



Public Health

Title : public health

Lec no : one

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وَقُلْ رَبِّ زِدْنِي عِلْمًا



Introduction to Public Health L 1

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Public health course learning objectives

↳ the difference between prevention
of protection program 1
→ prevention such as educate ppl about the diseases and how
they can avoid it
→ protection: wearing the helmet

- Provide students with the tools to think about the **major concepts of public health.**

- Public Health Program educates individuals for **interdisciplinary, collaborative** health care practice in local, regional, national, and global environments. ↳ we have to care about global issues because it may be international such as covid-19

- Public health physicians **plan, implement, and evaluate** health programs to **improve the health of vulnerable and diverse groups** through organized community efforts. ↳ material of child care ↳ is it good or not ↳ to see what the impacts of these services ↳ replanning for jobs or case gap like this

- The program **prepares students or enable them to carry out studies in different fields of medicine.**

- prepares students to **pursue careers in health services systems** so that **health is promoted, and disease is prevented** at individual, family, professional, and community levels. ↳ vaccination is a prevention of protection

- **public health education prepares students to contribute to the health of the public through positive decision-making and constructive action.**

↳ ex-protection of ppl by vaccination
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Associate Professor Dr Eman Al-kamil
↳ you're gonna make a decision as a physician
↳ out as a public health physician you're gonna concern about decision-making

↳ such as : what programs should I provide for this community according to their needs (need-related thinking)

Upon completion of the Public Health course, students will be able to :

1. Explain the history and philosophy of public health as well as its core values, concepts, and functions.

2. Identify the methods, and tools of public health data collection, use, analysis, and plan services.

to compare between the health status of countries
المقارنة بين أوضاع الصحة في دول مختلفة

كم عدد حالات السرطان / births of deaths/ infant mortality
"بنوف نسبة ال" ← we are dealing with numbers
↳ but we provide maternal health so the mortality decrease

3. Identify the basic processes, approaches, and interventions that identify and address the major health-related needs and concerns of populations.

4- proper water supply
5- lack of pollution
6- proper sewage disposal
1- hygiene (healthy environment) / أوضاع صحية جيدة
2- healthy behaviours / سلوكيات صحية
3- good health care services / خدمات صحية جيدة
أيضا الاهتمامات حتى تكون healthy

4. Plan services for promoting and protecting health across the life course.

↳ to decrease the occurrence

5. Identify the socio-economic, behavioral, biological, environmental, and other factors that impact human health and contribute to health disparities.

↳ through social media
↳ previously via posters

6. Apply public health-specific communication, including technical and professional writing and the use of mass media and electronic technology to promote public health.

Public Health

→ the first epidemiologist and scientist who defines public health

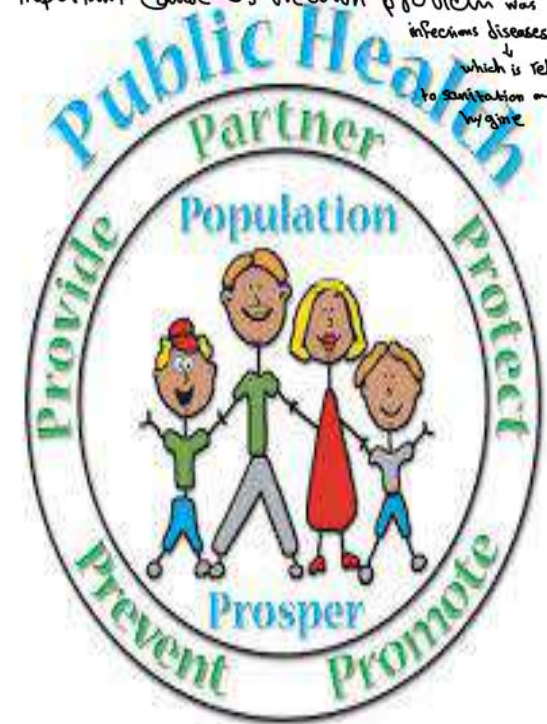
Winslow defined public health as:

The science and art of preventing diseases, prolonging life and promoting health through organized efforts. (1920)

→ at that time the most important cause of health problem was infectious diseases which is related to sanitation and hygiene

Efforts include the following:

- Control of infection *to decrease mortality and morbidity*
- Sanitation
 - brucellosis (due to drinking water)
 - cholera (due to pollution of water)
 - scabies (due to low hygiene) → الجرب
- Health Education *should be started as early as possible*
- Provision of health care service.



- there are different types of infection control other than vaccination.
- TB, whooping cough, diphtheria, anthrax and other infections are now prevented and controlled by vaccination

Public Health

Deals with maintenance and improvement of sanitation, cleanliness and personal hygiene.

hygiene is very important in prevention in many infections..

Sanitation includes:

❑ Disposal of waste (producing toxic and infectious material.)

- *organic domestic waste* المخلفات المنزلية
From the house or foods
- *agricultural waste and* المخلفات الزراعية
such as insecticides/herbicides
- *Industrial waste* المخلفات الصناعية
air pollution or water pollution
- *Sewage* مياه الصرف الصحي
→ important factor

❑ Provision of safe water and food

❑ Provision of safe environment



The Mission of Public Health

The Institute of Medicine

- has a simple definition for public health : what society does collectively to assure the conditions for people to be healthy

WHO definition public health

→ they always concern about the populations

- public health aims to provide maximum benefit for the largest number of people.

The Oxford Textbook of Public Health

“The process of mobilizing and engaging local, state, national, and international resources to assure the conditions in which people can be healthy” - *↳ how we can use the available resources and mobilizes it in order to improve the health of people*

Public Health Approach

usually as a doctor would dealing with patients as individuals and concerning mainly about the diagnosis of the disease

Public Health Model

next dealing with the patients as a whole

- Population
- Diseases Prevention
- Health promotion
- Interventions

which are mainly concerned about:

- Environment
- Human behaviors

Medical Model

- Individuals
- Diagnosis
- Treatment
- Interventions
 - Medical care
 - Surgical

human behavior is divided to healthy & unhealthy behaviors



■ It is **concerned with threats to health** based on population health analysis.

↳ 1- social behaviors
2- Factors
3- environmental Factors

■ Public health incorporates the **interdisciplinary** approaches of :

↳ which is concerned about the occurrence, distribution of determinants which affect the health

■ **epidemiology**, علم الوبائيات

■ **biostatistics and health services**, analysis of the data
↳ How we can use the data available in order to detect the health problem

■ **environmental health**,

■ **behavioral health**,

■ **health economics**,

■ **health policy**,

■ **school health**

■ **Maternal and child health (MCH)**

■ **control of communicable and non- communicable diseases.**

■ **occupational health** ,are other important subfields.



- ❑ Public health professionals analyze the effect on health of genetics, personal choice and the environment in order to develop programs that protect the health of the family and community.
- ❑ Overall, public health is concerned with protecting the health of entire populations.
- ❑ These populations can be as small as a local neighborhood, or as big as an entire country.

The sum of all official or governmental efforts to promote, protect, and preserve the people's health.

احنا كطلاب طب سنة ثانية نعتبر *population* او مثلا طلاب المدرسة نعتبرهم *population*

□ Public health professionals try to prevent problems from happening or re-occurring through;

1. implementing educational programs,

↳ there are alot of educational programs starting from the nursery to the different age groups

2. developing health policies,

↳ 1- vaccination
2- Fluorization of water in order to prevent dental caries
3- seatbelts

3. regulating health systems and

4. conducting research.

□ It is also a field that is concerned with:

▪ **limiting health disparities**

health equity عكس health disparity

health disparity:
the difference between health status of different populations whether local or global

↳ so it's important to decrease the gap between the populations

▪ **health care equity, quality, and accessibility.**

Differentiation among PH, Community Medicine, Social Medicine & Preventive Medicine

GREAT deal of confusion exists with regard to the meaning of the terms "public health," "community medicine," "social medicine," and "preventive medicine."

The terms are often used interchangeably, a practice which adds to the confusion. Two basic concepts are at issue:

1. public health on the one hand, and
2. community/social/preventive medicine on the other.

The latter three terms have different historical roots but reflect a more or less identical orientation.

● The key word: community, social and preventive medicine are considered to be, a **subdivision** of the overall discipline.

● The common **denominator** of all three of these terms is "**medicine**."

● Indeed, they constitute a very minor subdivision of medicine.

● The **concept of public health**, on the other hand, is that of a **major governmental and social activity**, **multidisciplinary** in nature, and **extending into almost all aspects of society**.

● Here the key word is "health," not "medicine"

Preventive medicine.

- “Art and science of health promotion and disease prevention”
- By definition preventive medicine is applied to “healthy” people.
- Its primary objective is prevention of diseases and promotion of health.

Healthy People in Healthy
Community.



Social Medicine“

"Social medicine" is a product of France, Germany, Belgium and other European countries. Firmly based in the medical profession, it reflected a concern with the role of social factors in the etiology of disease, and the need for government action in the areas of disease prevention and medical care.

social medicine is concerned about healthy and unhealthy human behavior

"Community Medicine"

"Community medicine" became prevalent in the United States as a substitute for "social medicine," since the latter term sounds too much like "socialism."

How public health differs from other branches of Medicine?

Public health reaches out to people :

↳ who can't consult health care services

1. to provide services for prevention of disease (such as immunization, pre-natal care, health screening etc.),
2. promotion of health (such as safe water supply and sanitation, vector control measures, tobacco control policy etc.) and *vector control measures: controlling the diseases that are transmitted by vectors such as malaria, sleeping sickness, leishmania... etc*
3. provision of primary medical care (treatment of common health problem such as diarrhea, pneumonia, TB, leprosy, malaria, hypertension etc.)

Whereas other branches of medicine largely provide diagnostic and treatment services to patients who seek treatment.

Concept of health care approach has experienced a dramatic change. *In the past, we were concerning about the treatment of infections and diseases*

Today **health is not merely an absence of disease; it is related to quality of life**. *and prevent the re-occurrence*

Health is considered as **means of productivity**. *some patients can be productive*
many people have chronic diseases, but they are productive. so they are considered healthy

Thus, health development is **essential to socio-economic development** as a whole.

Scope of medicine has extended from individual to community.

Study of **health and disease** in population is replacing **study of disease in man**. *means rather concerning about one individuals we are concerning about the whole population*

■ Modern medicine is no longer solely an art and science for the **diagnosis and treatment of diseases**.

■ It is also the **science for the prevention of disease and promotion of health**.

■ Today **technical sophistication** of modern medicine is not an answer to everyday common diseases of the vast poor in the country. *sometimes, simple and cheap maneuvers can save lives of many people, such as oral rehydration therapy* → in order to prevent dehydration

■ Appropriate technology and **cheaper interventions** like **Oral Rehydration Solution (ORS)**, *↗ it changed the mortality rate* **immunization**, etc., are increasingly being applied as **life saving measures** and for disease prevention in community health care.

■ Physicians' role is no longer confined to diagnosing and treating those who come to the clinic. *but extended to*

■ He is also responsible for those who **need his service but can not come to the clinic.**

مش شرط المريض يروح للعيادة مشان الدكتور يشخصه، حاليا ال primary health care providers يروحوا للمناطق النائبة مشان يقدمو الرعاية الصحية للأشخاص

■ Health of the people is not only the concern of health care providers.

■ It is the **responsibility of the community** also to identify and solve their own health problems through **their active participation.**

- ✚ The new ideas and concepts, for example:
 - increasing importance given to **social justice and equity**
↳ it's important to provide the same health care services to all population
 - recognition of crucial role of community participation called for the **new approaches** to make **medicine in the service of humanity** more effective.
*↳ all the population has the rights to have a good healthcare services
↓
so we decrease the health disparity*

↳ to provide social justice by providing primary health care services

✚ **Alma-Ata declaration in 1978** specified that **Primary Health Care** approach was the way of achieving the goal of “**Health For All**” by 2000 AD.

Primary Health Care (PHC) approach stressed that “essential health care should be made **universally accessible** to individuals and **acceptable** to them, through their **full participation** and at a **cost** the community and the country can afford”.

PHC , the main criteria:

- **essential**
- **accessible**
- **acceptable**
- **affordable** primary health care is usually free except some medications (affordable price)
- **full participation** .

شو يعني لما نحكي acceptable في بعض المجتمعات ما يتقبلوا انه دكتور ذكر يفحص مريضة فمشان هيك لازم يوفروا طببية بهاي المجتمعات و هيك بكون ال PHC مقبول (Acceptable)

The branches of public health include the following:

Behavioral Science / Health Education

Behavioural sciences is the collective term given to a number of disciplines which focus on the study of the behaviour of humans.

Behavioural Science' is the study of human behaviour from a number of different subject (discipline) areas. *whether healthy or unhealthy*

Behavioral Science/Health Education focuses on ways that encourage people to make healthy choices.

This includes the development of **community-wide education programs** that range from **promoting healthy lifestyles** in order to **prevent disease and injury**.

■ *Stopping the spread of communicable diseases, such as herpes and HIV/AIDS.*

↓
by health education of mother during the maternal phase / provide educational programs to prevent STD

■ *helping youth recognize the dangers of smoking, drug abuse & drinking; and promoting seatbelt use.* to decrease the effect of trauma

■ They also promote more efficient uses of health services, adopt self-care practices, and participate actively in the design and implementation of health programs.

graying of nations: the increase in elderly people in the nation

■ **Some examples** include **mental health, aging, health promotion and disease prevention, health education and behavior change, disability and health, and social research.**

Biostatistics → How would you use the available data and analyze it in order to detect health problems

✚ the application of statistics to biology, medicine, nursing, and other health-related professions.

✚ *Estimating the **number of deaths** from different health problems, looking at **trends in** different health problems by using math and science is the study of biostatistics.*

✚ *→ we can compare the different health problems between the past and the current status*
✚ Using biostatistics, one can identify **health trends** that lead to **life-saving measures** through the application of statistical procedures, techniques, and methodology.

✚ Identifying **health trends** within the community, explaining **biological phenomena**, as well as **determining the number & causes of disease and injury**, biostatistics are an integral part of public health.

✚ Biostatistics are often utilized in synonymous with **epidemiology**.

Environmental Health

The *air pollution*; the safe *water*; radiation, noise , chemicals, the complex *interactions between human genetics and our surroundings*.

How do the built and natural environments influence our health and how can we reduce risk factors?

These environmental **risk factors** can cause diseases such as **asthma, cancer, and food poisoning**.

→ as the factors can interact and affect the genetics of the humans

Environmental health studies the impact of our surroundings on our health.

These areas are:

- air quality
- water quality
- food protection
- radiation protection
- solid waste management
- hazardous waste management
- noise control *noise can cause anxiety, lack of sleep and deafness*
- environmental control of recreational areas
- housing quality
 - *overcrowding leads to transmission of infections*
 - *indoor pollution: house dust, smoking (passive smoking has the same effect as active smoking)*
- vector control
 - *active smoker: هو الشخص المدخن*
 - *passive smoker: الشخص الذي يستنشق الدخان من الأشخاص المدخنين من حوله*

Epidemiology *the most important branch of public health*

- ❑ When food poisoning or an influenza outbreak attacks a community, the "**disease detectives**" or **epidemiologists** are asked to investigate the cause of disease and control its spread.
- ❑ Epidemiologists do fieldwork to determine what causes disease or injury, what the risks are, who is at risk, and how to prevent further incidences.
- ❑ They spot and understand the **demographic and social trends that influence disease and injury** and **evaluate new treatments**.
- ❑ The initial discovery and **containment of an outbreak**, such as bird flu virus, often comes from epidemiologists.
- ❑ Some of the most important health-related discoveries in history are associated with epidemiology including the report on **smoking tobacco** stating its harmful effects.
- ❑ **Biostatistics** are often used in synonymous with epidemiology.

International / Global Health

the main goal of global health is to limit the health disparities

- **Addressing health concerns from a global perspective** and encompassing all areas of public health (e.g., biostatistics, epidemiology, nutrition, maternal and child health, etc.).
- **International health** professionals address health concerns among different cultures in countries worldwide.
*↓
we're trying to decrease this gap → decrease disparity*
- **Globalization** has linked our health more closely to one another than ever before.
- The **rapid movement of people and food across borders** means that a **disease can travel from a remote village to an urban center quickly**.
- Global public health meets the **rising health challenges that transcend national boundaries**.
- This **international field** encompasses virtually all specializations in **public health**.

Maternal and Child Health → cares about mother during pregnancy and after pregnancy

✚ Providing information and access to birth control (*family planning*).

تنظيم الاسرة

✚ promoting the *health of a pregnant woman and an unborn child*; and

✚ dispensing *vaccinations* to children are part of maternal and child health.

✚ Detection of "**High risk pregnancy**"

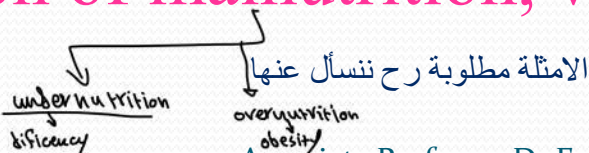
هون معناتها النساء الحوامل المعرضين للخطر او حملهم معرض للخطر فلازمهم رعاية خاصة عن الباقي زي مثلا اللي تعرضت للولادة القيصرية من قبل او عندها مرض معين

↳ such as: mother with RH Factor (incompatibility)

✚ Professionals in maternal and child health improve the public health delivery systems for women, children, and their families through advocacy, education, and research.

Nutrition

- Promoting healthy eating and **regular exercise**; researching the effect of diet on the elderly; teaching the dangers of **overeating** and over dieting are the responsibility of public health nutritionists.
- this field examines how **food and nutrients** affect the wellness and lifestyle of population.
- Nutrition encompasses the **combination of education and science to promote health and disease prevention, i.e. prevention of malnutrition, vitamin deficiency, obesity, anemia**.



Public Health Laboratory Practice

Public health laboratory professionals such as bacteriologists, microbiologists, and biochemists test biological and environmental samples in order to diagnose, prevent, treat, and control infectious diseases in communities.

In order to ensure the safety of our food and water, to screen for the presence of certain diseases within communities, and to respond to public health emergencies, such as bioterrorism, public health laboratory practice is essential.

Public Health Policy

Analyzing the:

- impact of seat belt laws on traffic deaths;
↓
decrease the effect of the
Havana cab accidents
- Implementation of **smoking prevention policies**,
- *advocating for funding for a teen anti-smoking campaign.*
- Iodization of salt and fluoridation of water.
↓
in order to prevent hyperthyroidism ↓
to prevent dental caries
- Professionals in public health policy work to **improve the public's health through legislative action at the local, state, and federal levels.**



Thank You