POISONING IN CHILDREN

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Poisoning in Children:
What Every Parent Must Know

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Mr. Nyaga had resigned from his employment as a driver to venture into farming. His farm neighboured ours. Six months after his resignation, when I visited his farm, it was all planted with a variety of crops. His drum-head cabbages were thriving well except for a few plants that were attacked by some obscure pest. My visit coincided with the arrival of the local field extension officer who advised him to spray all the cabbages with diazinon. Fortunately, some of the drug had remained from his previous supply, so he readily requested the officer to demonstrate the technique of spraying. Mama Njeri, as Mrs. Nyaga was popularly called, and the children were all well.

The news of Mr. Nyaga's and his son's death five days later was shocking. My first instinct was to deny. However, having been good friends and peaceful neighbours, this news marked the end of my holiday in Malindi.

When I got to the hospital, Mrs. Nyaga and her other son were unconscious at the intensive care unit. Susan Njeri, Nyaga's twelve year old last born found my arrival quite a solace. After a short while, she stopped sobbing and narrated the story to me.

"The problem started briefly after supper the day before yesterday. My parents and siblings all complained of this sudden abdominal pain as we watched the TV. In a short while, they started vomiting and having diarrhoea. I quickly alerted the neighbour and they were rushed to this hospital. Dad and Tony died the following day, and I fear for mum and Jack."

"Anything unusual they ate? Did you eat the same food...?" I interrupted.

Dr. Ogeng'o: Children below five are more vulnerable to accidental poisonings

All the four, had eaten rice and cabbage stew, except Susan who did not take supper at home that evening. The cabbage had been harvested from their own farm.

Postmortems were done and diazinon was found in the blood, stomach contents and urine of the victims.

The problem of acute poisoning is a major cause of concern in the developed countries, and is beginning to be recognised in many developing countries. In the U.S.A., over 5 million poisonings occur every year, and acute poisoning is one of the most common medical emergencies in children's hospitals/wards.

Children who have been persuaded to take medicine by being cheated that it is milk or juice are more likely to get poisoned

In Britain, close to 5,000 deaths occur due to poisoning every year. In most other European countries, a similar magnitude of problem exists. In the developing countries, including Kenya, the problem is assuming greater proportions especially in children and is certainly becoming a significant public health problem. There are three main categories of poisoning i.e. accidental poisoning, suicidal (intentional) poisoning and therapeutic (medical) poisoning.

Accidental poisoning is commonly seen in children aged 1-5 years because this is when they are curious, exploring, experimenting and feeling substances by putting them in the mouth. Suicidal or intentional poisoning is seen more frequently in older children of say 10-12 years, who take drugs deliberately as a means of escaping from or drawing attention to a difficult uncertain and stressful situation such as lack of parental attention, failure in examination, etc.

Majority of such children do not wish to die; in fact, they take positive precautions to ensure that help will be available. Frequently, relatives and/or friends rally to help and the situation which normally causes so much distress is rectified. Mistakes however do occur due to misjudgment of dosage or lack of available help, and an act which was committed primarily to draw attention to a particular situation may end in death.

In a few rare cases, another ill-intending person (step-parent, neighbour, housemaid, etc.) may intentionally poison a child. The reasons for this homicidal act are varied.

Therapeutic (medical) poisoning to children occurs in hospitals or at home following administration of excessive medicine either because the child is not getting better and higher doses are hoped to achieve better effects, or the drug is repeatedly administered by different people, or the dosage is mistaken.
This, therapeutic poisoning, can also occur from traditional herbal medicines whose chemical composition is unknown and dosages not standardised.

There are several categories of poisons which children could fall victims of:

- **Medication**: These include drugs that are normally used to treat illnesses. They become poisonous when they are given in excess or in unusual combinations. Examples include aspirin and its derivatives, paracetamol, iron tablets, tranquilizers and antimalarials. Many of the syrups designed for children are left where they can be reached easily. Children may take them in excessive and thus poisonous amounts.

  Children who have been persuaded to take medicine by being cheated that it is milk or juice are more likely to make this mistake. Sometimes also, older children by imitating their mothers, may give their younger siblings excess of the drug.

- **Farm chemicals**: These include pesticides, insecticides, weed killers, fertilizers, cattle dip chemicals, etc. Many of these may be in liquid form stored in beverage bottles left in places to which children have access. They (children) may confuse the chemicals for milk or fruit juice and drink them. Even for those chemicals in unpalatable forms toddlers may experiment or explore by tasting them. In such cases, the child might have taken in enough to poison them before they decide.

  Older children and/or house girls may have the same confusion and give the chemical to younger children. Insecticides may be accidentally sprayed on food while pesticide may be sprayed on vegetables which are harvested and consumed without any suspicion. In the case of Mr. Nyaga’s family, this is what most likely happened.

  Drinking water and food such as eggs and poultry are sometimes contaminated with farm chemicals.

- **Household chemicals**: These include kerosene, detergents, bleaches, cosmetics, etc. paraffin for example may be kept in soda or fruit juice bottles much as it has a different colour. Curious children would taste it in sufficient amounts to poison them, before they decide that it is not soda. Equally some cosmetics with bright attractive colours may tempt children. Also consumption of detergents in suicidal attempts is frequent, just as is consumption out of curiosity.

- **Environmental poisons**: The most common of these is carbon monoxide from the jiko (charcoal stove). Normal burning releases carbon dioxide which is poisonous. This kind of poisoning is likely to occur in cold weather when the jiko is used for warming in a room with closed windows.

- **Food and/or plant poisons**: Plants and their seeds, mushrooms etc. constitute a significant component of poisonous materials. Children are attracted to seeds and fruits of plants, which are normally considered wild, in their normal exploration. Even ‘wild’ mushrooms and insects may be consumed in this curious age.

  Cassava tubers for example are normal food material especially in western Kenya. However, there are varieties - for example the bitter type, popularly referred to as England — which have poisonous components. This poisonous component is normally destroyed by fermenting and/or prolonged washing. Unknowingly, children may dig out the tubers and eat them as they normally would do with harmless varieties.

  Alcohol is a normal drink for adults in many family households. In small to moderate amounts, it is harmless, but sometimes children may overdose themselves with it after adults have already helped themselves. One often hears of cases where house maids have given small children alcohol to calm them down in amounts that turned out to be poisonous.

  Food poisoning due to microorganisms occurs on a massive scale in communities, families and institutions following eating of bad meat, fish or drinking bad milk. Commonly, the offending organisms are found in meat or fish. Such food may be consumed at a hotel or at home.

  In some communities, an animal may die from unknown causes and residents consume the meat. Occasionally, even when adults have condemned the carcass, older children in their unfortunate enthusiasm may steal away the meat and consume it. Tragedies are reported to have followed consumption of meat which had been condemned by public health officers.

  For most categories of poisons, except may be the last, children below five are more vulnerable to accidental poisonings. Boys are usually affected more than girls. At that age, there is a strong explorative instinct, great desire for oral gratification, especially for those in the 1-3 year age group. In addition, this is usually the stage of negativism and desire for autonomy. The child does forbidden things in order to establish autonomy, and in any case they may simply be imitating adults. The children who are particularly at high risk are those who are typically independent, active and restless; who like to share their findings and/or things with others and are constantly in search for food or drink and those who are not yet able to read and are poorly supervised.
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The presentation of poisoning may be acute or chronic and depends on the poison ingested. I shall use a few examples as illustrations. Aspirin poisoning for example results in restlessness, difficulty in breathing, a very rapid heart rate, very high temperatures, profuse sweating, ringing sounds in the ears and stomach pain. At high doses, with time, the blood pressure may fall, the patient gets delirious and confused. If attention is not given in time, one may lapse into a coma and die.

Panadol, and its family members, which is ordinarily one of the safest pain killers, is becoming a common cause of poisonous overdose. It affects mainly the liver but may initially result in loss of appetite, vomiting, paleness and drowsiness. Later, pain develops in the right upper abdomen, and jaundice (yellowness of the mucus membranes) blood clotting disorders, liver and kidney failure supervene. These last three complications cause death if treatment is delayed.

Chloroquin poisoning causes abdominal pain, vomiting, headaches and disturbances of vision. When the heart and brain are affected, death may result. Iron tablet poisoning causes epigastric pain, nausea, vomiting of blood, bloody diarrhoea, severe headache, confusion, delirium, convulsions and coma.

A large number of insecticides and pesticides contain a common component — organophosphate. Poisoning by this component presents with excessive salivation, cold sweat, nausea, vomiting and diarrhoea. There is excessive secretions from the airways such as from the nose, and the lungs get congested with fluid making it difficult to breath. Twitching in muscles occurs and frequently they progress into frank convulsions. The heart rate is slowed and the pupils are markedly narrowed.

Mercury is present in a number of cosmetics and farm chemicals. It causes skin rashes, profuse sweating, elevated blood pressure, reduced muscle tone and mental retardation. Overtime, the intensive itching of the hands and feet may lead to mutilation of fingers and toes. Paraffin poisoning causes pallor, vomiting, diarrhoea, cough and difficulty in breathing due to the chemical pneumonia that results.

Alcohol poisoning presents with nausea, vomiting, sweating, depressed respiration, depressed circulation and coma. Opium poisoning causes pin-point pupils, pallor, nausea and vomiting, depressed respiration and coma. The effects of these two drugs — opium and alcohol strengthen each other, and when they (drugs) are combined in acute overdosage, sudden respiratory and heart arrest may occur, causing death, even in previously healthy children.

The diagnosis of poisoning in children who are unable to explain what actually happened is difficult because the container of whatever they took may not have a label. Even if it had a label, it is not always that the child drank the contents. Secondly, even if the contents were drank, the quantities are not known. Thirdly in cases of food and/or plants, if one is able to isolate the exact substance taken, the chemical composition may not be known.

These difficulties are compounded by the fact that the mode of presentation in many cases of poisoning resembles a myriad other medical conditions. The most sure cases are of therapeutic poisoning where the drug is known.

In cases of intentional homicidal poisoning, a second older child may have witnessed the act of drugging and forms a valuable source of information. However, one useful thing to remember always is that for a child who falls sick suddenly, poisoning must be considered a possibility. Such information as may implicate poisoning must be volunteered to the doctor. Tests may be done on urine, blood, vomitus and/or stomach contents, though frequently the smell of the chemical either spilled on clothes or emanating from breath, vomit or urine may give a lead.

The treatment given depends on the state of the victim, the nature of the suspected poison and the time interval since the poison was taken. Induction of vomiting in conscious patients, by tickling the back of the throat, giving raw egg etc. is encouraged except when paraffin is the suspected poison. Whatever first aid measures that are taken in terms of cleaning, induction of vomiting and giving powdered charcoal, the victim must be evaluated in hospital.

In unconscious patients, priority is given to maintaining the body functions that are indispensable to life. Partial consolation is derived from the fact that a number of
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Drugs that cause poisoning in overdosage have well known antidotes and/or specific methods of treatment. In severe cases, where and when facilities allow, the patient’s blood may be purified outside his own body and then returned (haemodialysis), or totally replaced by unpoisoned blood (exchange transfusion).

A lot can be done to prevent or minimise the chances of accidental poisoning in young children. The manufacturers of drugs are doing a lot by labelling their products clearly, and indicating the precautionary measures that need to be taken when using these products. The medical personnel do well to label the medicines and indicate the correct dosages on the containers of drugs. The pharmacists reinforce the manufacturer’s warnings and the doctor’s instructions.

For whatever chemicals you use at home, including detergents and cosmetics, on your part, observe the following rules always:

- Keep all of them out of reach of children, preferably under lock and key.
- Avoid giving children the impression that medicines are sweet, like drinks, etc. as a means of persuading them to accept the drugs.
- Avoid taking your medicines in front of children.
- Keep all chemicals away from food spices or drink and keep the chemical cupboards clean.
- Ensure correct labels on the drug containers and avoid keeping farm chemicals, detergents and cosmetics near medicines

- Discard all empty containers of chemicals in safe places.
- Keep the telephone numbers of ambulance service and/or a poison centre near you.

For the plants/foods, try to train children to avoid eating/drinking anything that is not prepared at home, and ensure that toddlers are adequately supervised during their play. Finally, should a child suddenly develop vomiting, diarrhoea, convulsion or any other unusual sign/symptom, consult a doctor at once.

In conclusion, accidental poisoning in children is now common and is increasing especially in the under fives. The poisonous agents are numerous and varied and this makes the diagnosis and treatment not straightforward. Inevitably, the management of patients with acute poisoning rests with medical personnel, and the social services. The basic problem however, is one you can contribute to solve — institute the preventive measures individually and collectively.

For intentional poisoning, until a more responsible attitude emerges with a willingness to help understand others’ problems, acute self poisoning in older children will continue to be an expression of a plea for help to correct a situation which for the individual, may have become intolerable!

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JOKES

"You are ugly."
"And you’re drunk!"
"Yes, but in the morning I’ll be sober!"

"You still owe me twenty pence for that honey."
"What honey?"
"I never knew you cared!"

Which month of the year has twenty eight days?
All of them.

"How old is your grandad?"
"I don’t know, but we’ve had him a long time."

Hannah: I’m the teacher’s pet
Friend: “Really - can’t she afford a cat?”