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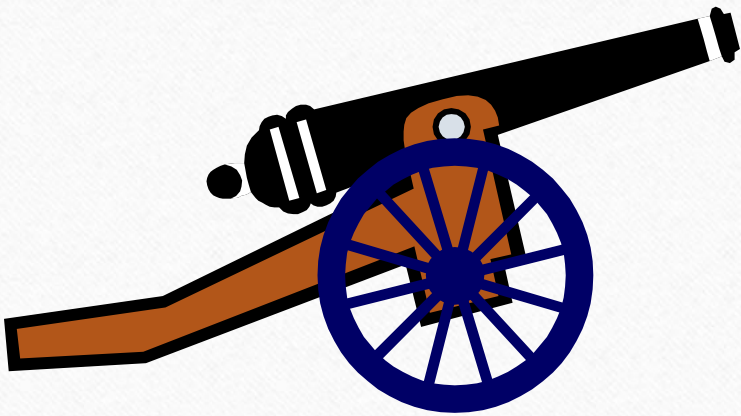
Community Medicine Department



# Levels of Prevention

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“Genes load the gun.  
Lifestyle pulls the trigger”



# Objectives

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1. To define prevention and highlight its importance in global health.
2. To discuss different levels of prevention.



# Definition of Prevention

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Actions aimed at eradicating, eliminating, or minimizing the impact of disease and disability. The concept of prevention is best defined in the context of levels, traditionally called primordial, primary, secondary, and tertiary prevention”

A Dictionary of Epidemiology, Fourth Edition

Edited by John M. Last



# Levels of Prevention

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1. Primordial Prevention
2. Primary Prevention,
3. Secondary Prevention and
4. Tertiary prevention

**Prevention** includes a wide range of activities — known as “interventions” — aimed at reducing risks or threats to health.



# Leading Causes of Death Around the World (WHO data)

<b>World</b>	<b>Deaths in millions</b>	<b>% of deaths</b>
Coronary heart disease	7.20	12.2
Stroke and other cerebrovascular diseases	5.71	9.7
Lower respiratory infections	4.18	7.1
Chronic obstructive pulmonary disease	3.02	5.1
Diarrhoeal diseases	2.16	3.7
HIV/AIDS	2.04	3.5
Tuberculosis	1.46	2.5
Trachea, bronchus, lung cancers	1.32	2.3
Road traffic accidents	1.27	2.2
Prematurity and low birth weight	1.18	2.0





# Level of Prevention

*Prevent the development of risk factors*

**Primordial Prevention**



**No disease**



**Primary Prevention**

*Manage the risk factors. Prevent the onset of disease.*

Onset of disease



**Asymptomatic disease**



**Secondary Prevention**

*Early diagnosis & prompt treatment.*

Clinical diagnosis



**Clinical course**



**Tertiary Prevention**

*Reduce complication & disability.*

www.jurnalidp.com



# LEVELS OF PREVENTION

Whole population  
through public health  
policy

## PRIMORDIAL PREVENTION

establish or maintain  
conditions to minimise  
hazards to health

Advocacy for social  
change to make physical  
activity easier

Whole population  
selected groups and  
healthy individuals

## PRIMARY PREVENTION

prevent disease well  
before it develops  
Reduce risk factors

Primary care advice  
as part of routine  
consultation

Selected individuals  
with high risk patients

## SECONDARY PREVENTION

early detection of disease  
(e.g. Screening &  
Intervention for  
Pre diabetes)

e.g. primary care risk  
factor reduction for  
those at risk of chronic  
disease, falls, injury

Patients

## TERTIARY PREVENTION

treat established  
disease to prevent  
deterioration

e.g. exercise advice  
as part of cardiac  
rehabilitation





# Primordial Prevention

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**Primordial prevention** is **defined** as **prevention** of risk factors themselves, beginning with change in social and environmental conditions in which these factors are observed to develop, and continuing for high risk children, adolescents and young adults.

- ✓ The main intervention in primordial prevention is through individual and mass education.
- ✓ Primordial prevention begins in childhood when health risk behavior begins. Parents, teachers and peer groups are important in imparting health education to children and to discourage them from adopting harmful lifestyles.



# Primordial prevention examples

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- ✓ National policies and programs on nutrition involving the agriculture sector, the food industry, and the food import export sector.
- ✓ Comprehensive policies to discourage smoking
- ✓ Programs to promote regular physical activities.
- ✓ Making major changes in lifestyle.



# Definition of Primary Prevention

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It is the action taken prior to the onset of disease, which removes the possibility that disease will occur.

Primary prevention may be accomplished by measures of health promotion and specific protection.



# Primary Prevention

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- Normal healthy persons but at risk
- Cost effective and no loss



# Primary prevention



Achieved by

Achieved by

## Health promotion

Health education

Environmental modifications

Nutritional interventions

Life style and behavioral changes

## Specific protection

Immunization and seroprophylaxis  
chemoprophylaxis

Use of specific nutrients or supplementations

Protection against occupational hazards

Safety of drugs and foods

Control of environmental hazards,  
e.g. air pollution



# Approaches for Primary prevention

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The WHO has recommended the following approaches for primary prevention of chronic diseases where the risk factors are established:

- ✓ Population (mass) strategy
- ✓ High risk strategy



# Definition of secondary prevention

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It is defined as action which halts the progress of disease at its incipient stage and prevents complications

**Secondary prevention** tries to intervene and hopefully put an end to the disease before it fully develops. Primary **prevention** is concerned with **preventing** the onset of a disease, while **secondary prevention** tries to reduce the number of new or severe cases of a disease.



# Secondary prevention

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- ✓ Early diagnosis of sick persons
- ✓ Treatment
- ✓ high cost
- ✓ may lose time, job, life etc.

so it required

- ✓ Early diagnosis (screening)
- ✓ Prompt treatment





# Definition of Tertiary prevention

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It is used when disease process has advanced beyond its early stages. It is defined as “all the measures available to reduce or limit impairments & disabilities and to promote the patients adjustment to irremediable conditions.

Trying to improve your quality of life and reduce the symptoms of a disease you already have.



# Tertiary Prevention

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- ✓ Sick persons with complications
- ✓ Very high cost persons may lose time , job or life etc.
- ✓ Permanent damage

Leading to

- ✓ Disability
- ✓ Rehabilitation



## To summarize

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**Primordial Prevention** –prevention of emergence of risk factors

**Primary Prevention** - trying to prevent yourself from getting a disease.

**Secondary Prevention** - trying to detect a disease early and prevent it from getting worse.

**Tertiary Prevention** - trying to improve your quality of life and reduce the symptoms of a disease you already have.

**Example: Smoking cessation** is beneficial in **primary prevention** of disease (**prevention** before health problems occur), **secondary prevention** (**prevention** after diagnosis but before damage) and tertiary **prevention** (**prevention** after damage from disease), although most of the evidence of benefit comes from studies of **smoking cessation** .





QUIZ



The local hospital offers yearly cholesterol screenings to the public

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Secondary



A community health worker provides vaccine to the clients in an immunization clinic

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Primary



Mr Ali is referred to a cardiac rehabilitation program after Coronary Artery bypass surgery

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Tertiary



A public health consultant teaches a group of recently diagnosed diabetic clients how to recognize hypoglycemia & hyperglycemic reactions

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## Tertiary





A lady doctor teaches breast self examination to participants at a women's clinic

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Secondary



# Cuba: The Story of Success in the Area of Prevention

Cuba is enjoying a very high life expectancy, despite relatively small per capita income. Prevention is at the core of Cuba's success in the area of achieving high life expectancy.



Churchesaroundtheworld.com



# Example of successful prevention program in Cuba

## VACCINATION PROGRAM RESULT

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• POLIO	ELIMINATED SINCE 1962
• DIPHTHERIA	ELIMINATED SINCE 1969
• NEWBORN TETANUS	ELIMINATED SINCE 1972
• CONGENITAL RUBELLA	ELIMINATED SINCE 1989
• MENINGITIS POST MUMPS	ELIMINATED SINCE 1989
• MEASLES	ELIMINATED SINCE 1993
• WHOOPING COUGH	TRANSMISSION INTERRUPTED SINCE 1994
• RUBELLA	TRANSMISSION INTERRUPTED SINCE 1995
• MUMPS	TRANSMISSION INTERRUPTED SINCE 1995
• MORBIDITY	
• MENINGOCOCCICAL DISEASE	REDUCTION 93%
• TYFHOID FEVER	REDUCTION 75%
• B HEPATITIS	REDUCTION 52%





Thank You



# References

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