Anaesthesiology

KEYWORDS: Organophosphorus Poisoning, Socio Demographic Variables

A retrospective analysis of poisoning cases admitted in tertiary care hospital

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ABSTRACT
Acute poisoning with various substance is common everywhere. The earlier the initial resuscitations, gastric decontamination and use of specific antidotes, the better the outcome. The aim of this study was to assess the socio-demographic variables and type of poison consumed admitted to the tertiary care hospital, Department of Anaesthesiology and Critical Care, SSIMS&RC, Davangere.

Total poison cases were 216. Organophosphorous poisoning cases were predominant, amounting to 146 cases. Maximum cases (179) were in the age group of 20 to 35 years and were more (87) in the year of 2012. Male predominance was seen in the study population. Most of the cases admitted in ICU were from Davengere taluk (86) as compared to Harihara (51), Harapanhalli (49), Changiri (14), Honnalli (9) and Jaglur (7) of Karnataka.

Introduction
Demise due to poisoning has been known since time immemorial. Poisoning is a major problem all over the world, although its type and the associated morbidity and mortality vary from country to country. Organophosphorus poisoning (OPP) ensues very commonly in southern India, where farmers customise a significant fraction of the population who commonly use organophosphorus compounds like parathion as insecticides. Thus, due to the easy accessibility of these compounds, an enormous number of suicidal cases are stumble upon in this region.

According to WHO, three million acute poisoning cases 22,000 deaths transpire in developing countries chiefly among agricultural workers. This digit could be even-handed the tip of the iceberg, subsequently utmost cases of poisoning actually go unreported specially, in the third world countries. Acute Organophosphorus poisoning is a medical emergency and the patients are invariably admitted to the hospitals through emergency services. The poisoning may be suicidal, accidental or homicidal. Because the Organophosphorus compounds are readily available and relatively cheap and have a rapidly lethal action even in smaller doses, they are widely used as suicidal poison.

Since there was increase in suicidal rates most of them through poisoning in India and also in Karnataka, we intended to analyse the socio demographic variables of poisoning cases and also compare the region-wide distribution.

Materials and Methods
The study was conducted in the Department of Anaesthesiology and Critical care unit, SSIMS&RC Davangere. Records of all the cases of poisoning admitted in ICU SSIMS hospital from 2010 - 2014 were analysed. All the information was recorded on a specially prepared proforma, which included age, sex, residence and nature of poison consumed. Data was entered in excel sheet and was analysed using epi info version 7.0. Results were expressed in the form of percentages and proportions.

RESULTS
In the study, a total of 216 cases were analysed in five years from 2010 to 2014. It was observed that, out of 216 cases, 146 cases (67.5%) were due to organophosphorus poisoning and 70 cases (32.4%) non-organophosphorus poisoning making op poisoning the predominant poison consumed and more number of cases noted in year of 2012.

Graph 1: year wise distribution of poisoning cases

Graph 2: Distribution of Study Participants based on type of poison

Table 1: Year wise distribution of male and female patients

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>26</td>
<td>13</td>
<td>39</td>
</tr>
<tr>
<td>2011</td>
<td>38</td>
<td>20</td>
<td>58</td>
</tr>
<tr>
<td>2012</td>
<td>59</td>
<td>28</td>
<td>87</td>
</tr>
<tr>
<td>2013</td>
<td>11</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>2014</td>
<td>9</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>73</td>
<td>216</td>
</tr>
</tbody>
</table>

Table 2: Distribution of cases according to year & District

<table>
<thead>
<tr>
<th>Year</th>
<th>Davangere</th>
<th>Harihara</th>
<th>Harapanhalli</th>
<th>Changiri</th>
<th>Honnalli</th>
<th>Jaglur</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>15</td>
<td>10</td>
<td>08</td>
<td>02</td>
<td>03</td>
<td>01</td>
<td>39</td>
</tr>
<tr>
<td>2011</td>
<td>22</td>
<td>12</td>
<td>15</td>
<td>04</td>
<td>02</td>
<td>03</td>
<td>58</td>
</tr>
<tr>
<td>2012</td>
<td>35</td>
<td>22</td>
<td>19</td>
<td>06</td>
<td>03</td>
<td>02</td>
<td>87</td>
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<tr>
<td>2013</td>
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<td>02</td>
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<td>00</td>
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<td>2014</td>
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<td>14</td>
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<tr>
<td>Total</td>
<td>86</td>
<td>51</td>
<td>49</td>
<td>14</td>
<td>09</td>
<td>07</td>
<td>216</td>
</tr>
</tbody>
</table>
In rural areas, majority of the people are involved in various types of agricultural activities. They are not economically strong and they suffer from mental stress in day to day life. Poor housewives suffered from excessive burden and disharmony in family life. Students are less stress tolerable.

According to national crime record bureau India, every five minutes a person commits suicide and seven attempt to kill themselves, resulting in about 1,00,000 deaths per year. Suicide rate was highest in the state of Kerala and organophosphorus poison was the most common agent used for suicide purpose.

It is evident that increasing number of young population are becoming the victims of Organophosphorus poisoning. It is essential to improve upon the legislation aspects on the availability of Organophosphorus compounds. Likewise it is prudent to straighten the preventive measures through educating people through drug awareness programme and promoting proper information centers.

Upgradation of peripheral rural health care facilities with orientation programmes on management of poisoning cases will prevent any casualties & save more lives.

Our present study of poisoning cases admitted in ICU SSIMS hospital over a vast period of four years and analysing these cases have helped us to draw some important conclusions:

1. Most of the cases of poisoning reported from Davangere taluk as compared to other taluks.
2. OPP was most common type of poisoning as compared to other poisons.
3. Males showed a highest incidence of poisoning as compared to females.
4. 20 to 35 years age group was highly affected.

As already discussed above, organophosphorus agents are widely used in the households and in the agriculture as compared to other poisons. This is why organophosphorus poisoning was the most common type of poisoning found.

Majority of victims were in the age group of 20 to 35 years, the reason being that this age group is the most active age group whether physically, mentally or socially and people in this age group are more prone to stress.

Effective measures on the sale, use and safe disposal of the remaining content of organophosphorus compounds have been suggested to counter this problem. Public education in is of utmost importance this regard.

REFERENCES