

MATTERS OF LIFE AND HEALTH

Carbon Monoxide Poisoning

A few years ago, I wrote that the best way to limit the transmission of communicable diseases was for each Local Government in the Federation of Nigeria, to provide clean running water for its citizens. Running tap water would make it possible for the masses to wash their hands several times a day and clean themselves properly after urinating or defecating. There has been slight improvement in some areas of the country, but on the whole the problem of government provided clean community water is still a task for future lawmakers.

Today I'd like to call your attention to other environmental concerns that are destroying lives unnecessarily. Ecclesiastes 7:17 says, "Be not over much wicked, neither be foolish: why should you die before your time?" It continues to sadden me that people with great potentials are dying daily from preventable environmental conditions. They are dying "before their time". For example, due to lack of adequate drainage system, a rain storm which occurred in Lagos on July 10th, 2011 produced a flood that killed several people. A similar storm occurred in Ibadan in late August, 2011 which claimed over a hundred lives. These are natural disasters and it is understandable but unfortunate that so many lives were lost. The same devastation is seen in other parts of the world, even advanced societies, where similar storms and hurricanes have occurred. But what about continuous man-made disasters that claim promising lives daily.

On one of my recent trips I drove from Lagos to Ibadan. I left Lagos relatively late, at about 6pm. It was obviously dark most of the journey. On the way I observed several vehicles without head lights or tail lights and a few without both head lights and tail lights. It was frightening to say the least. Why would so many people risk their lives and the lives of others sharing the same road? To worsen the situation, some of these vehicles were trucks recognized only by the thick smoke fog and laboring sound of their engines. I believe that the life of one person costs more than what you need to buy head and tail lights. People who dare to drive at night without lights are indicating that their life or the life of the other road user is worth less. You can buy bulbs for most vehicles for what it would cost you to fill up your tank. Without gas you cannot drive. Why don't you feel the same about getting your lights fixed? Have this mentality that, "without lights you will not drive at night". Imagine if every driver and car owner would make sure that their vehicles had operating head lights and tail lights, you would immediately prevent thousands of potential accidents from occurring this year. I know that many people are struggling to make ends meet, but your life is worth even more than that car you're driving. Why should you risk having a broken limb, back or head injury when all you need to do is to keep from driving or being driven in a car without lights.

Another preventable health hazard is the continuous inhalation of carbon monoxide leading to toxicity. Carbon monoxide is a colorless, odorless and tasteless toxic gas that is very difficult for people to detect. It is a product of incomplete combustion of organic matter due to insufficient oxygen supply to enable complete oxidation of carbon monoxide (CO) to carbon dioxide (CO₂). It is often produced by

older motor vehicles, such as the truck I described above, and other gasoline-powered tools (such as generators), heaters, and cooking equipment.

Because of lack of continuous supply of electricity in our Nation, the masses have been conditioned to live their lives dependant on generators. Unknown to these precious people is that generators also generate carbon monoxide at levels that may be toxic to their health where there is inadequate ventilation. Symptoms of mild acute intoxication include confusion, dizziness, nausea, fatigue, headaches and body aches. Continuous exposure may cause neurologic deficits, heart problems and even death. Continuous exposure to low levels is known to shorten life span and may also cause memory impairment, depression and impaired fetal development in the pregnant mother. Different people and populations may have a different carbon monoxide tolerance level. On average, exposures at 100 parts per million (ppm) or greater is dangerous to human health.

The following table summarizes the signs and symptoms of carbon monoxide poisoning based on levels of exposure in parts per million, courtesy of Wikipedia.

The acute effects produced by carbon monoxide in relation to ambient concentration in parts per million are listed below:

Concentration	Symptoms
35 ppm (0.0035%)	Headache and dizziness within six to eight hours of constant exposure
100 ppm (0.01%)	Slight headache in two to three hours
200 ppm (0.02%)	Slight headache within two to three hours; loss of judgment
400 ppm (0.04%)	Frontal headache within one to two hours
800 ppm (0.08%)	Dizziness, nausea, and convulsions within 45 min; insensible within 2 hours
1,600 ppm (0.16%)	Headache, increased heart beat (tachycardia), dizziness, and nausea within 20 min; death in less than 2 hours
3,200 ppm (0.32%)	Headache, dizziness and nausea in five to ten minutes. Death within 30 minutes.
6,400 ppm (0.64%)	Headache and dizziness in one to two minutes. Convulsions, respiratory arrest, and death in less than 20 minutes.

12,800 ppm
(1.28%)

Unconsciousness after 2-3 breaths. Death in less than three minutes.

About a year ago I was introduced to a family of 5 (3 adults and 2 children) that were miraculously saved from carbon monoxide poisoning. For 3 weeks they had been constantly exposed to carbon monoxide fumes leaking into their home from the continuous use of generator like utility equipment. Initially, the 3 year old baby would wake up at night, complain of stomach ache and then would vomit. This happened almost every night. The parents would complain of headache, dizziness and body ache. They use painkillers but the headache persisted. They would feel better whenever they were not in the house, but immediately they got home the symptoms would begin again. Being Christians, they began to consider the possibility that they were under a demonic attack and consequently requested for a family deliverance and had the entire house anointed and sanctified. Nevertheless, the health issue persisted. It was not until two of the adults passed out overnight, and were rushed to the hospital in the morning, that it was detected that they have all been exposed to hazardous levels of carbon monoxide. In fact, two of the adults had blood levels greater than 800 ppm and had to be treated aggressively and keep under observation for a few days. Thank God, the story had a pleasant ending and not a catastrophic one.

Remember, “why must you die before your time”. When you use generators of any size for any reason or drive in vehicles producing heavy smoke, make sure there is adequate ventilation. As much as possible, keep yourself and your loved ones from prolonged exposure to carbon monoxide. God promised to bless the obedient with long life and good health (Ps. 91:16, Ex. 23:25).