

THE BIRTH, GROWTH AND DEVELOPMENT and FUTURE DIMENSIONS of OCCUPATIONAL HEALTH NURSING

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SUMMARY

Change will always take place in organisations, and unless it is planned well in advance to be a definite improvement, it will lead to disorganisation and crises. The process of planned change is discussed, and strategies suggested to facilitate each step.

In considering Occupational Health Nursing one must not think of an Occupation only in terms of factories and industries, but that one must be concerned with the conservation of man's HEALTH OR WHOLENESS, wherever he is found at work.

Occupational Health Care is concerned with the prevention and, if necessary, the management of diseases or injuries to which any worker, because of his work, may be exposed. It goes even further for it deals with injuries or disease conditions which may not be directly caused by the type of work itself, but which may prevent the worker from carrying out his work satisfactorily. This is a very wide interpretation of the concept, but it is part of an effort to keep the worker healthy and at work and if this means treating or preventing inter-current deviations from normal health, then it surely falls within the context of Occupational Health Care.

There is a saying that one cannot understand the present, nor predict the future, without a knowledge of the past upon which that present is built. Today's present becomes tomorrow's past and it is with this in mind that I have called this talk:

**OCCUPATIONAL HEALTH,
YESTERDAY,
TODAY,
TOMORROW**

**or
THE BIRTH, GROWTH AND DEVELOPMENT
and
FUTURE DIMENSIONS
of
OCCUPATIONAL HEALTH NURSING**

In occupational health care, as a branch of social medicine, we are concerned with the preservation, as far as is possible, of the HEALTH OR WHOLENESS of the worker and his family. NURSING is the BASIC HUMAN HEALTH CARE SCIENCE which provides PERSONALISED, and in this case SPECIFIC HEALTH CARE TO PEOPLE. In our context, these people are the worker and his family, who may be exposed to, or are suffering from physical, mental and social ill-health. It is part of the provision of continuous preventive, promotive and rehabilitative health care from before birth until death at an advanced age.

It is that branch of health care most concerned with the co-ordination of health care activities while providing personal care of a highly skilled nature to its clients and patients who are people.

Let us first take a look at **YESTERDAY**.

The relationship between health (or the lack of it) and occupation has been known from very early times. Even the earliest men, whose chief occupation was hunting and gathering food, were subjected to health hazards because of the nature of their occupation. Weapons are primitive, gathering of fruits and other plants could be dangerous and there was little protection from the elements when hunting.

Mining is one of the oldest industries known to man, gold, silver and lead having been dug from the earth for many centuries for use in the making of implements and for adornment. Although a relationship between mining and the health of miners was realised, little attention was paid to this. The miners of ancient times were usually slaves, prisoners or criminals and, therefore, their health and well-being evoked no concern. Man's social conscience and his interest in the welfare of others was only awakened much later. Slaves were expendable and prisoners and criminals were working in mines as a punishment for some crime. Their health was thus of little concern to those who made use of their labour. There were many more where they came from.

In ancient times, sandstone was used to sharpen implements. These sandstone-sharpeners were known as **WIDOW MAKERS**, for those using them developed fibrosis of the lung and died early. The actual disease process was not understood, but its relation to the work performed was.

Hippocrates, usually regarded as the Father of Medicine, lived in the fifth century before the Christian era. He was a Greek physician, who taught that accurate observation of the sick was an important aspect of medicine, and realised that there was a link between work and health. Among his work was an accurate description of typical lead poisoning. Hippocrates said that, when considering the health of a patient, it was necessary, among other things, to take into account the patient's habits, his way of life, his **occupation** and his age.

One of the earliest references to the control of hazards is described in the second century AD when miners, during the Roman period, covered themselves in bags and sacks and used bladders to cover their mouths to prevent the inhalation of dust. **Galen**, the Greek physician, who lived about 130 - 201 AD in his prolific writings on medicine, which were to form the basis of medical studies for almost fifteen centuries, described symptoms of phthisis which was related to mining.

The first published work which dealt specifically with miners and their ills was written by Georg Bauer (Agricola). He worked in a mining district in Bohemia and had a great deal to do with the miners and their health problems. The work, a treatise on metal mining, where the mortality rate principally from pulmonary diseases was particularly high, was called "**DE RE METALLICA**", and was published in 1556 after his

death. It was later also translated by Herbert Hoover, an American president. One statement from this work reads: "In the mines of the Carpathian mountains, women are found to have married seven husbands, all of whom the terrible consumption carried off to premature death." Eleven years after Agricola's work, **Paracelsus or Phillipus Bombastus Von Hohenheim** published a monograph on occupational diseases affecting mine and smelter workers.

Settlement at the Cape, as thus the present Republic of South Africa, owes its origins to the health problems of a specific group of workers. Sailors and traders plying between Europe and the East, were affected by disease and a halfway house was established in Table Bay so that the sick could be landed and cared for and that fresh water and fresh fruit, vegetables and other food could be provided for the ships.

Bernardo Ramazzini who is generally regarded as the Father of Occupational Medicine, published in 1700, "*De Morbis Artificum Diatriba*", which was the first systematic study of diseases associated with occupation. A professor of medicine in Modena and later Padua in Italy, he put together observations made by himself and his predecessors, which were based on visits made to metal work and other workshops in Modena, and to mines, which provided the raw material for the workshops. Padua was one of the foremost universities of Europe at the time and he taught his students the importance of enquiring about the patient's occupation when attempting a diagnosis. He evinced great sympathy for the common people which was unusual in his day.

Ramazzini writing in 1713, 265 years ago, stated:-
"There are many things that a doctor, on his first visit to a patient, ought to find out either from the patient or from those present. For so runs the oracle of our inspired teacher, 'when you come to a patient's house, you should ask what sort of pains he has, what caused them, how many days he has been ill, whether his bowels are working and what sort of food he eats?' So says Hippocrates in his work 'Affections'. I may venture to add one more question. **WHAT OCCUPATION DOES HE FOLLOW?** Though this question may be concerned with the exciting causes, yet I regard it as well timed and rather indispensable and it should be particularly kept in mind when the patient he treats belongs to the common people. In medical practice, however, I find that attention is hardly ever paid to this matter, or if the doctor in attendance knows it without asking, he gives little heed to it, though for effective treatment, evidence of this sort has the utmost weight."

As true today as when they were written.

An interesting point which was made in his writings was the inclusion, among other dangerous callings, of midwifery. The midwives of today may not be aware of the fact that their own work was once subject to great hazards from a variety of infections from which their patients suffered. This was in the days when there was no knowledge of the nature of infection and the means by which this was transmitted. Control of infection by the practice of aseptic technique and the use of modern medications was unknown.

Ramazzini, in "*De Morbis Artificum Diatriba*" or "Treatise on the Diseases of Tradesmen to which they are subject by their particular callings with the method of avoiding and treating them" suggested that no profit should be made where the work entailed the subjection of workers to highly dangerous disease, his actual words (in translation) being: "The worst profit is that which is gained in destroying health, the most previous of all commodities."

His work describes the diseases of workers in wide range of occupations which include stonecutters, millers, masons, bricklayers, those who pick hemp and flax. Those who work in salt mines, those who work with chemicals, artisans concerned with the manufacture of glass, pottery goods and others. It also mentions surgeons, wet nurses and apothecaries.

His colleagues, whom he stated were "so particular about being elegant and immaculate" did not have much humanitarian sense. Labour was also easy to come by and cheap, so that there was no economic pressure which made the protection of the life and health of workmen a necessity. But social change was occurring rapidly.

Other forces were also at work. Technology brought about the downfall of cottage industries and the erection of factories. No longer were the spinning-wheel and the loom necessary parts of cottage furniture. This meant large numbers of people moved from rural areas into the growing towns with the concomitant health hazards associated with large population influx without provision for proper housing, safe water and adequate sanitation. This was a community health problem. In a period of less than a hundred years, the population of England, for instance, changed from a largely agricultural community to an industrial one.

Inside the factories and mines of the nineteenth century, all manner of health hazards occurred which had a bad effect on the health of the worker. These included:-

- excessively long hours of work
- machines which moved even more rapidly as technology improved
- lack of safety devices
- toxic hazards to the worker as they became exposed to an ever increasing range of new chemicals without any thought of the effect of man's health
- overcrowded, poorly ventilated and poorly lit factories and other places of work
- insanitary conditions in factories and areas where work people lived, coupled with no knowledge of immunization, which gave rise to epidemics of infectious diseases among workers.

During the eighteenth and nineteenth centuries more attention began to be paid to the medical aspects of the health of workers in various occupations. The following are a few examples:

- **Percival Pott** in 1775 drew attention to soot as a cause of scrotal cancer in chimney sweeps
- **Thomas Percival**, 1840 - 1804, a physician, who was called in to investigate an epidemic of typhus in a factory in Lancashire, and produced a work on hours of work and conditions of young persons. This led to the famous Health and Morals of Apprentices Act in England in 1802.

- **Charles Turner Thackrah** (1795 - 1833) who published the first British work on occupational diseases in 1832, entitled "The Effects of the Principal Arts, Trades and Professions on Health."
- **Edward Headham Greenhow** (1814 - 1888) who was lecturer in Public Health at St. Thomas' Hospital in London. On examining data from the Registrar General's office to obtain facts for teaching, he came to the conclusion that much of the very high mortality rate from pulmonary disease in districts of England and Wales was due to the inhalation of dust and fumes arising at work.

As a result of these and many other works A FACTORY ACT was passed in 1833 which made Factory Inspectors necessary. This Act was amended in 1844, 1855 and 1895, when the principle of notification of important industrial diseases like lead, phosphorus and arsenic poisoning, and anthrax was introduced.

- **Thomas Morison Legge** (1863 - 1932) was appointed first Medical Inspector of Factories in 1898. His work played a great part in developing the organisation of occupational health measures in England.

The arousal of the social conscience of the people, and the Trade Union movement, which aimed at looking after the interests of workers, gave impetus to the movement for proper control of occupational health hazards and to the need for health care for workers in all categories of work.

The worker is an important factor in the cost-structure of manufacturing and service organisations. He is no longer "cheap labour". This has increased the value of a healthy worker in the eyes of management. An unhealthy worker, who is frequently absent because of illness, much of which is preventable, is unproductive. Lack of productive work causes lack of income or rising production costs. Although the terms "industrial medicine" and "industrial health" were first used the term "occupational health" came into being around 1950. It is a much wider concept.

Occupational Health Nursing

So far, we have looked at Occupational Health in its broadest sense, let us now briefly look at an overview of the beginning of Occupational Health Nursing.

In earlier times, as in the general history of nursing, there is little specifically mentioned about the occupational health nurse as such. The fact that the concept of Occupational Health Care is so new, also makes the history of occupational health nursing very short. The first nurses specifically employed in this field, were known as "Industrial Nurses." In 1937, the International Council of Nurses asked Miss Irene H. Charley to read a paper on "Industrial Nursing in Great Britain" at a congress in London. The results of research which this necessitated, and which are published in her book, "The Birth of Industrial Nursing" brought to light the fact that **Phillippa Flowerday**, who was trained for at least a year as a nurse at the Norfolk and Norwich Hospital, was engaged by the wife of the senior partner of J & J Colman to work at their Carrow Works in 1878 for 26s per week. She is, thus, one of the pioneers of "industrial" nursing in Britain.

Nurse Flowerday, according to H Godfrey, in her article in *Nursing Times*, November, 30th 1978, entitled "One hundred years of industrial nursing", started her day's work in the factory dispensary where she helped the doctor. At mid-morning, she loaded up her basket with supplies from the Carrow Works' kitchen and went out to visit the sick workers in their homes. She co-operated with the Sick Benefit Society which had been established by Colmans, and also administered a clothing club and a lending library. In her home-visiting, she also tended the families of workers. She was, thus an important link with the factory and the home, an aspect of occupational health work which does not, even today, receive enough attention.

An interesting reference to the suitability of dress worn by workers and the hazards related to these, is to be found in the records of the house of Courtauld in 1860 which states: "The present ugly fashion of **hoops**, or **crinoline**, as it is called, is, however, quite unfitted for the work of our Factories. Among the Power Looms it is almost impossible, and highly dangerous; among the Winding and Drawing Engines it greatly impedes the free passage of Overseers, Wasters, etc., and it is inconvenient to all. At the Mill it is equally inconvenient, and still more mischievous, by bringing the dress against the Spindles."

This early concern with the safety aspects of clothing has developed into the use of protective clothing!!

It is also known that firms such as J S Fry and Sons, Ltd., Bristol, Cadbury Bros. Limited, Birmingham, Reckit and Sons, Hull, C & J Clark Limited, Somerset and Mardin, Son and Hall, Bristol were early participants in the field of industrial welfare and established extensive health services of many kinds. Nothing is recorded by them of the date when the first industrial nurse was employed by any of these firms. (Charley, 47).

LET US NOW LOOK AT TODAY

What I have said up to now will have made you realise that there have been tremendous changes in the places in which people work. Although much must still be done, it is a far cry from the unhealthy conditions in the early factories to those prevailing today. As health care, particularly in factories and industry, has claimed more and more attention, so has the growth of Occupational Health Nursing developed although the full potential of this vital category of health worker in providing an essential service has not yet been realised. Many of our bigger industries have seen the value of occupational health nursing, but there are still many organisations where the essential aspect of management of providing health care at work is not realised.

The whole concept of Occupational Health Services has changed from treating injuries and Preventing Occupational Hazards

to
Promoting the general health of the worker
 and to the

adjustment of work to man and Man to Work.

Carl Zenz spells this out in more detail (*Occupational Medicine* – Preface) as follows:-

"Occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental and social well being of workers in all occupations; the prevention among workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological equipment; and, to summarize: the adaptation of work to man and of each man to his job."

Occupational health is a positive concept dealing with the promotion of health, and the prevention of disease as well as the curative aspect of health care. Today it embraces all the following aspects of health care:-

- appraisal, maintenance, restoration and improvement in the health of all workers
- application of the principles of preventive medicine to the worker and the environment
- emergency medical care
- rehabilitation
- promotion of a satisfactory interaction between the worker, his work and other people encountered in the work situation by the application of the principles of ergonomics which was defined by the International Labour Organisation in 1961 as "the application of the human biological science in conjunction with the engineering sciences to achieve the optimum mutual adjustment of man and his work, the benefits being measured in terms of human efficiency as well being." Ergonomics focuses on the worker and uses the disciplines of:
 - Engineering and physical sciences, especially physics, mathematics, statistics and biomechanics and the physical work environment such as temperature, ventilation, humidity, light, space, noise.
 - Biological sciences, especially anatomy – the structure of the body, physiology including knowledge of chemistry and biochemistry, effects of physical effort and toxicity.
 - Behavioural sciences such as sociology and psychology, especially related to work.

These taken in combination have meaning for such issues as exposure to hazards, safety measures, workload, job satisfaction and motivation.

We all know that there are some extremely good occupational health services, some indifferent and even very poor ones and some very large areas where they are absolutely non-existent.

The health of every worker is of vital importance, not only to the employer, but also the public at large. If one considers that there are over 80 million people who are employed to work in the United States alone, out of a population of about 2 hundred million, then the number who work in the world, with its population of over four thousand million can be seen to be an astronomical figure.

Again it must be remembered that about one third of the average person's lifetime is spent in the pursuit of an occupation – his work.

Workers need, and in the developed countries at least, they **expect** a working environment that is safe and is conducive to good physical and mental health, and able to provide the means for them, both in the work situation and outside, to be able to enjoy good social health. For the worker, the ability and the health to remain at work, and thus to contribute to his own support and that of his family, is of vital importance.

The wellbeing of the worker plays a vital part in the economy of the country. We are always hearing the cry for more productivity. An unhealthy worker is an unproductive one or his productivity is greatly reduced. It is as simple as that. Here again, I am using **HEALTH** in its broadest sense.

The enlightened ones see the role of the occupational health nurse as multi-facetted. It focusses on the following aspects:

1. Supervision to ensure patient/client security and safety. This includes the management of her department.
2. Observation of patient/client, the working environment and areas of special hazard. This includes monitoring of the environment in which the worker functions for noise, heat, dust and other pollutants.
3. Recording and reporting of observations made, care and treatment given or other events which affect the health and wellbeing of workers.
4. Assessment of response to treatment, of fitness for work, of hazards and their effects and many more.
5. Nursing diagnosis for nursing care for referral or for emergency action.
6. The performance of nursing procedures as required by the care plan with skill, accuracy and regard for the comfort and safety of the recipient of her care.
7. Supervision of personnel.
8. Education, both of personnel and of workers. Health education is a vital part of her work.

FUTURE DIMENSIONS

What then of the future? How do we prepare for what may be ahead? I think that here the occupational health nurse has an ever increasing role to play.

In our own country the evolvement of occupational health nursing has been slow and gradual, but with the impetus given by Report of the Commission of Enquiry on Occupational Health (The Erasmus Commission – 1976) it should gain momentum. This Commission recommended that Industrial health staff be trained. In the section on the **industrial** health nurse which we, in this country of course, see in the broader context of occupational health nursing, in all fields and not only in industry, the following statement was made:-

“23.101 Evidence was given to the effect that 75 per cent of the work of an industrial medical officer can be done by a trained industrial health nurse and that a qualified industrial medical officer can take charge of several trained nurses. It was, therefore, suggested for the Commission’s consideration that there should be one trained industrial health nurse for a specified number of workers in an industry. This nurse would then receive her instructions from a part-time or full-time medical officer employed in such industry. The Commission could not find any fault with this suggestion.”

The need for training is clearly indicated. At the moment there is no full-time course in South Africa for the training of occupational health nurses, although it, of course, forms an important component of the Community Health Nursing Course.

Various moves have been made to offer part-time, in-service education programmes. If these follow the prescribed syllabus, numbers of lecture and practica periods and examinations, as laid down by the South African Nursing Association, then they qualify for the award of the certificate issued by that body. This certificate gives no registration of an additional qualification, but it does furnish proof of attendance at a specific course.

At the moment I have the task of trying to draw up a syllabus for the course which is flexible enough to meet a very wide variety of needs. It can only be stated in very broad principles so that it can be applied to local circumstances.

Such a course, which could be offered in many areas, where participants could be released for a day or for two half days a week over a period of say six months, is, at the moment, perhaps a more feasible proposition than a full-time formal course, for employers are more likely to be able and willing to release their nurses on this basis at the present time.

It is realised that this is a temporary measure to meet present needs. If we are looking to the future then it is to be hoped that, as the numbers of nurses employed in the occupational health field increases, and the need for more extensive full-time courses is perceived, both by nurses and employers, that a full-time course leading to registration as an additional qualification with the South African Nursing Council will become a reality. It is up to you nurses to prove to yourselves, to your employers and to other members of the profession that you have a vital role to play in provision of health care to workers, of all sorts, in all forms of occupation and that for that you need specialised post-registration training. If you concentrate all your efforts in this direction, then the achievement of your goal will come sooner rather than later.

The history of the development of nursing education in this country has many instances of where nurses recognised needs, started in-service education courses, motivated their employers to see the value of such courses and eventually got them recognised as additional qualifications. The Diploma in Nursing Administration is a case in point, as is the training of enrolled nurses. There is no reason why carefully planned, well presented courses in Occupational Health Nursing cannot ultimately achieve the same results. Advanced diplomas in Midwifery and in other specialities are already planned and will soon be implemented to meet demonstrated needs. As long as nurses move forward together, planning to meet specific health needs in the community by specialised training, they will achieve a great deal that at present seems out of reach. The ultimate aim of such a move must be the provision of better health services for the benefit of patients and clients. Motives must stem from community needs first and individual needs must be secondary to broader social health needs.

If you prepare yourselves to meet the future, become better equipped and trained to meet new challenges and are motivated to seek answers to new problems as they occur, then you can move into the future with confidence.

The health services of this country, as is the case in many other countries, depend to a very large extent on the skill and dedication of nurses of all categories who go to make up the bulk of those rendering health care. Nurses far out-number any other group of health care workers. In many areas they provide the entire service. This is also so in Occupational Health Care. It is up to the nurses who are in this field to see needs, introduce change where possible, motivate for change where it is not.

A positive health care approach which is what occupational health care is all about needs far-sighted, energetic people as its leaders. People who can form part of the management team, who can co-operate with all sections of the working hierarchy, and yet be seen by the humblest worker as a person to whom to turn in times of need is an ideal towards which to strive. What I see in the future includes:-

1. Expansion of occupational health care to every worker.
2. Establishment and organisation of services based on needs which have been determined by investigation. The investigators should have knowledge of not only the industry or work area, but also of medicine and of nursing.
3. Specialised training for nurses to meet the needs of Occupational Health Care.

4. More training for doctors entering the occupational health field. Management techniques as well as specialised medical knowledge are mandatory. We have some excellent industrial physicians, but many do this work on a part-time basis with little concept of what occupational health care is all about.
5. Occupational health nurses in the field who are acknowledged as part of the management team, **managers of nursing service**, with clearly established lines of responsibility and the right to exercise their independent functions to the full.
6. More involvement of the nurse in policy making which has health implications, with safety aspects, with health education, with follow-up home visits and charged with the conservation of the worker's health or wholeness in total dimension.

THE FUTURE, that which is about to happen, that time to come is **YOURS**.

PREPARE TO GRASP ITS CHALLENGES.

Two quotations to end with:

"Enough, if something from our hands have power,

To live to act, and **serve the future hour!**"

(Wordsworth)

AND

". . . . Bear in mind.

Your labour is for future hours.

Advance! Spare not! Nor look behind!"

(Richard Henry Horne)

Reference

Charley, I. 1978: *The birth of Industrial Nursing*. London, Baillière & Tindall.