

TRAINING IN OCCUPATIONAL HEALTH

“Absence of Occupation is not rest. A mind quite vacant is a mind distressed”.

—*William Cowper*
Poem : Retirement Esteemed

The subject encompasses training and education of undergraduate and postgraduate medical students, occupational health nursing, training in occupational hygiene and training of primary health care workers. For want of time, I will be limiting the scope, purely to educational objectives and training of medical students and postgraduate training for physicians.

Historical

In the early part of the century the industrial physician was primarily concerned with treating occupational injuries. Gradually the focus of interest has expanded and it is more comprehensive and prevention orientated. Thus the present day occupational health officer has wider responsibilities, a far more important role to play in the modern factory set-up.

Definition

Occupational health is defined as a discipline concerned with the effect of work on health and influence of pre-existent health problems on the capacity to work.¹ However, Sir Geoffrey French has observed that occupational health can be said to be the creation of a state of physical and mental well being within the occupational environment, while taking into consideration, factors relating to the social and domestic life of each individual.

Ardeshir Dalal Memorial Oration, 39th All India Conference of Indian Association of Occupational Health; Bangalore, 12th May 1989.

It may be interesting to note that the Bhole Committee² appointed by the Government of India has observed as early as in 1946, as the conditions affecting the health of a worker, may broadly speaking be divided into two groups, namely those which he shares with other members of the general community among whom he lives and those which are associated with the occupation he pursues, with regard to the latter there may be special hazards to health arising out of the particular occupations.

Report of a WHO Study Group

There has always been a moral obligation to provide education in occupational health and safety for the working population since all workers have the right to be adequately informed about the occupational risks they face and to know what protective measures should be adopted. The occupational health service personnel will have to regard the worker not only as a patient (or more often as potential patient) to be maintained in good health, but also as a social partner in the structural model of work.

In developing countries, occupational health personnel are in short supply in practically all fields and at all levels. Emphasis on primary health care for the under-served working populations will require the establishment of new types of personnel in occupational health including primary health care workers and district health officers who are capable of dealing with worker's health.

Presently Existing Resources

Although the number of workers in the industrialised countries, represents only 33 per cent of the world's total labour force, the value of their production when measured as gross national product is 3.5 times greater than that of the much larger working population of developing countries. The worker in a developing country, whose work produces seven times less wealth per capita than the work of his or her counterpart in an industrialised country must therefore earn the necessities of life for, an average a family that is 50 per cent larger with far less efficient means for productive work.

The need

Indeed, employees of a great majority of hundreds of thousands of small

work places and sizeable proportion of large ones do not have access to a physician trained in occupational health. By and large when occupational health care is provided, it is usually based on part time employment of general practitioners who have had no training in the subject and who often do what management expects of them—pre-employment check up and ill-health retirement.

Appropriate service in reality takes in prevention and recognition of diseases and accidents in the work places, rehabilitation and re-deployment of disabled workers and increasingly promotion of positive health initiators.

Scope

The structure of an occupational health service will vary with the needs of the industry and working groups concerned, depending on known and potential industry environmental problems, the predominance of certain age and sex groups and geographical considerations such as isolation from emergency service.

Reasons for Development

It is recognised that many diseases may originate in the work place where in preventive medicine tools are needed by occupational medicine physician. Further, more residents have begun to produce a pool of academic manpower in occupational medicare. The occupational environmental health programmes in medical college should include : –

1. Recognition of the importance of occupational disease and the existence of body of knowledge in the field.
2. An increased incidence of environmental health programmes, ranging from toxic wastes to electromagnetic radiation; and
3. Increased public demand for solutions to these problems.

Basic for Training

The Chairman, Health and Safety Commission U.K. (1984) reports that in Britain more people died from occupational disease than from accidents at work, but nearly half of the working population has no access

to an occupational health service. In each year, some 700 people are killed at work accidents, 12,000 injured and “Lost Time” for compensatable occupational disease, 50 lost days for 1000 working population. In Britain “Work” may well be the direct or indirect cause of 20 per cent of all the deaths in males of employable age and those attributable to cancer due to occupation is 5 - 10 per cent.

The basis for training is very important because

1. Most people at work do not have access to occupational health specialities at their place of work.
2. The toll of occupational injury and disease is still unacceptably severe.

The teaching of the subject to those who care for the health of the working population can be construed as important to the economic well being of the country which depends on the maintenance and promotion of a healthy work force.

The present Situation in Undergraduate Medical Training

A recent world wide investigations by WHO³ on the training of medical students in occupational health included 1228 medical schools out of 1353 in existence. Responses were received from 636 schools, in 451 of which some training in occupational health was available, it being obligatory in 410 schools. It is ironical but true that the distribution of health professionals is totally different from that of workers, 75 per cent of the world’s population that live in developing countries are served by only 34 per cent of the doctors and 36 per cent of the nurses, although their morbidity and health situation certainly require more.

Current Situation

In the United States of America, during the academic year 1977–78, 46 (50%) of the 92 responding medical schools had occupational health specifically taught and only 30 per cent required in their curricula undergraduate training in occupational health, usually in the pre-clinical years—median required time was 4 hours. However the situation has

considerably improved in the sense that during the academic year 1982-83, the percentage of occupational health taught has increased to 54 per cent and the occupational health specifically taught to 66 per cent among the medical schools in the United States.^{6,7.}

The situation in Canada is almost the same as in U.S.A. In 1974,⁸ a survey of 25 U.K. medical schools reported that only 15 gave any formal training in occupational medicine.⁹ Whereas in European countries, the situation was decidedly better. In Poland 174 hours of training in occupational health is imparted to undergraduates. A median of 4 -30 hours of teaching of occupational health is reported among Asian countries.³

Training in Occupational Health in India :

Although no precise syllabus or curriculum is recommended on graduate medical education by Medical Council of India, from the information available, all medical colleges in the country impart training in occupational health under the department of social and preventive medicine.

The types of training and median hours (4-10 hours) are variable. The curriculum usually includes Industrial Medicine, Toxicology, Epidemiology, Ergonomics etc, in addition to practicals, instruments demonstrations and factory visits.

There is little information available about postgraduate training in occupational medicine.

Several universities and institutions in the county offer postgraduate diplomas and degrees-D.I.H., M.D. Occ. Health, M.D Indust. Health, M.D. Toxicology, although no precise information is available in terms of teaching, manpower and their utilisation.

Present View

The Royal College of General Practitioners, General Medical Council and WHO are of the universal opinion that occupational health should be part of the undergraduate training. Hence it is apparent, that on qualification, all doctors should have some knowledge of this field of medicine.^{10, 11, 3}

Drawbacks

Median curriculum time (4 hours) for the subject has not changed,

because increased competition for curriculum time due to increased growth of medical knowledge in all the traditional disciplines and development of new disciplines and specialties in medicine.

Recommendations

The minimum number of hours for occupational health teaching at undergraduate medical colleges and postgraduate medical training be drafted and then submitted to Medical Council of India for approval and implementation.

The Challenge

- 1.How do medical colleges become involved in addressing these areas?
- 2.Should they develop new departments of expertise in the existing ones?

Set Up

Department of Social and Preventive Medicine (Community Medicine) and general practice are ideally suited.

Teaching by physicians (dermatologists and chest physicians) who have natural interest in the subject should be included. Therefore the faculty resources include occupational medicine, industrial hygiene and toxicology, while financial resources should be found from endowments, Government grants and institutional support. Adequate space for office and laboratory are essential but the important factor is the commitment.

Inter-disciplinary and collaborative links with clinical and basic sciences and preventive medicine groups could be continued and strengthened.

Training of Medical Students

Training should include to appreciate how health is related to work.

Know how the impact of work on physical and mental health may be measured.

Understand the concept of hygiene in industry.

Be able to describe the main occupations in the country and carry appropriate examinations, diagnose, plan treatment and carry out preventive procedures as stated by ILO/WHO committee on occupation (1981)¹³.

Curriculum

Lectures are easiest way to provide but they are least effective.

Group teaching, problem solving exercises, factory visits and project work are more valuable.

Awareness of opportunities and value of undertaking general health promotion activities in the workplace.

Suggest ways in which work can be modified to support less fit and handicapped people.

Teaching component should include occupational history taking, job related patient management, occupational diseases and their epidemiology, protection of the patient as worker and goals of occupational health services.

The training should provide community oriented lectures for 6-10 hours in collaboration with hospital physicians. A motivated minority could receive additional support.

Educational Frame Work

Should be closely linked with clinical cases in hospitals and in general practice.

Teaching of demography, behaviour sciences, epidemiology and environmental health, ergonomics.

At least one session with occupational physician in factory or workplace.

By the end of the course the students should be able to :-

Define major occupational health problems in terms of clinical features, groups at risk and the work place characteristics.

Be familiar with work place hazards and their control measures.

To take good occupational history.

Notification of occupationally related accidents and illnesses for prevention and compensation.

Role of Internist

Health centres have encouraged the sharing of responsibilities and enabled doctors to develop wider interest and the opportunity to improve the overall quantity and quality of medical services to the local community. Occupational health should be included among those wider interests. His responsibilities include identification of occupational health problems and their environmental health risks, treatment of disease and injury and patient counselling about preventive behaviour.

The Primary Health Care Approach

It is essential for occupational health personnel to use the primary health care approach in particular to provide services for the many workers at present underserved including large number of workers in agriculture, small industries and the construction industry. The primary health approach is also comprehensive.¹²

Basic Features :

- Equality in population coverage,
- Workers participation in their healthcare.
- Team work among staff of various disciplines.
- A comprehensive approach to health.
- The best use of available resources..

Post-graduate Training

Adequate training in epidemiology and the basic methods of analytical statistics are essential for studying the subtle interactions of health. Other branches of study shall include work-related diseases, occupational cancer, ergonomics, psychosocial issues, reproductive health, rehabilitation, ethics, and health promotion in the workplace.³

Requirements for Postgraduate Occupational Health Education :

This differs according to national objectives. Generally, occupational health physicians should be able to carry out the following tasks:

To assess the incidence and prevalence of illhealth in relation to work conditions and to recognise work conditions that contribute to subclinical/overt illness and its short and long term consequences.

To identify occupational health problems in the light of the general health of the working population.

Adequately manage accidents and other emergencies.

To prepare and evaluate statistical records of sickness absenteeism.

To build up good relationship with workers and management to educate management, heads of departments, foreman and workers to understand the complex relationship between work and health.

To apply legislation relating to occupational health in an industry.

To understand basic principles of occupational hygiene.

To be conversant with the basic principles of safety management.

To understand the basic principles of ergonomics.

Continuing Education

All occupational health personnel, including primary health workers, should undergo refresher courses throughout their career so that they maintain a good level of knowledge or expertise. This training could take the form of short courses, seminars, conferences, workshops or clinical sessions.¹⁵

Participation in the activities of the relevant professional societies is often beneficial. Government agencies and industries employing such personnel are strongly urged to provide sufficient time and funds for this purpose.

“TRAINING REDUCES HUMAN ERROR”

“The Committee was disturbed to find that the amount of undergraduate tuition given to occupational health varied widely. It recommend that every medical student should be given some tuition in occupational health” House of Lords Select Committee on Sciences & Technology

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