Are epidemics of occupational injury and disease an inevitable consequence of industrialisation?

Niki Ellis[1]

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History is littered with outbreaks of preventable work-related ill-health associated with industrialisation. What role can doctors play in preventing them?

Just two examples are given here, repetition strain injury (RSI) in Australia in the 1980s and bysinnosis in the USA in the 1960s.

RSI is upper limb pain of unknown aetiology. It is usually associated with repetitious occupations such as manufacturing production workers and keyboard operators. Australia experienced an epidemic which began in the early 1980s and peaked in 1985. The epidemic was well documented by some large organisations. Telecom, Australia's national tele-communications company, at the time employing some 70-80 000 people, published an account of 4 891 cases between 1981-88. The estimated cost to the company was over $ 15 million ($ AUD, 1987)[1]. A review of Australian research put the prevalence of cases reported to workplaces in white collar workers between 284-342 per 1 000 workers during the epidemic[2].

Efforts to treat the condition medically, failed. More success was had with strategies which focused on the identification and modification of causes in the workplace. Keys to success were close liaison between the workplace and treating doctors, managing socio-organisational causes as well as physical workplace factors and involving and educating all staff in the process[3].

CSR, a national company with various primary industry operations, implemented such a strategy and found that over two years, the frequency of new cases fell by half, the mean duration of time off work was reduced from 34 days to 3, and the mean duration of time on alternative duties from 91 days to 32[4].

A well reasoned explanation for the epidemic proffered at the time included the introduction of new technology (automation of offices), the economic recession (1982), the involvement of the powerful white collar unions, and the development of a workers health movement[5].

The lesson to be learned for the medical profession was that the identification and treatment of the cause is a vital part of occupational medicine. The medical management of occupational ill-health in isolation from the workplace is fraught with danger.

The epidemic of bysinnosis in the USA in the 1960s provides another experience to learn from.

Bysinnosis is a lung condition associated with exposure to respirable cotton dust. The symptoms are chest tightness and cough. Many workers exposed to cotton develop minor conditions in which symptoms occur on return to work after the weekend. A small proportion of workers go on to develop a serious, chronic condition, similar to chronic bronchitis, associated with permanent impairment.

The condition has been described in the scientific literature since 1827 and legislated as a compensable disease in the United Kingdom in 1940. Yet its existence was denied in the USA for decades. The manufacturing process was different in the States, it was argued.

In the 1960s Schilling, the British epidemiologist, investigated this interesting situation, and found that bysinnosis did exist in the USA. In fact in 1981 it was estimated that there were 84 000 cases.

In 1978 a safe minimum exposure standard was set for cotton dust.

The obvious question is, 'How could a well-established occupational disease be denied for so long in the USA?'

This question has been considered. The textile industry is important to the USA, it employees some 1 million workers. About a quarter of these are employed in cotton

[1] *Immediate Past President, Australasian Faculty of Occupational Medicine, Royal Australasian College of Physicians.*

production. Cotton production began in New England but moved to the Southern States, which now produces about 90% of cotton textiles in the USA. Cotton manufacturing was crucial to the industrialisation of the south.

Factors which allowed the failure of recognition of bysinnosis included:

- Competition for work — abundant supply of labour
- industrialists viewed as pioneers — governments reluctant to exert control over their activities
- social control of workers — the towns were largely company towns, the companies provided, and therefore controlled housing and other welfare facilities
- labour not organised
- disease not recognised as occupational by doctors[6].

In the process of industrialisation, could such circumstances exist in Sri Lanka?

The ILO reviewed your economy in a publication celebrating its 75th year of operation earlier this year. The ILO commented on your economic growth, stating that most of this growth has been in manufacturing. Many of these jobs have been associated with low productivity, low earnings and a lack of stability and security. According to the ILO three-quarters of jobs in the manufacturing industry are in the unprotected sector. By far the majority of employment in this sector is of women. The ILO reported that concern has been expressed by unions and some social organisations that efficiency and competitiveness will be at the cost of working and living conditions[7].

From an outsider's point of view, it would seem that proposals to enhance occupational health and safety are timely. Doctors have always played a leading role in advocating for occupational health, and it is pleasing to see the continuation of this tradition in Sri Lanka. I congratulate the Ceylon College of Physicians for taking the first towards the establishment of a Faculty of Occupational Medicine.

All doctors can and should take action to improve occupational health in the following ways:

1. Diagnose occupational diseases — Should not the doctors in the Southern States working in towns dominated by the cotton industry have made it their responsibility to be informed of the diseases associated with this industry?

2. Treat the cause — Would not the RSI epidemic in Australia have been less severe if doctors had focussed more on identifying and modifying causative factors in the workplace.

3. Refer to occupational health services — Most doctors are limited in their time and skills for occupational health. Occupational health services can provide follow-up for investigation in workplaces, or expert advice on diagnosis, treatment, rehabilitation and prevention. Generating a demand for occupational health services is an important first step in fostering their development.

4. Advocate for occupational health and safety — From Ramazzini in 1700 to Alice Hamilton in the 20th Century, doctors have played a leading role in advocating for safe and healthy working conditions.

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