PHARMACOGNOSTICAL-CLINICAL STUDY OF IKSHURAK MOOL KWATH ON ANIDRA W.S.R. TO INSOMNIA

Dr. Parth Barad*1 and Dr. Anil Pandya2

1P.G Scholar Department of Dravyaguna, Parul Institute of Ayurved, Parul University, Limda, Vadodara, Gujarat, India.

2Professor, Department of Dravyaguna, Parul Institute of Ayurved, Parul University, Limda, Vadodara, Gujarat, India.

ABSTRACT

Background: Nidra is a glimpse of Pralaya where there is a peace but in darkness. After this glimpse of Pralaya – that is Nidra, man awakens fresh like Srijana. For the living beings, it is an essential phenomenon for maintenance and restoration of both – body and mind. Thus, Nidra is a harmonious feature gifted by nature. Aims and objectives: The present study was to assess the efficacy of Ikshurak mool kwath in management of insomnia and to compare the effect of the drug of control group. Material and methods: 30 patients were selected from OPD and IPD of Parul Ayurveda hospital. GROUP A: In this group 15 patients of clinically diagnosed cases of Anidra was administered with Ikshurak mool kwath. GROUP B: In this group 15 patients of clinically diagnosed cases of Anidra was administered with buffalo milk. Results: Sleeplessness was relieved by 67.5% in group A while it was 46.5% in group B which showed highly statistically significant results. Disorder of S-W schedule was relieved by 62.5% in group A while it was 50% in group B which showed highly statistically significant results. Sleep quality was relieved by 68.9% in group A while it was 53.3% in group B which showed highly statistically significant results. Sleep time was relieved by 70.3% in group A while it was 45.4% in group B which showed highly statistically significant results. Freshness after awaking: Freshness after awaking was relieved by 67.8% in group A while it was 54.1% in group B which showed highly statistically significant results. Conclusion: The present study concluded that Ikshurak mool kwath showed better relief than buffalo milk.
KEYWORDS: Ikshurak mool kwath, insomnia, buffalo milk, Anidra.

INTRODUCTION

In the Ayurvedic literature, three factors viz. Ahara, Nidra and Brahmacharya have been compared with the three legs of a sub-support and have been termed as the three Upasthambhas.[1] Nidra is a glimpse of Pralaya where there is a peace but in darkness. After this glimpse of Pralaya – that is Nidra, man awakens fresh like Srijana. For the living beings, it is an essential phenomenon for maintenance and restoration of both – body and mind. Thus, Nidra is a harmonious feature gifted by nature. The importance of sleep is well accepted by modern science also because of its restorative, recuperative and resting actions to the living organisms. Human spend at least 1/3 of our lives asleep.[2] Yet little understand why our body requires it or for what reasons nature often chooses to transform the soothing slumbers of youth into the restless tossing of maturity.

Ayurveda has recognized Nidra as one of the most important dimensions of health associated with happiness and good health and is an outcome of relax mental state. The disturbance in Nidra might be related to the life style, environmental influence, mental tension, changed food habits and day to day stress which ultimately disturb the psycho-neuro-biological rhythm of sleep. Charaka has described Nidra among the primary tripod of life, with its merits and demerits, classification and management. Charaka has described Anidra as one of the Vataja Nanatmaja Vikara. The conditions like phthisis, wasting of muscle, thirst, diarrhoea, dyspnoea, hiccough, cause Anidra because of the predominance of Vatika activity. The other conditions responsible for excess sleep and insomnia include: smoke, excessive physical exercise, blood-letting, fast, uncomfortable bed, hunger, pain, noise, happiness, misery, emaciation strength, weakness, virility etc. Sleep is directly connected with mental state. Various psychic traits like anger, fear, worry, anxiety etc. are responsible for vitiation of Doshas and cause Anidra (Insomnia). If any of these, is powerfully working, it will not only disturb the physical body but also subtle body of a human being. Manasa Bhavas are, therefore, necessary to be studied well before advising the insomnia patients to take any medicine.[3]

The largest study of Sleep duration and mortality was published in February 2002 in the Archives of General Psychiatry. The Cancer Prevention Study II of the American Cancer Society followed more than a million participants for six years. The best survival was found among those who slept about seven hours a night, the worst among those who slept less than
4.5 hours. Too much sleep – nine hours or more – also was associated with a higher risk of mortality.\[4\]

About a 1/3rd of the world population is suffering from various sleep disorders during their life time, insomnia is chief among them. Now it is increasing in younger age group and middle age group, because of change in life style. The inadequate sleep not only affects the individual himself but also affects the society in turn increasing in psychic diseases. The 85% insomniacs state that they had various other problems that occurred due to lack of sleep. Statistics revealed that only in one year time 1500 people die and 100 thousand vehicle accidents occur because people drive even if they are very tired due to sleep disturbances. Thus industry loses approximately $ 150 billion Dollars due to workers that have Insomnia.\[5\]

Data indicate that there is a relative decline in general health care cost by proper treatment of insomnia.\[6\]

Above facts are supported by a survey reporting that sleeping about seven hours per night had the lowest rates of mortality, whereas those that slept of fewer than six hours or more than eight hours had higher mortality rates. Getting 8.5 or more hours of sleep per night increased the mortality rate by 15%. Severe insomnia i.e. sleeping less than 3.5 hours in women and 4.5 hours in men also led to 15% increase in mortality.\[7\]

It is one of the burning problems not only in India but also all over the world. According to the statistics 20% - 40% adults, encounter insomnia problems during a year time.\[8\] Especially 15 to 55 years old are more affected. It is also reported that more than 70 million Americans suffer from various sleeping disorders, insomnia being one of them. Further, Insomnia is 1.4 times more common in woman than in men and affects 1 in 3 people.\[9\]

In the present era, patient prefers readymade, cost effective, easily palatable drugs with fewer side effects for their health problems. Hence, it is need of the hour to formulate such herbal formulation which can be a solution for Insomnia and can be prescribed for long term with minimal adverse effects. From hand search of previous researches done in Ayurveda, it is found that only few clinical trial have been done to establish the role of Ikshurak mool kwath in the management of insomnia. Considering this point, present clinical trial has been planned to evaluate role of Ikshurak mool kwath in the management of insomnia.

**AIMS AND OBJECTIVES**

- To assess the efficacy of Ikshurak Mool Kwath in management of insomnia.
To compare the effect of the drug of control group.

**MATERIAL AND METHODS**

30 patients were selected as per inclusive criteria and history was recorded in a prescribed Performa and by analyzing the data from the results obtained clinically.

**Collection of data**

30 patients were selected from OPD and IPD of Parul Ayurveda Hospital, Limda, Baroda.

- **Group A:** In these group 15 patients of clinically diagnosed cases of Anidra was administered with Ikshurak Mool Kwath.
- **Group B:** In these group 15 patients of clinically diagnosed cases of Anidra was administered with buffalo milk.

**Inclusion criteria**

- Patient aged between 30 to 60 years.
- Patients complaining of reduction in sleep time, difficulty in initiation of sleep, wakefulness during normal sleep – either any of these or all of these for the duration of 3 months or more.
- Anidra along with patients complains of Angamarda, Shirogaurava, Jrumbha, Jadyata, Glani, Bhrama and Apakti - either some of these or all.
- Patients already diagnosed for Primary insomnia with the duration of 1 month to 5 years.

**Exclusion criteria**

- Patient below 30 and above 60 years.
- Anidra due to other conditions like Madatyaya and Abhigata.
- Pregnant Woman.
- Lactating Mothers.
- Anidra associated with any other systemic and metabolic disorders.
- Severe Psychic disorder.

**Diagnosis Criteria**

For diagnosis, detail medical history was taken and physical examinations were carried out according to both Ayurvedic and Modern clinical methods. Based on the signs and symptoms of Insomnia as described under Subjective and Clinical assessment, the diagnosis was made.
Study Duration
- Treatment duration was for 30 days.

Criteria for assessment

Sleeplessness
- No complaint. 0
- Patient gets sleep at night or awakens early in the morning. 1
- Sleep is full of dreams or sleep disturbs due to any other reason during night. 2
- Sleep disturbs at midnight due to any reason and does not get sleep afterwards. 3
- Patient doesn’t get sleep after resting in day time/gets sleep late at night and awakens early in the morning. 4
- Gets sleep after taking sedatives. 5
- Doesn’t get sleep at all. 6

Disorders of Sleep-Wake (S-W) Schedule
- Normal (s-w) schedule 0
- Transient change 1
- Frequently changing 2
- Delayed sleep phase 3
- Irregular (s-w) pattern 4
- Non-24 hours (s-w) syndrome 5

Sleep Quality
- Enjoyable sleep 0
- Anxious or agitated before and during sleep 1
- Feeling un fresh and unrest after sleep 2
- Sleep experience negative and not enjoyable 3

Sleep Time
- Adequate sleep (6 – 8 hours) 0
- Inadequate night sleep (4 – 5 hours) with ½ to 1 hour day nap 1
- Inadequate night sleep (4 – 5 hours) without day nap 2
- Inadequate night sleep (2 – 3 hours) 3
- Gets 1 – 2 hours night sleep with or without day nap 4
• No sleep at night but gets 1 – 2 hours day nap  
• No sleep at all

**After Awakening**
• Fresh (Sukhavabodhana)  
• Sleepy or fatigued  
• Poor concentration  
• Poor problem solving

Associated complaints like Akshigaurav, Shirogaurav, Alasya, Jrimbha, Angamarda, Glani, Bhrama, Ajirna, Kshudamanda etc.
• Mild degree (Occasional complaints) - 1  
• Moderate degree (once or twice in 2 – 3 days) - 2  
• Severe degree (daily complaints) - 3

**Statistical analysis**
• The information gathered on the basis of above observations was subjected to statistical analysis in terms of mean, standard deviation (S.D.) and standard error (S.E.). Paired t test for clinical analysis and unpaired t for comparative analysis was carried out at p>0.05, p<0.01 and p<0.001 levels.

**OBSERVATION AND RESULTS**

**Table 1: Chief complaints wise distribution.**

<table>
<thead>
<tr>
<th>Chief complaints</th>
<th>Number of patients</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group-A</td>
<td>Group-B</td>
</tr>
<tr>
<td>Sleeplessness</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Difficulty in falling sleep</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Difficulty in maintaining sleep</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Distress</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Impairment of occupational/social/other areas of functioning</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Impaired sleep-wake schedule</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Sleep-walking/sleep- terror/night mares</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

It was found that maximum i.e.100% of sleeplessness, 56.6% of each distress and difficulty in falling sleep, 46.6% impairment of occupational/social, while 43.3% patients were of difficulty in maintaining sleep, 26.6% impaired sleep wake schedual and sleep walking/sleep terror/night mares.
Table 2: Associated complaints wise distribution.

<table>
<thead>
<tr>
<th>Associated complaints</th>
<th>Number of patients</th>
<th>Total</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group-A</td>
<td>Group-B</td>
<td></td>
</tr>
<tr>
<td>Akshigaurav</td>
<td>13</td>
<td>15</td>
<td>28</td>
</tr>
<tr>
<td>Shirogaurav</td>
<td>16</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>Alasya</td>
<td>7</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Jrimbha</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Angamarda</td>
<td>5</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Glani</td>
<td>8</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Bhrama</td>
<td>11</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td>Ajirna</td>
<td>8</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Kshudamandhya</td>
<td>9</td>
<td>5</td>
<td>14</td>
</tr>
</tbody>
</table>

Maximum number of patients e.g. 100% were suffering from Shirogaurav, 93.3% were Akshigaurav, 63.3% had Bhrama, 50% each were in Glani and Ajirna and 46.6% kshudamandhya, 43.3% of Alasya and Angmarda lastly, minimum i.e. 23.3% had Jrimbha.

Table 3: Effect of therapy in group – A.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D. (±)</th>
<th>S.E. (±)</th>
<th>‘t’</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B.T.</td>
<td>A.T</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleeplessness</td>
<td>3.07</td>
<td>1.07</td>
<td>67.5</td>
<td>0.27</td>
<td>7.21</td>
</tr>
<tr>
<td>Disorder of S-W schedule</td>
<td>2.46</td>
<td>0.92</td>
<td>62.5</td>
<td>0.21</td>
<td>7.15</td>
</tr>
<tr>
<td>Sleep quality</td>
<td>2.23</td>
<td>0.97</td>
<td>68.9</td>
<td>0.27</td>
<td>5.73</td>
</tr>
<tr>
<td>Sleep time</td>
<td>2.25</td>
<td>0.67</td>
<td>70.3</td>
<td>0.19</td>
<td>5.5</td>
</tr>
<tr>
<td>Freshness after awakening</td>
<td>2.15</td>
<td>0.69</td>
<td>67.8</td>
<td>0.18</td>
<td>7.98</td>
</tr>
</tbody>
</table>

After the completion of group A for 30 days, its effect on the associated complaints was observed, which have been presented in tabular format. Group A provided highly significant relief in sleep time (70.3%), sleep quality (68.9%), freshness after awaking (67.8%), sleeplessness (67.5%) and disorder of s-w schedual (62.5%).

Table 4: Effect of therapy in group – B.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D. (±)</th>
<th>S.E. (±)</th>
<th>‘t’</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B.T.</td>
<td>A.T</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleeplessness</td>
<td>3.09</td>
<td>1.64</td>
<td>46.5</td>
<td>0.23</td>
<td>6.27</td>
</tr>
<tr>
<td>Disorder of S-W schedule</td>
<td>2.14</td>
<td>1.07</td>
<td>50</td>
<td>0.13</td>
<td>8.45</td>
</tr>
<tr>
<td>Sleep quality</td>
<td>2.13</td>
<td>1</td>
<td>53.3</td>
<td>0.14</td>
<td>8.2</td>
</tr>
<tr>
<td>Sleep time</td>
<td>2.35</td>
<td>1.28</td>
<td>45.4</td>
<td>0.19</td>
<td>5.5</td>
</tr>
<tr>
<td>Freshness after awakening</td>
<td>1.71</td>
<td>0.78</td>
<td>54.17</td>
<td>0.13</td>
<td>7.3</td>
</tr>
</tbody>
</table>

After the completion of group B for 30 days, its effect on the associated complaints was observed, which have been presented in tabular format. Group B provided highly significant
relief in freshness after awaking (54.17%), sleep quality (53.3%), disorder of S-W schedual (50%), sleeplessness (46.5%) and sleep time (45.4%).

Table 5: Effect of therapy (Associated complaints) in group – A.

<table>
<thead>
<tr>
<th>Associated complaints</th>
<th>Mean B.T.</th>
<th>Mean A.T.</th>
<th>%</th>
<th>S.D. (±)</th>
<th>S.E. (±)</th>
<th>‘t’</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akshigaurav</td>
<td>2.1</td>
<td>0.4</td>
<td>80.95</td>
<td>0.48</td>
<td>0.15</td>
<td>11.1</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Shirogaurav</td>
<td>1.8</td>
<td>0.5</td>
<td>72.2</td>
<td>0.67</td>
<td>0.21</td>
<td>6.09</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Alasya</td>
<td>2.1</td>
<td>1</td>
<td>52.94</td>
<td>0.83</td>
<td>0.29</td>
<td>3.81</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Jrimbha</td>
<td>2</td>
<td>0.33</td>
<td>83.3</td>
<td>0.58</td>
<td>0.33</td>
<td>5.01</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Angamarda</td>
<td>2.13</td>
<td>0.84</td>
<td>60.71</td>
<td>0.75</td>
<td>0.21</td>
<td>6.23</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Glani</td>
<td>2.5</td>
<td>1.67</td>
<td>53.3</td>
<td>0.51</td>
<td>0.29</td>
<td>6.32</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Bhrama</td>
<td>2.3</td>
<td>0.8</td>
<td>65.21</td>
<td>0.71</td>
<td>0.22</td>
<td>6.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Ajirna</td>
<td>2.17</td>
<td>1.09</td>
<td>53.85</td>
<td>0.98</td>
<td>0.4</td>
<td>2.91</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Kshudhamandhya</td>
<td>2.4</td>
<td>0.63</td>
<td>71.42</td>
<td>0.87</td>
<td>0.31</td>
<td>5.6</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Group A provided highly significant relief in associated Jrimbha (83.3%), Akshigaurav (80.95%), Shirogaurav (72.2%), Kshudhamandhya (71.42%), Bhrama (65.21%), Angamarda (60.71%), Ajirna (53.85%), Glani (53.3%) and Alasya (52.94%).

Table 6: Effect of therapy (Associated complaints) in group – B.

<table>
<thead>
<tr>
<th>Associated complaints</th>
<th>Mean B.T.</th>
<th>Mean A.T.</th>
<th>%</th>
<th>S.D. (±)</th>
<th>S.E. (±)</th>
<th>‘t’</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akshigaurav</td>
<td>2.2</td>
<td>1.07</td>
<td>51.7</td>
<td>0.55</td>
<td>0.19</td>
<td>7.5</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Shirogaurav</td>
<td>1.9</td>
<td>0.8</td>
<td>55.56</td>
<td>0.69</td>
<td>0.27</td>
<td>4.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Alasya</td>
<td>2</td>
<td>1.12</td>
<td>43.75</td>
<td>0.64</td>
<td>0.22</td>
<td>3.86</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Jrimbha</td>
<td>1.5</td>
<td>1</td>
<td>33.3</td>
<td>0.7</td>
<td>0.51</td>
<td>1.78</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Angamarda</td>
<td>2.4</td>
<td>1.1</td>
<td>54.16</td>
<td>0.89</td>
<td>0.4</td>
<td>3.5</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Glani</td>
<td>2.41</td>
<td>1.29</td>
<td>40</td>
<td>1.07</td>
<td>0.45</td>
<td>2.1</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Bhrama</td>
<td>2.1</td>
<td>1.4</td>
<td>42.86</td>
<td>0.69</td>
<td>0.26</td>
<td>3.27</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Ajirna</td>
<td>1.75</td>
<td>1.01</td>
<td>42.85</td>
<td>0.46</td>
<td>0.16</td>
<td>4.58</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Kshudhamandhya</td>
<td>1.75</td>
<td>1.08</td>
<td>42.85</td>
<td>0.51</td>
<td>0.56</td>
<td>4.58</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

After the completion of group B for 30 days, its effect on the associated complaints was observed, which have been presented in tabular format. Group B provided highly significant relief in Shirogaurav (55.56%), Angamarda (54.16%), Akshigaurav (51.7%), Alasya (43.75%), Bhrama (42.86%), Ajirna and Kshudhamandhya (42.85%), Glani (40%), and Jrimbha (33.3%).
Table 7: Overall Effect Therapy.

<table>
<thead>
<tr>
<th>Overall Effect</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group-A</td>
</tr>
<tr>
<td>Cured</td>
<td>0</td>
</tr>
<tr>
<td>Markedly improved</td>
<td>10</td>
</tr>
<tr>
<td>Improved</td>
<td>4</td>
</tr>
<tr>
<td>Unchanged</td>
<td>1</td>
</tr>
</tbody>
</table>

Overall effect of therapy shows that after 10 number of patients were observed Markedly improved, 4 number of patients were improved, and 1 number of patients were unchanged among group A. Overall effect of therapy shows that after 7 number of patients were observed Markedly improved, 7 number of patients were improved, and 1 number of patients were unchanged among group B.

DISCUSSION

The present study reveals that maximum patients 100% were suffering from Shirogaurava and Akshigaurava followed by 56.6% having Bhrama, 50% each having Glani and Ajirna complaint and 43.3% were complaints of Alasya and Angamarda. Factors associated with insomnia are explored in multivariate models.

Studies have showed that insomnia produces poor concentration with focus and it causes long and short-term memory loss. Especially, older individuals experiences memory loss much sooner if they suffer from insomnia. It is also reported that insomnia has impact on cognitive performance too. Researches shows that worry, irritation are potential mechanism related to the development of insomnia. Further, as insomnia vitiates Vata Dosha, symptoms like Bhaya, Shoka become more prominent in the patients. Majority of the patients also reported of Shirogaurava/Shirashoola, which may be again due to increased Vata Dosha or Rasakshaya. Researches show that morning headache, is more common in psychological distress and insomnia.[10]

Gastrointestinal tract related symptoms like Kshudamandya, Ajirna, and Vibhanda reported in patients relates that insomnia also effects on Annavaha Srotas. It may be because Anidra causes vitiation of Vata, decreases Agnibala and causes above conditions. Proper sleep helps for normal digestion and excretion whereas insomnia and depression declines the bowel function.[11]
Effect of Therapies

Sleeplessness was relieved by 67.5% in group A while it was 46.5% in group B which showed highly statistically significant results. Disorder of S-W schedule was relieved by 62.5% in group A while it was 50% in group B which showed highly statistically significant results. Sleep quality was relieved by 68.9% in group A while it was 53.3% in group B which showed highly statistically significant results. Sleep time was relieved by 70.3% in group A while it was 45.4% in group B which showed highly statistically significant results. Freshness after awaking was relieved by 67.8% in group A while it was 54.1% in group B which showed highly statistically significant results.

Akshigaurav was relieved by 80.95% in group A while it was 51.7% in group B which showed highly statistically significant results. Shirogaurav was relieved by 72.2% in group A while it was 55.5% in group B which showed highly statistically significant results. Alasya was relieved by 52.94% in group A while it was 43.75% in group B which showed highly statistically significant results. Jrimbha was relieved by 83.3% in group A while it was 33.3% in group B which showed highly statistically significant results. Angamarda was relieved by 60.71% in group A while it was 54.16% in group B which showed highly statistically significant results. Glani was relieved by 53.3% in group A while it was 40% in group B which showed highly statistically significant results. Bhrama was relieved by 65.21% in group A while it was 42.86% in group B which showed highly statistically significant results. Ajirna was relieved by 53.85% in group A while it was 42.85% in group B which showed highly statistically significant results. Kshudamanda was relieved by 71.42% in group A while it was 42.85% in group B which showed highly statistically significant results.

CONCLUSION

The present study concluded that Ikshurak mool kwath showed better relief than buffalo milk.

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Conflicts of interest

There are no conflicts of interest.
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