

OCCUPATIONAL HEALTH PROGRAM

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Objectives

- ❑ Define occupational health and disease
- ❑ Understand the criteria of occupational diseases
- ❑ Identify the occupational health program

DEFINITION:

The joint international labor organization committee on Occupational health, 1980 defined occupational health as “The highest degree of physical, mental and social well-being of workers in all occupations.”

OCCUPATIONAL HEALTH

It represents a dynamic equilibrium between the worker and his occupational environment.

OCCUPATIONAL HEALTH

- ❑ Millions of workers are exposed to toxic materials (occupational hazards) and
- ❑ exposures which are sufficient to result in [a series] of health problems.
- ❑ Fortunately, the most distinguishing feature of the occupational hazards is that, they are preventable.
- ❑ Therefore, there is a crucial role that can be played by
- ❑ Health professionals, both in
- ❑ Recognizing work-related medical problems and
- ❑ Taking appropriate measures to prevent them

Occupational Health

Occupational health is concerned with the effects of work on health,

so it may be defined as

that science devoted to the

Recognition,
Evaluation
Control,

of workplace hazards that
may cause

sickness
impaired health or
significant discomfort

to employees
in the community.

Occupational Health

It is defined

by the International Labor Office (ILO)

and World Health Organization (WHO) *in 1950* as:

"The **promotion and maintenance** of the **highest** degree of **physical, mental and social wellbeing** of **all workers** **in all occupations**"

This definition emphasizes the term ^{بصحة} health rather than disease. According to the WHO's **occupational health definition** Occupational health deals **with all aspects of Health and Safety in the workplace** and

- has a **strong focus** on **primary prevention** of hazards

It combines both **occupational medicine** and **occupational hygiene**

"Occupational Disease" :

- is a disease caused by **exposure** to
- a **specific causative agent at work**, and
- that agent has been **fully established**(recognized) , can be
- **identified, measured and eventually controlled**

eg (**silicosis, brucellosis, lead poisoning**)

المادة معروفة إنشائها تسببت
مرضاً معيناً ويحدد اسمها منو اذا
اخذت رسائل الامة الهسوية

Occupational Environment

**Man and physical, chemical
and biological agents**



Man and machines

Man and man



Occupational diseases:

- They are a group of **diseases** which arises out of and during the course of employment, and its **causes present in the occupation**.

So, there must be a specific factor or substance in the **work place**, exposure to which causes the disease occurrence.

- The symptoms and signs often present and appear when the worker is on [job]

Silicosis, asbestosis, noise induced hearing loss, metal poisoning are some examples of occupational diseases

Occupational disease

- It is a disease arising out of or during the course of employment and its cause present in the occupation (e.g. silicosis).

Why its diagnosis is very critical?

- 1) Worker has the right to receive medical care at the expense of the employer.
- 2) Worker has the right for paid sick leave.
- 3) If disability occurs, the worker has the right for compensation.

Characteristics of Occupational Illness

1. The clinical and pathological presentation of occupational disease(OD) is often identical to that of non OD.

For example, asthma due to airborne exposure to toluene diisocyanate is clinically indistinguishable from asthma due to other causes.

2. OD. may occur after the termination of exposure. An extreme example would be asbestos-related mesothelioma (,that can occur 20–40 years after the exposure.

Some forms of occupational asthma manifest at night, several hours after the end of the exposure.

3. The clinical manifestations of O.D. can vary with the dose and timing of exposure.

For example, at very high airborne concentrations, elemental mercury is acutely [toxic to the lungs] and can cause pulmonary failure.

At lower levels of exposure, elemental mercury has no pathologic effect on the lungs but can have chronic adverse effects on the [central and peripheral nervous systems].

Characteristics of Occupational Illness

4. Occupational factors **can act in combination with non occupational factors** to produce disease.

*example is the **interaction** between*

exposure to asbestos and exposure to tobacco smoke.

*Long-term exposure to **asbestos alone** increases the risk of **lung cancer** about **fivefold**.*

*Long-term **smoking** of **cigarettes** increases the risk of **lung cancer** about **10-20-fold**.*

*Exposed to **both**, the risk of lung cancer is*

*increased about **50-70-fold**.*

*20
30
(50-70)*

Characteristics of Occupational Illness

6- O.D. **often resemble other medical** conditions; for example, *Lead poisoning duplicates the symptoms of several illnesses, and asthma resulting from sensitization to chemicals in the workplace is often falsely attributed to exposures at home.*

- ❖ Information about the incidence and distribution of such diseases is thus far from complete.
- For these reasons, most OD are often overlooked or misdiagnosed and are undercounted in statistical reports.
- ❖ They are more common than is generally realized

Two main elements are present in the definition of an occupational disease:

1. The **causal relationship** between **exposure** in a **specific working environment** or **work activity** and a **specific disease**; and
2. The fact that the **disease occurs among** a group of **exposed persons** with a **frequency above the average morbidity** of the **rest of the population**

General criteria for identification and recognition of occupational diseases

❖ ***Strength of association.***

The **greater the impact** of an **exposure** on the **occurrence** or development of a **disease**, the **stronger** the likelihood of a **causal relationship**.

❖ ***Consistency.*** (coherence)

Different research reports have **generally similar results** and **conclusions**.

❖ ***Temporality or time sequence.***

The **exposure** of **interest** **preceded** the **disease** by a **period of time consistent** with any **proposed biological mechanism**.

General criteria of OD Cont.

❖ *Biological gradient.*

The greater the level and duration of exposure, the greater the severity of diseases or their incidence.

❖ *Specificity.*

Exposure to a specific risk factor results in a clearly defined pattern of disease or diseases

'Work Related Disease'

is a disease that may be **aggravated or exacerbated** by work exposures (eg. Bronchial asthma, heart attack)

تَعَاظَمَتْ

■ Work-related diseases:

- Some diseases are **not specially caused by exposures** on job, but
- they are **aggravated by** occupational stressors.
- So, they can **affect all people**. Hypertension, coronary heart diseases are examples of work related diseases.

Work-related diseases

Occur largely in the community

'Multifactorial' in origin

Exposure to workplace may be a factor

May be notifiable and compensatable

Occupational diseases

Occur mainly among working population

Cause is specific

Exposure to workplace is essential

Notifiable and compensatable



Occupational medicine:



- ◎ Royal College of Physicians, (1978) defined
- ◎ occupational medicine as: "it is primarily a branch of preventive medicine with some therapeutic functions".

◎ Occupational medicine deals with:

- 1) Health problems of workers at any workplace.
- 2) Work environment and its adverse effects on workers' health.
- 3) Health promotion for workers and proper prevention and treatment

It combines both occupational medicine and occupational hygiene

Differences between occupational medicine and clinical medicine



Items	Occupational Medicine	Clinical Medicine
Target group	Workers at <u>all jobs</u> (Healthy)	Patients <u>irrespective to their jobs</u>
Health status	<u>Healthy</u> and <u>diseased</u>	<u>Diseased</u> only
Place	<u>Plants</u>	<u>Hospitals & Clinic</u>
Diagnosis	System of <u>medical examinations</u>	<u>Examination and investigations</u>
Management	<u>Occupational health program</u>	<u>Medical/surgical treatment</u>



OCCUPATIONAL HAZARD:

``Source or situation with a **potential for harm in terms of injury** or **ill health**, damage to **property**, damage to the **workplace environment**, or a **combination of these**``



OCCUPATIONAL HEALTH HAZARDS

TYPES OF OCCUPATIONAL HEALTH HAZARDS

- A. **Physical**
- B. **Chemical**
- C. **Biological**
- D. **Mechanical**
- E. **Psychosocial**

GOALS

To reduce industrial accidents.

To prevent occupational hazards/ diseases.

To achieve maximum human efficiency and machine efficiency.

To reduce sick absenteeism.

OBJECTIVES OF OCCUPATIONAL HEALTH program

To maintain and promote the physical, mental and social well being of the workers.

To prevent occupational diseases and injuries.

To adapt the work place and work environment to the needs of the workers i.e application of ergonomics principle.

It should be preventive rather than curative.

FUNCTIONS OF OCCUPATIONAL HEALTH SERVICE

1. **Pre-employment medical examination.**
2. **First Aid and emergency service.**
3. **Supervision of the work environment for the control of dangerous substances in the work environment.**
4. **Special periodic medical examination particularly for the workers in dangerous operations.**
5. **Health education for disseminating information on specific hazards and risks in the work environment.**

FUNCTION OF HEALTH SERVICE - CONT..

6. **Special examination and surveillance of health of women and children**
7. **Advising the employer or management for improving working conditions, and placement of hazards.**
8. **Monitoring of working environment for assessment and control of hazards.**
9. **Supervision over sanitation, hygiene and canteen facilities.**
10. **Maintenance of medical records for medical check-up and follow-up for maintaining health standards and also for evaluation**



MEDICAL
MEASURES

ENGINEERING
MEASURES

Legislation

MEDICAL MEASURES



1. Preplacement examination
2. Periodic examination
3. Medical and health care services
4. Notification
5. Supervision of working environment
6. Maintenance and analysis of records
7. Health education & counselling

التقابل اليها باختر ثلاث صلايات
ادنا اجي عليهم اسنه بحسب اج يكون
انوكلا نقطة ليجنا تابعه

ENGINEERING MEASURES

1. Designs of building
2. Good housekeeping
3. General ventilation
4. Mechanisaton
5. Substitution
6. Dusts
7. Enclosure *كازيم*
8. Isolation
9. Local exhaust ventilation
10. Protective devices
11. Environmental monitoring
12. Statistical monitoring
13. Research



LEGISLATION

1. FACTORIES ACT, 1948

Scope, health, welfare



Employment, Hours of work, Occupational diseases, Hours of work,,
Employment in hazardous proc.

2. ESIS ACT, 1948

1. Medical

2. Sickness

3. Maternity

4. Disablement

5. Dependents benefit

6. Extra benefits

Extended sickness, Limbs, F.P., Protection against dismissal, Funeral expenses, Rehabilitation expenses, Retirement.

Thank you