HEALTH PROMOTION IN INDUSTRY*

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With each passing year more doctors are entering the factories to practise there—some full-time, others paying visits at regular but varying intervals. Their functions in industry have advanced greatly from the early days when the doctor was expected to confine himself to the treatment of occupational injuries and diseases and to render emergency treatment for illness, or to deal merely with its minor manifestations.

Dr. Woolf

Since the onset of the last war, secondary industry in the Union has undergone vast development. To provide the labour force for these newly established industries, people of widely differing social and economic cultures have been drawn together in the main manufacturing areas. Some, of course, have grown up in that environment. Their adjustments, physical and emotional, have been made gradually and often satisfactorily. Many are bewildered, finding themselves in a strange world, having to secure a livelihood and establish themselves in a complex social and industrial scene.

Life in the more primitive environments whence they came, though simpler, was often more satisfying. It had a cohesion that is absent in the highly evolved urbanized society they have entered. Formerly they had a full understanding of, and participated in the various economic and social activities of their groups, thus enhancing their sense of social acceptance and security. In industrialized societies life is broken up into a large number of fragments—understanding of the whole and the individual's place in it are far more difficult to achieve.

Passing through the factory gates to their various jobs are industrially mature immigrants from Europe (the flow has slowed of recent times), Africans from the Reserves, Europeans and Coloured workers from the towns and country, and Indians and Malays—all posing problems of housing, transport, diet, work adjustment, and recreation and health. These problems cannot be dissociated one from the other. In the solution of many of these problems the doctor in industry has a positive contribution to make.

HEALTH EDUCATION WITHIN INDUSTRY

The concept of health must be evaluated against the individual's capacity to live effectively, i.e. to perform his work well, without harm to himself, and to attain satisfaction for his physical, emotional, and intellectual needs. It is the harmonious adjustment to life that in the final analysis constitutes good health. It is regrettably true that an interest in disease is far more prevalent and widespread than an interest in good health. Nevertheless, the very fact that so many are possessed of this deep and personal interest in sickness may be useful in guiding them to a positive idea of constructive health. They may be taught to recognize early symptoms and signs before disabling pathological changes result; they may be made aware of the importance of early and adequate care to prevent permanent disability. From there, they may be led through health counselling to better work and play habits, better personal hygiene, and better nutrition. It is particularly necessary to free them from superstitions and overcome the folklore upon which many have been reared.

Many methods may be employed in the field of health education. The approach may be a direct one through personal contact with the individual workers whenever the opportunity offers, or by means of group instruction such as talks, formal lectures, films, plant magazines, articles, and pamphlets. It must not be forgotten that many of the measures advocated for the promotion of the health of the worker are beyond his control. The approach must then be made to those responsible for the provision of proper conditions of work.

Physical Examinations

Physical examinations provide favourable opportunities for the health education of the worker.

The initial examination is primarily designed as a placement examination, the purpose of which is the assignment of duties for which the applicant is best suited.

It is possible at this time to talk to the worker regarding his personal health and to attempt to arouse an interest in health matters as they affect him and his family. Particular attention should be given to the hazards of the operation for which he has been selected, and instruction given in protective measures. Often it is left to the workman to discover the risks of the work for himself, and often it is only when he is injured or falls sick as a result of his work that the risk is discovered.

At the initial and at subsequent examinations the workman may be advised in the correction of disorders and defects that have been brought to light. The person with a heart lesion will be taught to work and live within his cardiac reserve; to the obese will be stressed the importance of dietary reduction, and the suspicion of excessive consumption of alcohol will lead to careful and tactful investigation.

Physical symptoms that have their origin in emotional stress often respond to explanation of the causative factors. Here, particularly, the medical officer in industry is in a position of advantage. His knowledge of personal relations and possible conflicts that exist in the work environment often enable him to assist in their eradication. But the stressful conditions may lie in the home, and it is by the combined efforts of the patient's home doctor, with his knowledge of domestic conditions, and the industrial medical officer that the workers' interests are best served.

Group Approach

In planning a health-education campaign within a factory, it is advisable to decide on a particular subject and use all available media to inform the workers of its various aspects and stimulate them to the intended course of action. Knowledge of the facts without incentive to act thereon, is valueless.

Subjects may be divided into those that affect the community generally and those that have local industrial application. Whatever medium is used, care must be taken not to exceed the intelligence of the group one wishes to influence. Our experience suggests that talks and plant magazine articles should be short and should not carry more than one or two ideas. As far as possible, generalities should be avoided. Posters should not be horrifying. In fact, they are often most successful when a serious subject is treated from a humorous angle.

Nutrition

A great deal has been written on the necessity for educating the industrial worker in the science of food and its use in the body. It has been urged that good eating habits among employees will increase their efficiency, decrease absenteeism and build up morale. To what extent, though, are improper dietary habits due to ignorance and to what extent to poverty? In this country precise information on the subject is lacking. On the evidence so far available it appears not improbable that economic considerations may have contributed as much to a suboptimal nutritional state as has lack of knowledge. But ignorance nevertheless urgently needs to be dissipated. In the movement from the country to the towns, especially in the case of the African workers (many of whom are bachelors or married men living away from their wives), successful adjustment from satisfactory primitive diets to food obtainable in the towns is proving difficult.

Frequently the living-conditions, both for Europeans and non-Europeans, are such that facilities for the proper preparation of food are totally inadequate. Many workers live in rooms and find it impossible to take lunch to work. Difficulties are also encountered by the shift-worker in obtaining a hot meal when he comes off duty at a time that does not coincide with a normal

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meal time. There is little doubt, too, that many workers have poor food habits which tend to affect their health adversely.

The wise industrialist has recognized these facts and has taken steps to provide nutritious meals at prices the workmen can afford. Some employers have gone to the extent of supplying free meals. The home diets should be studied and the canteen menus designed to compensate for the common inadequacies. At the same time suitable educational material should be planned so as to lead to the development of good health habits. Instruction should include such items as dietary planning, marketing, cooking, and serving. It is in these preliminary processes that the best of scientific schemes may go awry.

Racial and local food customs deserve far more consideration than they are usually accorded. Sometimes they are sound and represent the adaptation of the individual to conditions of climate and local circumstance.

Education and Food Handlers

The growth of communal feeding has brought problems of its own. It places a great responsibility for the careful handling of food upon the medical supervision of the kitchen staffs of canteens, since a careless person in such an establishment may initiate an outbreak of food poisoning affecting some hundreds of persons. Education in the principles of food handling for those responsible for the running of canteens, and also for the individual food handler, is a matter of prime importance.

Advice to Managerial and Supervisory Groups

It is by means of his advice to and its acceptance by the managerial and supervisory groups that the doctor can most effectively influence the health of the working man.

In such matters as the cause and nature of industrial fatigue, the correct placement of employees, working capacity in relation to sex and age, the indications for periodic medical examinations, ventilation, lighting, noise, devices for the protection of the worker against injury and disease, and the recognition of the accident-prone workman, the industrialist seeks advice and assistance.

The anatomist must bring his knowledge to the design of machinery for its efficient and safe operation; the physiologist and psychologist are called in in consultation for the elucidation of fatigue factors; and the surgeon and physician are consulted in the rehabilitation of those who have been disabled by injury or disease. It requires the combined effort of numerous experts, collaborating with the industrialist and his technicians, to bring about safe and healthy working conditions and satisfactory human relations.

Foremen's meetings provide most useful occasions on which the various factors affecting the health of employees may be aired. Hours of work, rest pauses, the optimum alternating periods of day- and night-shifts, significant incidence of sickness in particular departments, and many other subjects come up for discussion and decision. The industrial medical officer (full-time or part-time) will be expected to be well informed on all such matters and will be called upon for his opinion.

As much attention should be paid by those in control of the worker to his psychological needs as to his physical. The mental health of the industrial worker and his adjustment to his environment are important components of a health programme in industry.

The significance of this aspect of the worker's health was emphasized by Russell Fraser's study on the incidence of neurosis in industry. His survey showed that 10% of workers had suffered from definite and disabling neurotic illness, and a further 20% from minor forms of neurosis, during the course of the 6 months of the investigation. Neurotic illness caused between a quarter and a third of all absence from work due to illness, and was responsible for the loss of over 1% of the men's possible working days and of 2·4% of the women's—a loss equivalent to an annual absence of 3 working days by every man and 6 days by every woman studied.

Our own records do not indicate an incidence even approaching that revealed by Russell Fraser. This, I feel, is due to the reluctance of the doctor to state his opinion on the medical certificate. Yet were he to do so, it might lead to the finding and curing of the basic trouble.

THE VALUE OF STATISTICS

The maintenance and interpretation of statistics of illness are essential in the practice of occupational medicine. Their recording and analysis by department and operation may point to unsuspected health hazards, or the reverse may apply—an operation commonly supposed to lead to ill-health may prove to be innocuous. This fact may be used to reassure workers and management alike.

Statistics of illness are largely based upon the data obtained from the certificates submitted by the doctors attending the workmen, and their value is directly related to the accuracy of these diagnoses. It is fully appreciated that circumstances are often such that a diagnosis cannot be made with certainty when the patient is first seen, or even after careful investigation, but such unqualified diagnoses as tachycardia, gastritis, asthenia, cephalgia, pyrexia, colic, etc. are of little value as the basis of a statistical structure. Nevertheless, even these vague terms may, when seen in relation to the successive entries in an individual's medical history card, lead to significant interpretation. Headache, asthenia, and colic, when related to the man's occupation, may quite easily lead to the diagnosis of lead poisoning in an operation where this hazard was overlooked, or repeated absence on Mondays due to gastritis may reveal unsuspected addiction to alcohol.

HEALTH HAZARDS OF THE EXECUTIVE

A most important group in industry, one upon whose balanced functioning the whole industrial structure depends, is the executive group. There are factors related to the heavy responsibilities borne by this group and its accepted way of life that render its members especially vulnerable to emotional illnesses and their attendant physical manifestations.

The need to safeguard the health of the management group gained recognition during the last war, mainly in the United States, where so-called executive health programmes were widely adopted. The main constituent of these programmes came to be the periodic, usually annual, physical examination.

Difference of opinion exists, both on the value of these investigations and their scope. In some programmes the examinations are carried out on an inpatient basis, several days being spent at a clinic. A large number of laboratory and X-ray investigations are carried out—every orifice of the human anatomy receiving deep (and often painful) probing. It is, however, understandable that a fairly high lapse rate has been observed in these particular programmes. In others a simple clinical examination, with a minimum of radiology (chest X-ray) and laboratory work is carried out, e.g. haemoglobin and blood cholesterol determinations, a Wassermann test and an electrocardiographic examination. Special examinations are carried out only when indicated.

Recently introduced in the United States is a procedure known as 'The emotional check-up', involving admission to a clinic for a 6-day period of intensive psychiatric investigation.

It has generally been accepted that the degree of health is directly related to income, and that the morbidity rate is in inverse proportion to earning capacity. This is in many respects true, but there remains for consideration the serious exceptions of hypertension and arterial disease with their highest incidence among executives. The factors that produce these conditions are still conjectural. Nevertheless, the fact that they afflict the emotionally tense, ambitious, and self-driving individual so frequently is more than merely a coincidence. He usually has bad eating habits. Either he omits his luncheon altogether, possibly snatching a hurried sandwich while dictating a so-called urgent letter, or he uses the lunch-hour or two to entertain other business personages. In the latter case he is likely to be guilty not only of indiscretions as regards his eating and drinking, but what is probably more serious, he gives himself no opportunity to relax before plunging into an afternoon of strenuous effort. He tends to smoke excessively. Whether smoking as such is the cause of arterial degeneration, or whether it is an expression of nervous tension which in turn leads to this condition, is a moot point. There are a number of authorities, however, who are convinced that smoking does shorten life, irrespective of its relationship to lung cancer.

Again, in the use of alcohol one must determine not only the ill-effects that may accrue from the amount that is consumed, but also the reasons for excessive drinking, when such is the case. Apart from social reasons, alcohol is often taken by the executive who is harassed, depressed, and anxious to escape from an intolerable situation.

Enquiry into his recreational and social habits will almost invariably reveal that he overtaxes his body and mind unceasingly, that he carries the sense of urgency and drive into all his activities—whether at work or at play. Strenuous days at the office are followed by rounds of cocktail parties, long hours at night clubs, or successions of public functions with heavy menus. His week-ends are as tightly scheduled as his working days, involving quite often long and fast motor journeys or several rounds of golf, all of which are timed to the minute. Another cause of stress is overambition or a false appreciation of values.

There are also executives of indifferent ability who find themselves in positions with which they are unable to cope except with an uneconomic expenditure of energy. Health and happiness are sacrificed in an endeavour to hold on to something which pride demands they retain. Delegation of duties or vacations are not indulged in for fear of replacement. They are restless, hypercritical and irritable, and these symptoms often have serious reactions on their staff.

Enough has been said to indicate the lines along which these hazards may be counteracted. The executive must be taught the art of living, which includes that of repose and relaxation. It will mean in many cases taking stock of human values and the acquisition of a philosophic acceptance of the setbacks and disappointments of this existence.

RECREATION

I have mentioned earlier the difficulties encountered in the work situation and indicated that they are rarely to be separated from the worker's social and domestic life. The high incidence of neurosis has also been touched upon. The influence of the work and social environment in the prognosis of alcoholism has received consideration. Having been recognized, how are these difficulties to be met?

With increasing leisure the subject of recreation assumes greater proportions. Surely it must be related to the occupational needs of the workman?

Occupational Needs

The occupational needs of the workman may be placed into 4 main categories—his economic reward and the satisfaction of his physical, emotional, and intellectual requirements.

The craftsman of old found, to a greater or lesser extent, in his work a fulfilment of all these needs. He conceived, designed, made, and in many cases, marketed his own product. In these activities he attained a fully balanced creative existence.

The function of the workman as a unit in a mass-production organization lies in whatever ability he may possess to match the machine in its characteristic of rapid, repetitive, identical movement. In order to reduce the period of training and to speed up the rate of operation, work is broken up into simpler components, each pattern of movement requiring an ever-decreasing skill to perform. It is therefore becoming increasingly rare for a workman to find a satisfactory outlet for his powers, even the demand on his muscular assets being reduced as the machine approaches perfection. The powers of his mind and his emotional potential are virtually denied all expression in the work he is required to perform. It is perhaps this state of biological imbalance and frustration that explains to some extent the conflict and strife that disturbs the present social system, and the high incidence of psychoneurosis among the industrial workers.

If work, as such, is intrinsically without satisfaction, and is undertaken only as a means of earning a livelihood, the workman will look elsewhere for the satisfaction of his needs.

Types of recreation—active or passive. It is through recreational activities that the physical and psychological deficiencies of the work situation may be compensated. These activities may take the form of games, individual or collective hobbies, and artistic and cultural pursuits. In each case participation may be passive or active.

It is frequently assumed that only the active rôle is valuable, and that the part of the spectator has little to recommend it. Often one hears condemned those who spend their leisure watching cricket or football. This, I feel, is a superficial view which takes no account of the emotional and intellectual benefit that the critical follower of such sport derives from all that goes before, during and after the game.

Creative hobbies and cultural pursuits. It is, however, in the creative use of leisure that the individual is likely to gain most benefit and fulfil a need that is in many cases lacking in his work.

Recreational facilities such as playing fields, hobbies clubs, and social centres may be created by large industrial firms, or worker groups may organize their own independent institutions, possibly receiving financial support and advice from their employers.

It is important, whichever system is adopted, that the administration of these schemes should be largely in the hands of the members, who, in the responsibilities of office, will find an outlet for whatever socially useful abilities they possess.

Educational aspects. In most schemes devoted to the use of leisure, the educational needs of the worker are stressed. However, examination of the ideas behind them often reveals that the concept of education is limited to the acquisition of knowledge for vocational purposes, usually for employment that will lead from the workshop to the office. Education appears to have become identified with higher vocational training.

This I feel is not its major purpose; it is in the development of the individual and the augmenting of his capacity to lead a full life—mentally, physically and morally—that education attains its greatest value.

ALCOHOLISM

This is a problem that is giving rise to increasing concern in industry. However, until management throughout its ranks recognizes compulsive drinking as an illness—granted, often with a moral or sociological overlay—the Health Department cannot deal effectively with it. A radical alteration in thinking and the eradication of deep-seated prejudices are nearly always necessary. A definite constructive policy must be established whereby alcoholism is considered on exactly the same terms as any other illness, even its acceptance for the sick fund and medical aid benefits normally provided. A carefully planned educational programme, extending over many months and directed to all ranks of management and supervision, must be instituted.

With proper treatment a high rate of cure can be expected. By cure is meant that a state of complete abstinence is established and maintained. The true alcoholic should never drink again. If he does, his old, uncontrolled drinking pattern will recur.

As in most other illnesses, the earlier the disease process is recognized and treatment started, so much better is the prognosis.

Danish authorities cite the following 6 criteria as favouring a good outcome: The patient should be in employment, he should seek treatment voluntarily, he should be married, he should live in a house in preference to a hotel or lodgings, he should not fall into the very young age group (addiction firmly established at an early age spells a severely unbalanced personality), and he should not have resorted to the use of methylated spirits, eau de Cologne, etc. The indications are that a successful result is more likely before the home is broken up or the job lost. *It is therefore the early signs of compulsive drinking that the management (and the potential alcoholic, too) must learn to detect. It is then that appropriate action must be taken.*

It is not always possible to get cases early and quite often one has to deal with an employee verging on the 'lost week-end' type and the stage when he is virtually unemployable. Even then the outlook is by no means hopeless, and employees (and that includes persons of all races, ranks and status) who appear fit only for the scrap-heap, may often be restored to useful function.

It may be asked what the extent of the problem of alcoholism is. It has been estimated that there are in South Africa between 80,000 and 90,000 alcoholics who are in need of treatment.

In the United States a recent survey showed that 65% of the adult population take alcohol, of which one in 80 becomes an alcoholic. The Medical Director of the Consolidated Edison Company of New York estimates the incidence of alcoholism in industry as 2 - 3% of employees. At present there are over 100 cases of alcoholism in the medical department of my own company, the employee strength of which lies between 3,000 and 4,000. And I am sure that there are those who are in need of treatment who are not receiving it.

The high cost of alcoholism to the community becomes evident when not only the adverse effects of the disease on the sufferer and his family are considered, but also the repercussions within

the industrial scene of the high absence rate, the impaired efficiency and judgment, the aggressive, arrogant behaviour, and the unpredictable conduct of the addicted drinker. This, combined with the fact that the disease in its disabling form has its highest incidence in the 35 - 55-year age group, i.e., among that group of employees who have attained their greatest value to the organization, the extreme seriousness of the problem becomes manifest.

Characteristic of the problem drinker and a clue leading to his identification, is a high absence rate. In the United States this rate is regarded as being between 22 and 25 days per year. Our experience is similar, but periods of absence due to alcoholism are often disguised and covered by medical certificates bearing such vague diagnoses as asthenia, headache, gastritis, fatigue, tachycardia, vertigo, etc. In this connection it may be of interest to compare the absence rates due to sickness in the 3 main racial groups employed in the company with which I am associated. The number of days lost annually due to certified sickness average, for European males 5, Africans 3½ and Coloured employees 7. It is remarkable that the Coloured rate should be twice that of the African. Is it not possible that the diagnoses mentioned above conceal the scourge of alcoholism—a condition well known to be widespread among the Coloured people? We believe it to be so. And, if so, would it not be far better to record accurately the actual trouble, which in turn would lead to the recognition and treatment of the afflicted persons?

Incidentally, it has been a source of some astonishment and gratification to note the number of Coloured employees who, when it became known that treatment was freely available, sought relief from their dependence upon alcohol. This, I feel, illustrates the fact that when the stigma attaching to the alcoholic as a moral degenerate is removed, he is likely to come forward voluntarily to seek the treatment he so badly needs.

As yet, insufficient contact has been established between employers and the clinic. It is my opinion that a successful outcome in many cases will depend entirely upon the close cooperation of doctor and employer. In fact, treatment will often only be possible when the employer, or someone delegated by him, takes an active interest in it. It is simply a question of practicalities. For instance, it may be necessary to administer a deterrent drug daily for long periods, and daily attendance at the clinic is nearly always quite impossible.

What of the patients who do not respond to treatment? Firstly, it must be realized that alcoholism is a relapsing disease, and that occasional 'falls from grace' do not necessarily point to a bad prognosis. However, treatment may fail, and when it does it is only logical to handle the disposal of the incurable employee on the same basis as the disposal of those unfortunate individuals who are disabled by any other disease.

With reference to the problem of alcoholism in general, there are 3 points that stand out clearly:

1. The imperative need for a community education programme to remove the stigma attaching to the condition; to change the attitude of prejudice and disparagement to one of sympathetic understanding, and the realization that much can be done to help the alcoholic.
2. The need for specific education in industry. Industry needs to be informed of the true cost of alcoholism, disguised though it may frequently be, and the rôles that can be played by the industrial plant and the medical profession together.
3. The need for further research and more specific knowledge on alcoholism by both layman and doctor. Relative to this is the completely defeatist attitude so often shown by members of the medical profession. Here I shall quote from a recent editorial in *The Practitioner:* 'Medicine's failure to grapple with the problem of alcoholism is a standing disgrace. Cirrhosis of the liver, delirium tremens, alcoholic neuritis, alcoholic gastritis—all these the medical student hears about, but scarcely a word about alcoholism, except possibly a passing reference during his lectures on psychiatry. The result is that when he embarks upon general practice he is completely at a loss when he comes up against a patient suffering from alcoholism. Even if he consults a senior partner or colleague he is unlikely to obtain any help. When his faltering efforts to treat the patient fail and he decides that institutional treatment is necessary, he finds that few such places exist outside mental hospitals and that the mere suggestion of admission to an institution may well have a final demoralizing effect upon the unfortunate patient.

   'This is no travesty of the position today. It is a factual account of a state of affairs which demands urgent attention. Medical students and practitioners must receive instruction in the diagnosis and management of alcoholism, and facilities—outpatient and inpatient—must be provided in general hospitals for the treatment of these patients. Only when such clinics with an appropriate number of available beds for those requiring inpatient treatment, are provided, will the problem of alcoholism be brought under control'.

As I mentioned earlier, we are thankful for the facilities for treatment existing in this town. The Clinic is the first of its kind in the country and the model for similar clinics operated by general practitioners in other parts of the Province.

Inpatient treatment is available here at the Provincial Hospital and special treatment obtainable at the Park Road Hospital, Rondebosch, Cape—an extension of Groote Schuur Hospital. The essential follow-up treatment is provided at the clinic, where a social worker has recently been appointed.

That these facilities exist is largely due to the progressive thinking of the Provincial Secretary and the Director of Hospital Services in the Cape. To them I should like to pay tribute as well as to Dr. J. H. McLean, Superintendent of the Provincial Hospital, for his cooperation and help, and the group of 5 general practitioners who ran the SANCA clinic for nearly 2 years and now man the Provincial Hospital Clinic. They have given generously and unstintingly of their time and skill. So, too, have the members of the SANCA Committee and its honorary secretaries. To all of them, industry, the medical profession, and the community generally are deeply in debt.

REHABILITATION

Until the last war all types of labour were abundant in this country and there was no urgent need to conserve the nation's man-power. The wastage due to sickness or injury was accepted as inevitable, and no thought given to the rapid restoration of function of the disabled workers or their employment to the fullest extent possible.

With the vast industrial expansion of the Union's industries and the shortage of skilled labour, the need for the rapid retraining and re-abling of the incapacitated worker has become of vital importance.

The concept that rest is therapeutically indicated by all sickness or trauma dies hard. This is apparent despite the increasing practice of early ambulation following surgery. One is often struck with the long periods of needless absence of men who remain away from work on the sincere advice of those undertaking their care. Unfamiliarity with work processes or the practicability of making adjustments to allow for the disability, influence the doctor to defer the return to work, to the detriment both of his patient and of production, which ultimately means the economy of the country.

There are, however, large numbers of patients who, at the completion of hospital treatment, are not employable in their previous jobs. This country is seriously lacking in rehabilitation facilities and, in the absence of further care, patients languish in their homes, unhappy and depressed and often ill-nourished owing to reduced income. With little or nothing to occupy their time, they at best make a protracted recovery. Frequently their skills are lost to them, re-training is unavailable, and they eventually find themselves relegated to the dust heap of the permanently crippled.

The practice of rehabilitation for any doctor begins with the belief in the basic philosophy that the doctor's responsibility does not end when the acute illness is ended or surgery is completed; it ends only when the patient is trained to live and work with what is left. This basic concept of the doctor's responsibility can be achieved only if rehabilitation is considered an integral part of medical service.

Is it not to that end that we as an Association should aim?