A Study on Autopsy Cases of Suspected Poisoning Victims in an Urban Medical College Morgue
Ahmad M., Mamunuddin MRU, As-Azad MAST, Rahman FN, Rahman MM

Abstract
Introduction: Bangladesh is a South Asian developing country where rural population are mostly dependant on agriculture. Pesticides specially Organophosphorus Compounds (OPC) are now a days routinely used for agriculture as well as in domestic use. Self destruction or suicide by pesticide poisoning is a burning problem in the developing countries.

Objective: The objective of this study was to identify the different poisonous compounds in suspected poisoning cases and also to analyze the socio demographic factors related to the death by poisoning.

Method: This retrospective cross sectional study was conducted among victims of suspected poisoning at the Dhaka Medical College (DMC) Morgue during the period of November 2010 to January 2012. Various identification data of the victims were noted from the inquest report accompanying the dead bodies. Other related information was gathered from the victims attendants and 3rd copy of post mortem reports preserved in the department. Specific identification of poisons were made from Chemical Examiner’s report received by Forensic Medicine & Toxicology Department of DMC. From ethical points of view necessary consent of doctors who performed the autopsies and relatives of victims have been taken. All the data were later on analyzed.

Results: A total of 3647 autopsies were performed during the study period. Among these 315 cases (10.33%) were due to various poisoning. Out of these cases specific poisons were identified in 113 (35.87%) cases. Among the detected poisoning cases OPC was the commonest agent (91(80.53%) following by alcohol/rectified spirit (10.88%) and diazepam 4(3.55%). No poison was detected (Negative results) in 157(45.45%) cases and no report from chemical examiner were received in 45(14.28%) cases during the study period. Out of 315 victims 179(60.64%) were male and 136(43.17%) were female. Highest incidence of poisoning was observed in 21-30 years age group (77.5%) followed by age group of 31-40 years (27.33%). Most of the victims were agricultural workers/ farmers 121(38.41%) followed by housewives 52(16.50%). Among the study subjects 181(57.46%) were illiterate and 383(44.56%) were married. Considering manner of death 285(90.47%) victims committed suicide by poisoning and rest 36(9.53%) were due to accidental poisoning.

Conclusion: Poisoning by medicinal compounds is an important problem in our country. Proper emphasis should be given for safe use of pesticides and consciousness should be created among the population about poisonous compounds. Community education in rural area should be practiced. Detail study regarding death due to organophosphorus compounds poisoning is required to be carried out in this country.

Key Words: Poisoning, OPC, Autopsy

Introduction
Bangladesh is a South Asian developing country where rural population are mostly dependant on agriculture. Pesticides specially Organophosphorus Compounds (OPC) are now a days routinely used for crop protection and pest control. These pesticides are readily available in village shops and act as a common agent for suicide purpose after trivial family problems. Now a days self destruction by pesticide poisoning has become a burning problem for the developing countries killing around 3,00,000 people each year[1]. Suicide death in industrialized countries are also caused by pesticide ingestion[2]. Poisoning cases can also occur accidentally and rarely as homicidal purpose. Accidental poisoning can vary from the individual case of a child eating medicinal tablets mistaken for sweet to mass industrial disasters such as in Bhopal in India claiming thousands of lives. Accidental poisoning also occurs in manufacturer, users, children of users, packers, sprayers and due to contamination of food grains mixed with insecticides preserved for seedling purposes. Poisoning also occurs from fruits and vegetables[3]. Hemorrhoidal poisoning by insecticides usually does not occur because of the smell of the subject (arosan) used as dildens of the poison and also due to alarming signs and symptoms which appear rather early. Unfortunately death by poisoning is seldom included as a priority for health research in our country.

Materials and methods
This retrospective cross sectional study was conducted among victims of poisoning at the Dhaka Medical College (DMC) Morgue during the period of November 2010 to January 2012. Various identification data of the victims like age, sex, marital status, permanent address, educational background, incidents of poisoning were noted from the inquest report accompanying the dead bodies. This preliminary investigation report submitted by the police (inquest report), plays very important role in such data collection. Other related information were gathered from the victims’ attendants and the third copy of post mortem reports preserved in the department.

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Specific identification of poisons were made from Chemical Examiner’s report received by Forensic Medicine Department of DMC. From ethical points of view necessary consent of doctors who performed the autopsies and relatives of victims have been taken. All the data were later on analyzed.

Table - 4: Variation of detected poisons compounds and their percentage (n=113)

<table>
<thead>
<tr>
<th>No. of poisons compounds</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organophosphorus Compound (OPC)</td>
<td>52.12%</td>
</tr>
<tr>
<td>Methanol (alcohol)</td>
<td>18.46%</td>
</tr>
<tr>
<td>Diazepam</td>
<td>23.03%</td>
</tr>
<tr>
<td>Alchohol (Rectified spirit)</td>
<td>32.30%</td>
</tr>
<tr>
<td>Sulfen (Chloro-Isopropyl-sulfen)</td>
<td>01%</td>
</tr>
<tr>
<td>Dihydro- Dichloro Thionine</td>
<td>01%</td>
</tr>
<tr>
<td>Pentafluoromethyl Benzene</td>
<td>01%</td>
</tr>
<tr>
<td>Naphthiazide</td>
<td>01%</td>
</tr>
<tr>
<td>Dicyclocarb</td>
<td>01%</td>
</tr>
</tbody>
</table>
| No poison was detected (Negative results) in 157(49.84%) cases and no report were received in 45(14.28%) cases during the study period. Out of 315 victims 179(56.82%) were male and 136(43.17%) female. Highest incidence of poisoning was observed in 21-30 years age group (77.7%) followed by age group of 31-40 years(27.93%) (Table II).

Table - 4: Age distribution of suspected poisoning victims (n=113)

<table>
<thead>
<tr>
<th>Age group in years</th>
<th>No. of victims</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10</td>
<td>17</td>
<td>5.40</td>
</tr>
<tr>
<td>11-20</td>
<td>66</td>
<td>39.02</td>
</tr>
<tr>
<td>21-30</td>
<td>119</td>
<td>37.73</td>
</tr>
<tr>
<td>31-40</td>
<td>88</td>
<td>27.93</td>
</tr>
<tr>
<td>41-50</td>
<td>24</td>
<td>7.42</td>
</tr>
<tr>
<td>&gt;50</td>
<td>55</td>
<td>2.25</td>
</tr>
</tbody>
</table>

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Ahmad M., Mazumder MRU, Al-Azad MAS1, Rahman FN1, Rahman MM2

Abstract

Introduction: Bangladesh is a South Asian developing country where rural population are mostly dependent on agriculture. Pesticides, specially Organophosphorus Compounds (OPC) are now a days routinely used for crop protection and pest control. These insecticides are readily available in village shops and act as a common agent for suicide purpose after trivial family problems. Now a days self destruction by pesticide poisoning has become a burning problem for the developing countries.

Objective: The objective of this study was to identify the different poisonous compounds in suspected poisoning cases and also to analyze the socio demographic factors related to the death by poisoning.

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Various identification data of the victims were noted from the inquest report accompanying the dead bodies. Other related information was gathered from the victims attendants and 3rd copy of post mortem reports preserved in the department. Specific identification of poisons were made from Chemical Examiner’s report received by Forensic Medicine Department of DMC. From ethological point of view necessary consent of doctors who performed the autopsies and relatives of victims have been taken. All the data were later organized.

Results: A total of 3047 autopsies were performed during the study period. Among these 315 cases (10.33%) were due to various poisoning. Out of these case specific poisons were identified in 113 (35.87%) cases. Among the detected poisoning cases OPC was the commonest agent 91 (80.53%) followed by alcohol/rectified spirit 10 (8.85%) and diazepam 4 (3.59%). No poison was detected (Negative result) in 157 (49.45%) cases and no report from chemical examiner were received in 45 (14.28%) cases during the study period. Out of 315 victims 179 (57.23%) were male and 136 (42.77%) were female. Highest incidence of poisoning was observed in 21-30 years age group (77.29%) followed by age group of 31-40 years (27.93%).

Most of the victims were agricultural workers/farmers 121 (38.41%) followed by housewives 52 (16.40%). Among the study subjects 181 (57.46%) were illiterate and 385 (64.48%) were married. Considering manner of death 285 (90.47%) victims committed suicide by poisoning and rest 39(5.53%) were due to accidental poisoning.

Conclusion: Poisoning by different chemicals is an important problem in our country. Proper emphasis should be given for safe use of pesticides and consciousness should be created among the population about poisonous compounds. Community education in rural area should be practiced. Detail study regarding death due to organophosphorous compounds poisoning is required to be carried out in this country.

Key Words: Poisoning, OPC, Autopsy

Introduction

Bangladesh is a South Asian developing country where rural population are mostly dependent on agriculture. Pesticides specially Organophosphorus Compounds (OPC) are now a days routinely used for crop protection and pest control. These insecticides are readily available in village shops and act as a common agent for suicide purpose after trivial family problems. Now a days self destruction by pesticide poisoning has become a burning problem for the developing countries killing around 3,000,000 people each year.25 Suicide death in industrialized countries are also caused by pesticide ingestion.26 Poisoning cases can also occur accidentally and rarely as homicidal purpose. Accidental poisoning can vary from the individual case of a child eating medicinal tablets mistaken for sweets to mass industrial disasters such as in Bhopal in India claiming thousands of lives. Accidental poisoning also occurs in manufacturers, users, children of users, packers, sprayers and due to contamination of food grains mixed with insecticides preserved for seeding purposes. Poisoning also occurs from fruits and vegetables.27 Homicidal poisoning by insecticides usually do not occur because of the smell of the subject (assassin) used as dutes of the poison and also due to alarming signs and symptoms which appear rather early. Unfortunately death by poisoning is seldom included as a priority for health research in our country.

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This retrospective cross sectional study was conducted among victims of poisoning at the Dhaka Medical College (DMC) Morgue during the period of November 2010 to January 2012.

Various identification data of the victims like age, sex, marital status, permanent address, educational background, incidents of poisoning were noted from the inquest report accompanying the dead bodies. This preliminary investigation report submitted by the police (inquest report), plays very important role in such data collection. Other related information were gathered from the victims’ attendants and third copy of post mortem reports preserved in the department.

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Results

A total of 3047 autopsies were performed during the period of November 2010 to January 2012. Among those 315 (10.33%) were cases of poisoning. Out of these cases specific poisons were identified in 113 (35.87%) cases. Among the detected poisoning cases OPC was the commonest agent 91 (80.53%) followed by alcohol/rectified spirit 10 (8.85%) and diazepam 4 (3.59%).

Table 1: Variation of detected poisons compounds and their percentage (n=113)

Name of poisons compounds | No of cases (%) | Percentage
--- | --- | ---
Organophosphorus compounds | 91 (80.85) | 79.8
Meth (Alcohol) (spirits) | 10 (8.85) | 8.8
Diazepam | 4 (3.59) | 3.5
Ethanol (Rice Beer) | 2 (1.75) | 1.7
Thiocyan (Klee Kandie-Ani septic) | 1 | 0.9
Dextro (Dextrose) | 1 | 0.9
Monosodium (Sodium phos) | 1 | 0.9
Pentameth (Mangua toe) | 1 | 0.9
Isopropyl carboxylate | 1 | 0.9

No poison was detected (Negative results) in 157(49.45%) cases and no report were received in 45 (14.28%) cases during the study period. Out of 315 victims 179 (57.23%) were male and 136 (42.77%) were female. Highest incidence of poisoning was observed in 21-30 years age group (77.29%) followed by age group of 31-40 years (27.93%).

Table 2: Age distribution of suspected poisoning victims (n=112)

Age group in years | No. of victims | Percentage
--- | --- | ---
<10 | 17 | 15.4
10-19 | 66 | 58.9
20-29 | 51 | 45.6
30-39 | 26 | 23.3
40-49 | 88 | 77.9
50-59 | 24 | 21.6
60+ | 5 | 4.5
Most of the victims were agricultural workers/farmers (38.41%) followed by housewives (16.59%) (Table III).

Table III: Distribution of suspected poisoning victims by profession (n=515)

<table>
<thead>
<tr>
<th>Profession</th>
<th>No. of victims</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer/Worker</td>
<td>210</td>
<td>40.82%</td>
</tr>
<tr>
<td>Housewife</td>
<td>82</td>
<td>15.90%</td>
</tr>
<tr>
<td>Student</td>
<td>47</td>
<td>9.11%</td>
</tr>
<tr>
<td>Salesman</td>
<td>55</td>
<td>10.68%</td>
</tr>
<tr>
<td>Business</td>
<td>51</td>
<td>10.00%</td>
</tr>
<tr>
<td>Service worker</td>
<td>13</td>
<td>2.53%</td>
</tr>
<tr>
<td>Total</td>
<td>515</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

One hundred eighty (57.46%) victims were litturists and 220 (42.54%) were married. Considering manner of death 285 (90.47%) victims committed suicide by poisoning and 20 (6.29%) were accidental cases.

Discussion

Death by poisoning is commonly suicide or accidental in nature. Among chemicals organophosphorus compounds are the commonest one used for suicidal purpose. In South-East Asia, chemicals such as paraxyl, parathion, acetic acid used for rubber preparation and Opium, diuretics, barbiturates are also used for self-destruction. A study in India has shown that dichlorvos (95%) is also used as acceptable suicidal agent.

During post mortem examination of suspected poisoning case some typical points are noted like cyanosis which is usually found in lip, finger, nose of the victim. Blood stained teeth is found in many and soles. The peculiar smell of OPC is detected in stomach contents. All the internal organs are congested, since death occurs in few minutes. Sub mucosal petechial haemorrhage are found in stomach. Excessive oedema and subpleural petechial haemorrhage are present. Heart is soft in nature and flabby. Brain is also congested and oedematous.

For the purpose of detection of poison in suspected cases, some viscera are preserved during post-mortem examination and sent to the chemical examiner’s laboratory, Dhaka for toxicological analysis. This includes (1) whole of stomach with its content, (2) portion of right lobe of liver, (500 grams), (3) longitudinal section of half of each kidney. In special cases other specimen like, blood, urine, brain, heart, lungs etc are preserved. In Bangladesh, the only Chemical Examiner’s Laboratory is situated in the Institute of Public Health, Mohakhali, Dhaka. It is under the jurisdiction of Criminal Investigation Department (CID) of Bangladesh Police. Age old methods for detection of poisons are used here.

Out of 3047 autopsies performed during this study period of November 2010-January 2012, 315 (10.33%) were cases of poisoning. Among these, specific poisons were identified in 13 (5%) victims, while 106 (33.57%) were suicidal cases, 91 (30.5%) among detected poisoning cases was followed by alcohol/rectified spirit (30.85%) and diuretics (24.55%). Although the autopsies of this study were performed in the medical college of urban area, a good number of the victims were patients referred from peripheral hospitals (e.g. Savar, Ashulia, Tongi, Narayanganj, Narsingdi etc. Since these areas are densely populated and people live on agricultural cultures, hence OPC poisoning are common. Illiterate people also take country made cheap alcohol (distilled spirit) and metal beverages and addiction which is responsible for poisoning cases. There are also a good number of slums in urban chronic OP intoxication and increased socioeconomic condition resides and they take rectified spirit for leisure or addiction.Overdoses of spirit/alcohol may cause accidental or death of these victims. In urban area, alcoholic drinking is the cause of drugs for suicide. Chronic intoxication.

OPC is sensitive to fat and slowly available. Therefore, in human, prolonged, rat killer, mosquito coil etc are also responsible for poisoning.

In 1989-1990, 433 (7.54%) victims of agricultural workers/farmers (121/38.41%) followed by housewives (52/16.59%) and students (47/14.92%). Among the poisoning cases related to aluminium phosphide and carbon中毒(203/44.48%) were married. Marital conflict, low socio-economic status, chronic illness, poisoning by deliberate and accidental or suicide. A total of 1035 cases of acute poisoning were studied during 1983 to 1996.

References

The victims where as for students failure in examinations, refusal in love affairs, sexual harassments, drug addiction etc are the causes of self-poisoning. A study performed in Bangladesh from January 1991 to December 1994 showed that among 405 cases of poisoning, OPC poisoning was the commonest one (95%), followed by poisoning with sedative (29.1%). Out of those 405 cases; 310 were suicide (76.54%) and 95 were homicidal. In our study poisoning by OPC was also the commonest one (91.80%), which coincides with findings of this study. Considering manner of death we found 283 (90.47%) victims committed suicide by poisoning and 30 (9.53%) were accidental poisoning. OPC poisoning is the most common poison in hospitals since it can be used by themselves, forming about 1,000,000 death per year. Suicide rate is highest in the state of Kerala. Majority of the victims belong to the group 14-34 years and OPC was the most common agent used for suicide purpose. In Sri Lanka, many thousands of OPC poisoning cases each year are for agrochemical poisoning, (16,649 in 1983) with over a thousand death annually (1521 in 1983). Of these, about three quarter are self administered, the remainder being occupational and accidental. In Sri Lanka, another study showed, incidence of suicide due to poisoning was more than 80%, followed by hanging, which constituted 10.75%. In this study no poison was detected (negative result) in 157/49.84% cases and no report from chemical examiner were received in 45 (14.28%) cases. Faulty or negative result can be due to short duration of the poison (irritant) is eliminated by vomiting or diarrhea, exerted by lungs through evaporation of irritation; detoxification process is began or conjugated in alimentary system; rapidly metabolize drugs; vegetable alkalds and also due to faulty technique of preservation, long time preservation; sample from decomposed body and even faults at the chemical examiners laboratory. The forensic chemical laboratory of our country is already over burdened with toxicological samples from all around the country and sometimes cannot complete the results in due time which explains the non availability of some reports during study period. In our study out of 315 victims suspected poisoning cases, 315 victims were male and 136 (43.17%) female. Among them 203 (64.44%) were married and 112 (35.56%) were unmarried. Heinous incidence of poisoning was observed in 21-30 years age group.
Most of the victims were agricultural workers/farmers (38.41%) followed by housewives (16.59%) (Table-II).

Table-II: Distribution of suspected poisoning victims by profession (n=515)

<table>
<thead>
<tr>
<th>Profession</th>
<th>No. of victims</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Worker/Farmer</td>
<td>212</td>
<td>41.04%</td>
</tr>
<tr>
<td>Housewives</td>
<td>82</td>
<td>15.90%</td>
</tr>
<tr>
<td>Students</td>
<td>47</td>
<td>9.16%</td>
</tr>
<tr>
<td>Workers</td>
<td>55</td>
<td>10.68%</td>
</tr>
<tr>
<td>Drivers</td>
<td>51</td>
<td>10.00%</td>
</tr>
<tr>
<td>Service Workers</td>
<td>13</td>
<td>2.53%</td>
</tr>
<tr>
<td>Others</td>
<td>18</td>
<td>3.51%</td>
</tr>
</tbody>
</table>

One hundred eighty one (57.46%) victims were bitten or stung by animals and 203 (44.4%) were married. Considering manner of death 283 (59.47%) victims committed suicide by poisoning and 209 (42.97%) were accidental cases.

Discussion

Death by poisoning is commonly suicidal or accidental in nature. Among chemicals organophosphorus compounds are the commonest one used for suicidal purpose. In South- East Asia, chemicals such as parathion, parathion ethane, seer, acid used for fodder preparation and Opium, diazepam, barbiturates are also used for self destruction. A study in India has shown that dichlorvos (95% EC) is also used as insecticidal suicidal agent.14

During post mortem examination of a suspected poisoning case some typical points are noted like cyanosis which is usually found in lips, fingers, nose of the victim. Blood stained stool is found in mouth and anus. The peculiar smell of OPC is detected in stomach contents. All the internal organs are congested, since death occurs due to respiratory failure. Sub mucosal petechial haemorrhage are found in stomach. Excessive oedema and subpleural petechial haemorrhage and flasky brain are also congested and oedematous.15

For the purpose of detection of poison in suspected cases, some viscera are preserved during post mortem examination and sent to the chief chemical examiner's laboratory, Dhaka for toxicological analysis. This includes (1) whole of stomach with its content, (2) portion of right lobe of liver, (500 grams), (3) longitudinal section of half of each kidney. In special cases other specimen like, blood, urine, brain, heart, lungs etc are preserved. In Bangladesh, the only Chemical Examiner's Laboratory is situated in the Institute of Public Health, Mohakhali, Dhaka. It is under the jurisdiction of Criminal Investigation Department (CID) of Bangladesh Police. Age old methods for detection of poison are used here. Out of 3047 autopsies performed during this study period of November 2010-June 2012, 315 (10.33%) cases were of poisoning. Among these, specific poisons were identified in 15 (4.88%) cases and 91 (29.14%) among detected poisoning cases followed by alcohol/rectified spirit (10.88%) and diazepam (42.33%). Although the autopsies of this study were performed in the medical college of urban area, a good number of the victims were patients referred from peripheral hospitals (e Savar, Asthulia, Tongi, Narayanganj, Nosorgong etc. Since these areas are densely populated and people live on agricultural cultivations, hence OPC poisoning are common. Illiterate people also take country made cheap alcohol and in some cases they take less then lethal and addiction which is responsible for poisoning cases. There are also a good number of alcohols in chronic OPC exposure and increased socioeconomic condition resides and they take rectified spirit for leisure or addiction.Overdoses of spirit alcohol causes accidental death of these victims. In urban area rural like diazepam is the choice of drugs for suicide. Chronic self administration of alcohol, drug, salt water, rat killer, mosquito coil etc are also responsible for poisoning.

In Bangladesh, the victims of were agricultural workers/farmers (121/38.41%) followed by housewives (52/16.59%) and students (47/14.92%). Among these 52/85% were related to aluminim-phosphor, 27.03% to organophosphates and carbamates, 8.83% to barbiturates and 9.36% to metallic irritants and cyanides. A total of 1035 cases of acute poisoning were studied during 1983 to 1996 at New Delhi and the trends showed increasing use of agro-chemicals.11 In our study we did not find barbiturate as commonest agent for poisoning because those drugs are not available as over the counter drugs in our country. Another study from Rohitak, India in 1993-1994 analyzed 559 cases of poisoning12 and Aluminium Phosphorous was found to be the second most common poison. According to National Crime Records Bureau India, every 5 minutes a person commits suicide and 3 persons die from accidental poisoning. In our study poisoning by OPC was also the commonest one (91/30.55%), which coincides with findings of this study. Considering manner of death we found 283 (90.47%) victims committed suicide by poisoning and 30 (9.53%) were accidental poisoning cases. OPC is the only homicidal poison which differ from previous study performed almost two decades ago. May be it is because now a days people become more oriented to insectsicide and applying OPC to other people for homicide is difficult for its peculiar kerozene like smell.

Farmers of our country use pesticides without knowing their harmful side effects, 15.37% M Ton of pesticides were sold in this country during 2001, which increased to 37.712 M Ton in 2007; a rise of 145.36%. Organophosphate, organochlorine and synthetic pyrethroid are used as most popular pesticides in Bangladesh.13 Epidemiological work from Spain supports link between chronic OPC exposure and increased suicide rate.14 Chronic exposure to OPC also give rise to a condition called COPIDN: Chronic Organophosphate induced neuro-psychiatric disorder15. Genetic differences also play important role in Chronic OPC poisoning cases. A study was recently available in J.C.16 Post (1970-1979) showed that out of 312 cases of poisoning 30.12% were barbiturate, 19.25% organic chemicals and 12% metallic irritants and cyanides.17 1980-1989, another 555 cases of poisoning were reported from the same area and 31.35% females and 68.65% males. Among these 30.12% cases of acute poisoning were studied during 1983 to 1996.18

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by 31% poisoning and 10% due to other causes like burn, fall from height, gun shot injury etc. Among the poisoning victims 162 (54%) were male and 138 (46%) were female. It also coincides with our study in which male are also predominant (56.82%).

Conclusion

Poisoning by organophosphorous compounds is an important problem in this country. Proper emphasis should be given for safe use of pesticides. Consciousness should be created among the population about poisonous compounds. Community education in rural area should be practiced. Decrease literacy rate is a common problem which can be overcome in due time with proper efforts. Detail study regarding death due to organophosphorous compounds poisoning is required to be carried out in this country.

References

(77.7%) followed by age group of 31-40 years (27.93%). Males being predominantly the earning member of the family has more access to poisonous materials than females. Another study in Bangladesh performed from January 1993 to December 1997 showed that males (51.3%) were predominant than females (38.7%) in poisoning cases. The reports coincide with our study. Acute poisoning was observed more in married group (68.6%) than unmarried group (31.36%). Male female ratio was 6:1. Commonest poisoning agent was insecticides OPC[12]. Yet another study performed from October 2010- March 2011 also showed that majority of poisoning victims (43.5%) were below 25 years of age and 87% were male victims[16]. Fair and Hasan (1998) also showed male female ratio as 2.21 : 1 in another study[17]. A recent study in Bangladesh performed during January-December 2009 in our same institute showed that among all suicidal deaths 59% was due to hanging, followed by 31% poisoning and 10% due to other causes like burn, fall from height, gun shot injury etc[18]. Among the poisoning victims 162 (54%) were male and 138 (46%) were female. It also coincides with our study in which male are also predominant (58.82%).

Conclusion
Poisoning by organophosphate compounds is an important problem in this country. Proper emphasis should be given for safe use of pesticides. Consciousness should be created among the population about poisonous compounds. Community education in rural area should be practiced. Decrease literacy rate is a common problem which can be overcome in due time with proper efforts. Detail study regarding death due to organophosphorus compounds poisoning is required to be carried out in this country.

References