Normal flora

Normal flora is the term used to describe the various bacteria and fungi that are permanent residents of certain body sites, especially the skin, oropharynx, colon, and vagina.

Normal flora is usually develops in an orderly sequence, shortly after birth, leading to the stable populations of normal adult flora.

Also The term normal microbial flora or normal microbiota refers to : the population of microorganisms that inhabit the skin and mucous membranes of healthy normal persons.

They are advantageous to the human body because they

-Provide a first line of defense against microbial invaders

-Aid in digestion

- Help break down toxins

-Help the immune system mature .

Human microbiota can be arranged into two groups:

1. The **resident microbiota:**

Consists of relatively fixed types of microorganisms regularly found in a given area at a given age; if disturbed, it promptly re-establishes itself

2. The **transient microbiota:**

   - Consists of nonpathogenic or potentially pathogenic microorganisms that inhabit the skin or mucous membranes for hours, days, or weeks.
   - It derived from the environment, and does not establish itself permanently on the surface.

- Normal flora colonization of human body starts at birth.
- Their composition varies according to anatomic site, environment, food, age, and sex.
- The following physiological elements affect their ability to thrive in a -- Particular location: moisture and temperature.
  The existence of specific inhibitory chemicals and nutrients.
  Internal organs and tissues, as well as bodily fluids, are sterile. For example, blood, brain, kidney, liver, CSF, and muscles.

The role of normal flora in human health

- **Their presence is not essential to life**
- But plays a definite role in maintaining health and normal function, such as
  - Members of the resident microbiota in the intestinal tract synthesize vitamin K and aid in the absorption of nutrients.

- On mucous membranes and skin, the resident microbiota may **prevent colonization by pathogens (colonization resistance**) and possible disease through "**bacterial interference**."
- The mechanism of **bacterial interference** may involve
- Competition for receptors or binding sites on host cells
- Competition for nutrients
- Mutual inhibition by metabolic or toxic products.
- Mutual inhibition by antimicrobial materials or bacteriocins
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