NAME: AWOKUNLE KEHINDE RUTH

EPIDEMIOLOGY ASSIGNMENT: IMMUNIZATION AND DISEASE PREVENTION

Immunization

Immunization is the process of making an individual resistant to a disease, typically by administering a vaccine that stimulates the body's immune system to fight off specific infectious agents. This process is a critical and cost-effective public health intervention that prevents millions of deaths annually from diseases like measles, polio, and tetanus. While it can cause temporary discomfort, immunization is the safest way to protect against serious illness and disability.

How it works :

- Vaccines work with your body : Vaccines contain a weakened or inactive part of a particular germ, or instructions for making a germ's protein, which triggers an immune response without causing the disease
- Your immune system learns to fight : The immune system recognizes this and creates antibodies, which provide protection against future infections from that specific germ.

Long term protection: This process provides protection for an individual against a disease.

Benefits

- Prevents deadly diseases: Immunization protects against a wide range of serious diseases, such as diphtheria, measles, pertussis, polio and tetanus.
- Saves lives: It is estimated to prevent millions of deaths each year globally.
- Reduces disability: It prevents disabilities that can result from vaccine-preventable diseases.

Supports community health: When high vaccination rates are achieved, it helps prevent outbreaks and protects vulnerable populations, contributing to herd immunity.

Side effects

(i) Mild and temporary: It is normal for a person to experience mild side effects like a sore arm, fever, or general discomfort as the body build immunity.

(ii) Short-lived: These reactions are expected and usually go away within few days.

(iii) Risk vs Reward: The risk associated with a vaccine are significantly lower than the danger of contracting the actual disease.

In Nigeria:

- **Free routine immunization:** In Nigeria, routine immunization is crucial for protecting children and is provided for free at all government-owned and public health facilities.
- **National schedule:** Children receive essential vaccines at specific ages to ensure lifelong protection, according to a national immunization schedule.
- **Access for all:** Outreach programs and mobile clinics are used to ensure that all children have access to vaccines, regardless of their location or socioeconomic status.

Disease Prevention

Disease Prevention involves a combination of personal actions and public health measures to avoid illness, detect it early or reduce its impact. Key strategies include practicing good hygiene like frequent hand-washing, staying up-to-date on vaccinations, and adopting a healthy lifestyle with proper diet, exercise, and sleep. Public health efforts focus on broader interventions such as food safety regulations and screening programs to protect the entire population.

Personal and lifestyle prevention

(i) Practice good hygiene: Wash your hands often, especially before eating or touching your face. Sanitize surfaces and avoid sharing personal items like toothbrushes and razrazors

(ii) Stay up-to-date on vaccinations: Vaccines are a crucial way to prevent infectious diseases

(iii) Adopt a healthy lifestyle: Eat a balanced diet, get regular exercise, avoid tobacco and illegal drugs, and get enough restful sleep.

(iv) Be cautious with food: Prepare and handle food safely, cook to proper temperatures, and refrigerate leftovers promptly.

(v) Avoid infection: Be careful around wild or unfamiliar animals and use insects repellent to avoid bites. Practice safe sex to protect against sexually transmitted infections.

Secondary and tertiary prevention

- **Early detection:** Get screened regularly for diseases, which can help detect them before symptoms appear.
- **Treat infections appropriately:** Use antibiotics only when prescribed for a bacterial infection, as they are ineffective against viruses.
- **Seek medical help:** Consult a doctor if an infection worsen or doesn't improve after treatment.

Broader public health measures

(i) Health promotion: Implement programs that address health literacy and risk factors at a community level

(ii) Screening programs: Conduct evidence-based screening for early detection of diseases across the population.

(iii) Rehabilitation: Provide rehabilitation and treatment to reduce the harm caused by an established disease.

(iv) Antimicrobial stewardship: Promote the responsible use of antibiotics to prevent the rise of drug-resistant bacteria.