan Jedeed manufacturing license no. U-212/78) for a period of 12 days. After taking through history and examination following investigation were carried out in every patient at 0 day 7th day and after 12th day.

- Routine hemogram and urine examination
- examination of stool: Macroscopic and microscopic
- X-ray chest, PA view

Inclusion criteria:
- H/O Passing adult worm in vomiting or per rectum
- With associated sign/symptoms:
  - Abdominal discomfort, anemia, nausea, vomiting, increased and decreased appetite,
  - Allergic manifestation, itching, urticaria etc.
  - Sign of malnutrition: anemia, weight loss, pot belly etc
  - PICA, hepatomegally etc.
- Only those patients are subjected to the clinical trial that have positive confirmed diagnostic reports of single or mixed infection caused by intestinal worm with associated sign and symptoms.
- Patients were not less than 3 yrs and not more than 60 yrs

Exclusion criteria:
- Patent suffering from diseases e.g. hypertension, diabetese mellitus, TB were discarding out of the clinical trial
- Major medical illness
- Depression, Anxiety or Psychosis
- Clotting disorders
- More than 2 visits/month for mental healthcare
- Use of any other alternative medicine during study period
• Negative diagnostic report of single or mixed infection of helminths

Procedure of study:
Diagnosed patients of helminthic infection, qualifying the inclusion criteria, invited for clinical trial after having their informed consent.

Study design: Open, Observational, clinical trial

Sample size: Total Number of Patients: 50

Dosages: QDJ was administered orally in dosage of 2 tablets daily at bed time with a glass of water for a period of 12 days

Follow up: 0 day, 7 day, 12th.

Duration of protocol: 12 days

Table 1. Ingredients of *Qurs Deedan Jadeed* and their pharmacological profile

<table>
<thead>
<tr>
<th>S.no</th>
<th>Ingredients</th>
<th>Botanical Name</th>
<th>Part Used</th>
<th>Chemical constituents</th>
<th>Action</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sat Hanzal</td>
<td><em>Citrullus colocynthis</em></td>
<td>Fruit Pulp</td>
<td>Colocynithine. Fatty acids, olic acid fenolic acid</td>
<td>Vermicidal lantibaterial anticancerous (Adams et al. 2001)</td>
<td>fever, intestinal parasites, constipation, visceral and cerebral congestions</td>
</tr>
<tr>
<td>2</td>
<td>Zanjabeel</td>
<td><em>Zingiber officinale</em></td>
<td>Rhizome</td>
<td>gingerols, shogaols, paradols, and zingerone</td>
<td>Carminative, aromatic, stimulant, increases prostaglandins, adjuvant to tonic remedies (Agrwal et al. 2001; Jabbar et al. 2007; Rohini et al. 2011)</td>
<td>common colds, fever, rheumatic disorders, gastrointestinal complications, motion sickness, diabetes, cancer, etc.</td>
</tr>
<tr>
<td>3</td>
<td>Kameela</td>
<td><em>Mallotus philippinensis</em></td>
<td>Glandular Pubescence of Fruit</td>
<td>Berginineflavonoids, glycosides, tannins, phenolics, and triterpenes,</td>
<td>Anthelmintic, antiparasitic, Antifilarial Activity (Akhtar et al. 1992; Gupta et al. 1984)</td>
<td>Skin infection, wound healing, intestinal worm, allergic conditions</td>
</tr>
<tr>
<td>5</td>
<td>Gond Keekar</td>
<td><em>Acacia Arabica</em></td>
<td>Gum</td>
<td>As binding agent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Results and Discussion

Observation and Result:

Table 2. Incidence of helminthic infection at different ages

<table>
<thead>
<tr>
<th>S.no</th>
<th>Age</th>
<th>No. of Patients</th>
<th>% Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>04-24</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>25-34</td>
<td>10</td>
<td>20%</td>
</tr>
<tr>
<td>3</td>
<td>35-44</td>
<td>9</td>
<td>18%</td>
</tr>
<tr>
<td>4</td>
<td>45-60</td>
<td>6</td>
<td>12%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Incidence is highest among 4-34 age group.
Table 3. Showing relation of Socio-economic status

<table>
<thead>
<tr>
<th>S.no</th>
<th>Soc. Status</th>
<th>No. of Patients</th>
<th>% Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lower class</td>
<td>22</td>
<td>44%</td>
</tr>
<tr>
<td>2</td>
<td>Middle class</td>
<td>20</td>
<td>40%</td>
</tr>
<tr>
<td>3</td>
<td>High class</td>
<td>8</td>
<td>16%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Showing food habit

<table>
<thead>
<tr>
<th>S.no</th>
<th>Soc. Status</th>
<th>No. of Patients</th>
<th>% age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Non vegetarian</td>
<td>40</td>
<td>80%</td>
</tr>
<tr>
<td>2</td>
<td>Vegetarian</td>
<td>4</td>
<td>8%</td>
</tr>
<tr>
<td>3</td>
<td>PICA</td>
<td>6</td>
<td>12%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>
Table 5. Showing nature of infection

<table>
<thead>
<tr>
<th>S.no.</th>
<th>Nature of infection</th>
<th>No. of patient</th>
<th>% age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Single infection</td>
<td>27</td>
<td>54%</td>
</tr>
<tr>
<td>2</td>
<td>Mixed infection</td>
<td>10</td>
<td>46%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 6. Showing Improvement before and after treatment

<table>
<thead>
<tr>
<th>Ova &amp; Cyst</th>
<th>Before Treatment</th>
<th>After treatment</th>
<th>% Age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 day</td>
<td>7th days</td>
<td>12th days</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>30</td>
<td>3</td>
</tr>
<tr>
<td>% age</td>
<td>100%</td>
<td>40%</td>
<td>6%</td>
</tr>
<tr>
<td>% Age</td>
<td>0</td>
<td>60%</td>
<td>97%</td>
</tr>
</tbody>
</table>
We are grateful to the pathologist and laboratories who contributed the stool report data for this study. Thanks are due to the effective therapy in the management of intestinal worms. The present study showed that the test drug possessed significant anthelmintic effect as mentioned in ancient Unani literature and the study also scientifically substantiated the therapeutic use of Qurs Deedan Jadeed (Adams et al. 2001; Agrwal et al. 2001; Jabbar et al. 2007; Akhtar et al. 1992; Rohini et al. 2011; Gupta et al. 1984).

4. Conclusion

The present study showed that the test drug possessed significant anthelmintic effect as mentioned in ancient Unani literature and the study also scientifically substantiated the therapeutic use of Qurs Deedan Jadeed as safe and effective therapy in the management of intestinal worms.

5. Acknowledgement

We are grateful to the pathologist and laboratories who contributed the stool report data for this study thanks are due to the clinician who responded the questionnaire and monitored the clinical study.

6. Reference