

# News Feature

## Help! Young people dying from silicosis

By Rebecca Kwei

**A** **NOTHER** dark side of illegal mining is rearing its head - young men engaged in illegal mining are dying from a terminal disease called silicosis. Silicosis is a chronic lung disease caused by prolonged exposure to inorganic dust particles, known as silica, which scars the lungs and causes progressive difficulty in breathing on exertion and later on at rest.

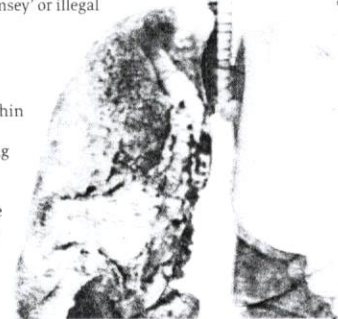
It is purely an occupational lung disease because one only gets the condition from work-related chronic exposure to these chemicals.

Those at risk of the disease are miners, stone quarry site workers, stone cutters or crushers and sand miners. This organic dust, silica, is known to be highly fibrogenic to the lung (implying significant ability to cause scarring of the lungs also known as lung fibrosis)

According to a Respiratory Consultant of the Department of Medicine, Korle-Bu Teaching Hospital, Dr Jane Afriyie-Mensah, the exact number of cases in the country was not known, but the respiratory clinic in Korle-Bu usually recorded about six to 10 cases per year, all of whom were engaged in 'galamsey' or illegal activities.

### Lack of knowledge

Currently, within a spate of six months, six young men have been diagnosed with silicosis with five dying within six months of diagnosis, the oldest and youngest being 48 and 26 years, respectively.



• Young men engaged in illegal mining are dying from a terminal disease called silicosis

This excludes the many others for whom referrals and consultations are made from other hospitals, particularly those in or close to mining towns but who are too breathless to be transferred to the Korle-Bu Teaching Hospital.

The hallmark of the disease is the progressive destruction of the lungs leaving them predominantly scarred, hence its inability to perform its function of providing oxygen to the body cells and removing carbon dioxide leading to respiratory failure.

The ability of these young men to perform any physical action is severely limited rendering them totally dependent on relations for simple activities of daily living such as walking, bathing, using the washroom, etc.

Dr Afriyie-Mensah said apart from the fact that the patients became incapacitated, the scarred lungs were also at increased risk of infections leading to recurrent hospitalisations.

When the disease progresses, patients require oxygen for seemingly simple activities of daily living in their homes but become totally dependent on supplementary oxygen even at rest in the advanced stages of the disease.

Supplementary oxygen, which is a necessity for such patients with the disease, is costly and many are unable to afford this making it very distressing. Unfortunately, the scarred lungs cannot be reversed, hence the disease is not curable.

Supportive treatment such as treating

infections, use of inhaled bronchodilators, providing home oxygen and dietary adjustments are initiated. This is termed as palliative care which seeks to cushion patients and minimise their troubling symptoms as the disease progresses.

"Once you get to the end of the spectrum, there is really nothing that can be done than to manage patients' symptoms and keep them comfortable", Dr Afriyie-Mensah explained.

Another worrying aspect, according to Dr

Afriyie-Mensah, was that the referred "galamsey" miners were all somehow aware of the lung complications of their job not because they had been educated about it but they had seen some of their colleagues die shortly after a period of experiencing difficulty in breathing.

When asked why they then continued mining after seeing the plight of some of their colleagues, their response (almost 100 per cent of them) was that mining was a very lucrative job, hence when one decided to take the risk, one had to enjoy the booty while it lasted since one could die early anyway, either from a collapse of the pit or from breathing difficulties.

They, however, had scanty knowledge of how the disease occurred and its prevention.

### Scarring of lungs

Dr Afriyie-Mensah said typically, the disease occurred after a prolonged period of exposure to the silica rich dust, about 10 years of exposure and typically progressed slowly over many years to lung fibrosis.

However, she said, some developed the acute or the accelerated form of the disease after about six months to three years of exposure with rapid disease progression to death.

This happens when the individual is exposed to high levels of silica dust within a short period of time as occurs in "galamsey" miners.

Dr Afriyie-Mensah described the lung as a soft version of a honey-comb, with a lot of holes for air passage and exchange of gases

with the blood. The lungs, she said, was soft and malleable thus, able to expand and retract during breathing and also able to recruit more air sacs when increased physical/metabolic demands were placed on it.

The scarred lung from silicosis becomes rigid just like the hard honey-comb of bread and is unable to expand and function

**MINERS**

- 10m Workers exposed to silica dust
- 55% Found suffering from silicosis in any given group of miners

**VULNERABLE**

- Stone Crushers
- Quartz
- Ceramics
- Gem Cutting
- Construction

**HOW SILICOSIS OCCURS**

- Control & management of silica dust
- Protective gear for workers





• A vast stretch of degraded land

appropriately to meet the body's energy demands.  
**Signs**  
Dr Afriyie-Mensah said silicosis presented with:  
1. Difficulty in breathing which progresses over the years to the point, at

- which the patient becomes so physically limited and unable to walk for short distances or even bathe themselves due to lack of oxygen. They become totally dependent till death.
- 2. Persistent and worrisome cough which significantly drains the little energy they may have left.
- 3. Copious phlegm produced which may be blood-stained.
- 4. Recurrent chest infections e.g. pneumonia.

**Prevention**

Dr Afriyie-Mensah said the disease had no cure but was highly preventable. This is achieved by avoiding or significantly reducing exposure to the silica dust.  
She noted that aside being given specified protective face-masks; the workers of legal mining firms underwent yearly lung function tests to detect the disease early at which point workers were moved away from continuous exposure to halt progression of a possible mild disease.  
She said it was important to educate illegal miners, people who worked in stone quarries and sand miners to protect themselves with the certified face/nasal

masks.  
To protect the lives of young men and make them economically viable, she said it was crucial the nation stamped out the menace or ensured proper regulation of the sector adding that "we also have to initiate

an education campaign to the youth of affected communities."  
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**AT RISK**

**35 years**  
Mean age of death

**VULNERABLE INDUSTRIES**  
Mining ⊗ Foundries ⊗ Sand Blasting  
Cutting & Polishing ⊗ Slate & Pencil  
Glass Manufacturing

**DIAGNOSIS CAN BE CHECKED**

- Regular chest radiography & pulmonary function tests
- Conduct occupational health & dust surveys



• Some young men working at a sand-winning site



• It is important to educate illegal miners to protect themselves with the certified face/nasal masks