Acute Poisoning

Bangladesh Perspective
Poisoning: Bangladesh Perspective

- Morbidity- 309409 (1997) 15th
- Mortality- 1606 (1997) 3rd
  1956 (1999) 2nd

*Bang. Health Bull, DGHS 1999*
Epidemiology

- Death from self harm: 500,000 Southeast Asia & Western Pacific (2000)
- Commonest self-poisoning: Pesticide
- Worldwide 3 million cases
- Yearly death: 220,000
- Mostly intentional
Methodology

Documents Consulted

- Peer Reviewed Journals (2)
- Journals approved by BMDC (53)
- Unpublished local records and documents
Number of Resource Papers

- Published post mortem reports- 04 (1799)
- BMDC approved Journals- 08 (2286)
- Unpublished records- 03

- Suicide: 638
- Poisoning: 376 (59%)
- Poisoning types: OP compound 37.8%
Pattern of Poisoning (n 2286)

- OP compound 1202 (140 deaths, 11.6%)
- Sedatives 372 (03, 0.8%)
- Datura 120 (?)
- Kerosine 112(?) (5/14 in DMC)
Reported causes and numbers of Intentional and Unintentional Injury-related Deaths in women aged 10-50 yrs,

Number of reported injury deaths: 6610, and of all reported deaths: 28998.

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Number (% of injury deaths, % of all reported deaths)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poisoning</td>
<td></td>
</tr>
<tr>
<td>Suicide related</td>
<td>2488 (38%; 9%)</td>
</tr>
<tr>
<td>Homicide related</td>
<td>48 (0.7%; 0.2%)</td>
</tr>
<tr>
<td>Accidental</td>
<td>364 (6%; 1%)</td>
</tr>
<tr>
<td>Unknown intent</td>
<td>1071 (16%; 4%)</td>
</tr>
<tr>
<td>Hanging or suffocation</td>
<td></td>
</tr>
<tr>
<td>Suicide related</td>
<td>729 (11%; 3%)</td>
</tr>
<tr>
<td>Homicide related</td>
<td>59 (9%; 0.2%)</td>
</tr>
<tr>
<td>Accidental</td>
<td>0</td>
</tr>
<tr>
<td>Unknown intent</td>
<td>181 (3%; 1%)</td>
</tr>
<tr>
<td>Cause of death</td>
<td>Number (% of injury deaths, % of all reported deaths)</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>Road traffic accident</td>
<td>450 (7%; 2%)</td>
</tr>
<tr>
<td>Burns</td>
<td>324 (5%; 1%)</td>
</tr>
<tr>
<td>Drowning</td>
<td>303 (5%; 1%)</td>
</tr>
<tr>
<td>Physical assault</td>
<td>247 (4%; 0.9%)</td>
</tr>
<tr>
<td>Firearm or sharp instrument injury</td>
<td>83 (1%; 0.3%)</td>
</tr>
<tr>
<td>Snake or animal bite</td>
<td>44 (0.7%; 0.1%)</td>
</tr>
<tr>
<td>Others</td>
<td>217 (3.3%; 0.7%)</td>
</tr>
<tr>
<td>Cause of death</td>
<td>10–19 yrs</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td>(n 2128)</td>
</tr>
<tr>
<td>Poisoning</td>
<td>1330 (63%)</td>
</tr>
<tr>
<td>Suicide related</td>
<td>896 (42%)</td>
</tr>
<tr>
<td>Hanging or suffocation</td>
<td>343 (16%)</td>
</tr>
<tr>
<td>Road traffic accident</td>
<td>102 (5%)</td>
</tr>
<tr>
<td>Burns</td>
<td>79 (4%)</td>
</tr>
<tr>
<td>Drowning</td>
<td>134 (6%)</td>
</tr>
<tr>
<td>Physical assault</td>
<td>40 (2%)</td>
</tr>
<tr>
<td>Snake or animal bite</td>
<td>19 (0.9%)</td>
</tr>
<tr>
<td>Firearm or sharp instrument</td>
<td>17 (0.8%)</td>
</tr>
<tr>
<td>Other</td>
<td>62 (3%)</td>
</tr>
</tbody>
</table>
Death rates of women 15–44 years per 10,000 person-years, by cause, Matlab, 1982–1998.
Suicide Rates Among Women by District, Bangladesh 1996
Earlier Studies

- **DMCH 1983**: OPC (67.5%)
- **CMCH 1987**: OPC (39.5%), Datura (26.3%)
- **Sir Salimullah Medical College Hosp: 1988 to 1997**
  - Retrospective study of 273 autopsied deaths
  - Organo-chlorine compounds (51.6%)
  - Organo-phosphorous compounds (37.7%)
  - !?! Changing trend
- **Rajshahi Medical College Hosp 1991-1994**: OPC (38.8%), Sedatives (29.1%)
- **DMCH 2003**: Travel related >100, OPC 62 (12 fatal)
C.M.C.H 2002

- **Total No of Patients:** 16584
- **Total No of Poisoning Cases:** 1462 (8.8%)
- **Causes of Poisoning**
  - OPC: 326 (22%)
  - Datura: 45 (3%)
  - Barbiturate: 30 (2%)
  - Unknown: 263 (18%)
  - Snake Bite: 459 (34%)
  - Others: 303 (21%)
- **Total No of Deaths:** 1503 (9%)
- **Deaths due to poisoning:** 75 (5% of Poisoning cases)
- **Deaths due to OPC poisoning:** 72 (22% of OPC cases; 96% of total Poisoning Deaths)
DMCH

- Medicine unit Green, 2004
- Total admitted patients: 3440
- Total poisoning: 559 (16%)
  - OPC: 62
  - Known sedative: 16
  - Unknown substances: 315
  - Snake bite: 21
  - Others: 157
### Pattern of Poisoning (n 397)

One medicine unit, One DH, Two THC  
May – July, 2005

<table>
<thead>
<tr>
<th>Poisoning</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pesticide</td>
<td>113</td>
<td>28.5</td>
</tr>
<tr>
<td>Benzodiazepine</td>
<td>41</td>
<td>10.3</td>
</tr>
<tr>
<td>Kerosine</td>
<td>20</td>
<td>5.0</td>
</tr>
<tr>
<td>Snakebite</td>
<td>27</td>
<td>6.8</td>
</tr>
<tr>
<td>CuSO₄</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>Other sedative</td>
<td>16</td>
<td>4.0</td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>172</td>
<td>43.3</td>
</tr>
</tbody>
</table>
Nationwide Survey
2002, September

- 9 medical college hospitals (n 380)
- Age: 28(+/-12); Male 59%
- Self harm: 57%
- Death: 14.5%

Major poisoning cases:
- Pesticide poisoning: 40%
- Snake bite: 17%
- Copper sulphate poisoning: 4.5%
- Others: 38%
Puffer Fish Poisoning
- 13 episodes
- 162 victims
- 50 deaths
Travel Related Poisoning

- Unknown poisoning: Plant poison
- Previous: Datura
- Present trend: Sedatives, Benzodiazepines, Mixture
- Socio-medico-legal problem
- Increase in certain period
DMCH
One Med Unit, 2004, Jan--July

- Total Admission: 1856
- Poisoning: 349 (18.8%)
- Travel related poisoning: 172 (49.3%)
- Urban (87%), Lower Socioeconomic (56%), Day labour (35%), Bus (80%)
- Dub-water (26%), Soft drinks (23%), Tea (20%)
- Urinary Benzodiazepine: 70 (200-1500ng/ml)
- Death: None
Travel Related Poisoning…

- **Begum J.A. Bang MJ 2.89,60-4**
  - Datura: common; Gen Hosp, Noakhali, 1983-84

  - Small study, Five weeks, 2002
  - Poisoning: 102 (5% of total admission)
  - Transport related: 42 (32% of poisoning)

- Increased trend: Religious festivals
Aluminium Phosphide Poisoning

- January, 2003
  - 6 workers exposed in silo
  - Inhalation
  - Cardiac effects: hypotension, ischemia, arrhythmia
  - No fatality

- 2004: Fatal case DMCH: MOF
Barium Carbonate Poisoning
CMCH, 2001

- 27 regimental people
- Mistake in food preparation
- Respiratory failure (Paralysis)
- Cardiac effects (irregularities)
- Death: 11
- Difficulty in diagnosis & management
Other Incidence

- Methanol poisoning
- Plant poison
- Kerosene poisoning
Snake Bite

The estimated incidence:

- 1988-1989, 10% areas of Bangladesh
  - 764 bites and 168 deaths
- 1995-1996, Postal survey, 21 Districts
  - 4.3 per 100,000 populations
  - Mortality 20%
  - Highest incidence: Chittagong and Barisal (7/100,000)
  - Farmers (44.6%), House wives (23%)

Bang J Zool 1995, 23, 61-54
Snake Bite Cases: CMCH

- Total since 1994: >1400
- Venomous: ~ 20%
- Fatality: <1%
- Death en route to hospital: 39
- New species identified: B. niger
  - ARF, Muscle damage, Neurotoxicity
Snake Bite in DMCH

- 2004: 61 cases, 9 Venomous
- Venomous bite: All were neurotoxic
- 12 required ASV, Few required multiple dose of ASV
- Two had sequelae
- 3 died, 2 before admission, 1 after admission
- 99 deaths reported during flood 2004 (DGHS)
Snake Bite Reports & Deaths in Other Parts of Bangladesh

- Rajshahi (1999): 26% venomous
- Khulna (2001): 10%
- Mymensingh (1982): 1st reported SEARO
Insect Bite & Bee Sting

- Unaddressed issue
- Anaphylaxis
- Cardiac arrhythmia
Problems in Poisoning Management

- Medical management: Difficult
- Many patients; Few resources & logistics
- Little good evidence for management
- Analytical toxicology: Nonexistent
- Information: Not easily available
Summary

- Poisoning is a common health problem
- Young, active-working people are affected
- Mostly rural, farming related people

?!Occupation Related Health Hazard!?
Conclusion

- Most poisonings are preventable
- Appropriate urgent humanitarian attention of planners
- Recording & description is essential
- Rapid access to toxicological information
- Drugs and logistics to be ensured
- More evidences are required from country perspective
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Thank You