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SHORT COMMUNICATION

Inclusion of Occupational Health in MBBS Course Curriculum in India

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Abstract

Occupational diseases contribute significantly to the global burden of diseases. Doctors employed in industrial hospital should have a basic knowledge of occupational health for efficient management of work related diseases. In different countries of world teaching sessions on topics of occupational health are conducted for undergraduate medical students. As more and more industrialization is going to take place in India, it is felt that basic knowledge of occupational health should be acquired by the undergraduate medical students of India during MBBS to produce competent doctors who can efficiently deal with occupational diseases.

Keywords: Occupational, Health, MBBS

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Graphical Abstract



Introduction

Industry plays an important role in the economic prosperity of the country. Besides contributing to the economy it also provides employment to people of the country. The workers working in such industry /factory visit various hospitals for treatment. In India workers either visit the industrial hospital attached to the industry or visit E.S.I/E.S.I.C/E.S.I.S hospitals or general government or private hospitals

In an industrial hospital for any ailment, the patients usually visit the occupational health centre of the industry, emergency or the speciality department of the main hospital. It is very important for the specialists or medical officers employed in the hospital to have sound knowledge of the diseases in industrial patients.

Burden of Occupational Diseases

Occupational injuries contribute significantly to the global burden of diseases. According to International Labour Organization estimates, work related injuries and illnesses lead to approximately 2 million deaths worldwide [1,2].

It also leads to huge financial losses. Various costs covered include medical costs, wage loss, household production loss and loss due to pain and suffering. The total financial loss may be estimated to be approximately US\$ 77 billion [3].

Definition of Occupational Health

Occupational Health may be defined as highest degree of physical, mental and social well being of workers in various occupations. It focuses on safety and health aspects at the workplace [4].

Need for Occupational Health Training in Medical Schools

Inadequate medical training leads to non recognition and mismanagement of occupational diseases [5] It is important for physicians and paramedical specialists to keep themselves updated regarding the relationship between work and the diseases in order to properly diagnose, combat and prevent work related diseases [6]. A basic level of training if acquired in medical colleges would help in producing a competent doctor who can provide primary care to industrial workers.

Occupational Health Teaching in Medical Schools in the World

A study in United States showed that 68% of the responding schools specifically taught occupational health during the 1991/92 academic year as compared to 50% in the 1977/78 and 66% in the 1982/83 academic years [7]. The median curriculum time required was 6 hours in 1991/92, compared to 4 hours in both previous surveys [8,9].

In Australia and New Zealand, the number of hours devoted to occupational and environmental medicine topics varied widely. [10]

In England, Harrington et al. [11] observed that the number of schools delivering formal instruction in occupational medicine had increased from 60% in 1974 to 92% in 1989.

Legislation Relating to Occupational Health in India

The Factories Act (1948) and the Mines Act (1952) contain the main

provisions for legal measures for the protection of health and safety of workers. In India, Occupational Health is covered under 1. Ministry Of Labour And Employment and 2. Ministry of Health and Family Welfare [4].

National Programme for Control and Treatment of Occupational Diseases

The Ministry of Health and Family Welfare, Government of India, launched a programme entitled “National Programme for Control and Treatment of Occupational Diseases” in 1998–99. The categories of major occupational diseases in India are: [12] occupational injuries, occupational lung diseases, occupational cancers, occupational dermatoses, occupational Infections, occupational toxicology and occupational mental disorders.

Based on etiology major groups of occupational disorders in India include occupational injuries: ergonomics related; chemical occupational factors: dust, gases, acid, alkali, metals etc.; physical occupational factors: noise, heat, radiation etc.; biological occupational factors; behavioural occupational factors; and social occupational factors.

As per The Indian Factories Act 1948 3rd Schedule [13]. Sections 89 and 90 – list of notifiable diseases, there are 29 enlisted diseases. They include poisoning by metals and compounds such as lead, tetra-ethyl lead, phosphorous, mercury, manganese, arsenic, nitrous fumes, carbon bisulphide, benzene, their nitro or amido derivatives or its sequelae, chrome ulceration, anthracosis, silicosis, radium or other radioactive substances, halogens or

halogen derivatives, cancer of the skin, toxic anaemia, jaundice, oil acne or dermatitis due to mineral oils, byssionosis, asbestosis, contact dermatitis, noise-induced hearing loss, beryllium, carbon monoxide, coal miners' pneumoconiosis, phosgene, isocyanates, occupational cancer and toxic nephritis.

Occupational Health Training in India

The courses offered in occupational health in India include Associate Fellow in Industrial Health, diploma course in Industrial Health, and Master's program in Environmental and Occupational Health [14].

Proposals

However it is felt that certain basic topics of occupational health may be included in the undergraduate MBBS medical course curriculum along with workplace exposure wherever feasible. One of the main reasons for ineffective implementation of occupational health in India is lack of trained occupational health manpower with deficient institutions, qualification courses, training modules, infrastructure, facilities and budgetary provisions make the implementation of legislation a challenge [4]. A doctor who had a basic idea of occupational health during his undergraduate career will be in a better position to deal with healthcare issues in an industrial hospital including disaster management if he/she employed in an industrial setup. In case of a disaster happening, occupational health professionals must ensure their own safety, grasp the occupational health needs changing over

time, and make decisions on the basis of changing situations [15]. Also during a crisis when there is shortage of occupational health physicians in an industrial hospital, the doctors having a basic idea of occupational health can manage the healthcare system efficiently.

A list of topics are proposed which may be included in the syllabus of the undergraduate medical course curriculum after discussion with the Under-Graduate Medical Education Board of the National Medical Commission

- Occupational Diseases
- National Programme For Control And Treatment Of Occupational Diseases
- Injuries at workplace
- Occupational Health Centre
- Role Of Occupational Health Physician
- Role of Medical Officers and Specialists In Industrial Hospital
- Injury On Work Form
- Reported Accident Form
- Periodic Medical Examination
- Medicolegal Aspects Of Occupational Health
- Disaster Management

At the undergraduate level ICMR STS Research projects may be carried out on topics such as occupational noise induced hearing loss, occupational asthma, occupational eye injuries, Hearing Conservation Programme etc.

Selected PSU hospital which have been accredited by NBEMS for DNB training

may be upgraded as centre of excellence for research on occupational diseases.

Expert opinion may be taken from medical schools of world who have included basics of occupational health in undergraduate course curriculum, WHO Health Officials, Members of International Labour Organization, experts from Indian Association Of Occupational Health, Ministry Of Health And Family Welfare, Ministry Of Labour And Employment, NITI AAYOG etc

Conclusion

A basic knowledge of occupational health in MBBS course curriculum will help medical students to efficiently tackle workplace related diseases which they may encounter after becoming qualified doctors.

Also research carried out under ICMR will contribute to the medical literature on occupational diseases.

These healthcare reforms if introduced will contribute significantly in making Indian Occupational Healthcare one of the best in the world.

Conflicts of interest

The authors declares that they do not have conflict of interest.

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