**Diploma in Public Health**

**Adm no AIPMS/242/2019**

**Kerubino Garang Deng**

**DIPLOMA IN PUPLIC HEALTH FINAL EXAM**

1. List the types of people who are most vulnerable to waterborne diseases. Explain your answers why and how to overcome the diseases

Waterborne diseases affects everyone in the society without discrimination. However, the most vulnerable could be elderly people and children. Children and elderly people are most susceptible because they lack strong immunologic defences; they are also having wide range of exposures to many to waterborne diseases in uncontrolled and expose environment.

Waterborne diseases can also be overcomes or control in various ways namely: good environmental hygiene practices and management, drinks properly treated water or boiled water, good practices of personal hygiene, proper disposal of human and animal wastes and finally a good food safety procedures like covering foods, re-boil the food that overstayed for more than four hours and eat the food while still warm.

1. Suppose that inhabitants of a village obtain water from a spring. What advice would you give to the users about the prevention of contaminants entering the spring?

I would rather advise the villagers that contaminates enters water sources through (OD) and that they should stop defecating openly near the water sources or dig a latrines for that matters. I will also advise the community not to take water from such spring or else treat or boil water and filter them before consumption.

1. The following are pollution sources. Give two specific pollutants for each source.
2. A residential area: Nitrates and phosphates
3. A metal plating plant: Electroplating operations and degreasing and cleaning solution .
4. Agricultural activities: pesticides and fertilizers, livestock and contaminates water
5. An uncontrolled landfill site: industry, manufacturing and construction. Urbanisation and population growth. Agriculture waste and solid waste.
6. Urban surface water run-off: contaminants from residential and commercial areas, atmospherics deposition and industrials activities. These include pollutants like sediment, fertilizers and bacteria’s.
7. Explain 5 reasons why emergencies can put people at greater risk of waterborne disease.

Waterborne diseases are the conditions caused by the pathogenic microorganisms that are transmitted directly into water and put people are risks as below:

During emergency, people are not organized and the way of living is poor when it comes to places of resident. People lives in very congested shelters that lead to the poor environmental hygiene that cause most of the waterborne diseases.

The other scenario is a situation where people lives in a place where there is no enough space for construction of other WASH facilities like latrines, bathing shelters, washing shelters and many more that make OD official which can lead to many diseases affecting the population unknowingly.

Because of the condition mentioned above, people will end up drinking contaminated water, which caused waterborne diseases. In addition, because water may also be contaminated right from the sources all the way to storage, collections just because the population are not organized, and hygiene promotion is not in the right place.

Mismanagement of both solid and liquid waste can also create significant health problems and a very unpleasant living environment during emergency phase, if not dispose of safely and appropriately. Unmanaged solid and liquid waste can also polluted water sources and the whole environment.

During emergency as well, a very small attention is pay to the proper management of the drainage system where people end up having those drainages with waste, which can act as a breeding ground for some vectors that also cause waterborne diseases.

1. In your own words, what is your understanding of public health and what are its key elements?

Public health can be define at the same time as the art and science of preventing the spread of diseases in a given communities and individuals through public campaign, promotion and awareness. The objectives of this process is to prolong lives of the communities and the individuals through the organized efforts of both the receivers of the messages and the campaigners. However, keys element of public health include, Innovation, technical package, managing performance, partnerships, communication and political commitment.

1. Discuss how environmental health and sanitation affect the nutritional status of the vulnerable groups

Below are some of the environmental and sanitation effect on nutritional status:

Food production method globally contribute to severe environmental food problems like the food, which is produce through genetic engineering.

The demographic and economic transition that many developing countries are undergoing is producing important changes in diet and life style that greatly influences diseases risk.

In addition, among the risks behaviors associated with socioeconomic transition and urbanization are excessive dietary fat intake, sedentary lifestyle, smoking and environmental contamination combined with a reduced infant mortality and increased life expectancy. Those risks factors lead to an increasing prevalence of chronic diseases like non-insulin dependent diabetes and coronary heart disease.

People are being drive toward the less diverse dietary feeding due to the lack of proper production and the effects of protracted conflicts across the world and the concept of sustainable food systems and diet has become increasingly important.

Proper sanitation, hygiene and safe drinking water can reduce the rate of undernutrition and stunting in children by preventing diarrheal and parasitic diseases and damage to the intestinal development (Environmental enteropathy)

According to the World Health Organization, roughly 50% of all malnutrition cases are associated with repeated diarrhea or intestinal worm infections as a direct result of inadequate water, sanitation and hygiene. This does not captured the subclinical infections from the environmental enteropathy, which the current research is revealing as a significant factor for poor growth and malnutrition.

When children are undernourished, their resistance to infections lowered and they are more susceptible and more likely to die from diarrheal diseases and other infections. In fact, diarrhea is the second leading cause of death globally in children under-fives years of age.

Where children regularly suffer from diarrhea, they are also very likely to be malnourished as a result. For infants particularly under six months of age, diarrhea can cause permanent damages to intestinal development reducing a child ability to absorb nutrients.

Many studies shows proper hands washing with soap or ash can reduce incidences of diarrhea by about 42% to 47%, it is simple, effective, and hygiene interventions can prevent at least 860,000 child deaths a year globally caused by undernutrition. (WHO 2008)

Improvement in sanitations, especially in elimination of Open Defecations (OD), are associated with 4% to 37% reductions in stunting in rural settings and with a 20% to 46% reduction in urban setting. (Cochrane Review 2013) parasitic infections caused by poor sanitation and hygiene can lead to anemia and impacts normal growth and cognitive development.

Many nutrition programmes include messaging on water, sanitation and hygiene; in fact, the WASH messages contextualized for the specific community, making them appropriate for any family in the community to practices.

1. Paul, a resident in the outskirts of your town, consults you about building a latrine in the compound of his house. He is an open-minded man who is keen to improve life for his family. He has a wife and three young children, and his elderly mother lives with them. He does not have a tap in his house and gets water from a nearby well. The area has heavy soil and the rock below is impermeable.
2. Which types of latrine are possible choices for him? “Pit latrines or household latrine some time refer to as a long drop”
3. Which types of latrine would you recommend, and why? “Pit latrine because they are simple to manage at the family level”
4. What other advice would you give him about the location, design and construction of the latrine? “I would advise him to construct the latrine outside the compound it’s easy to use even without water since he doesn’t have water in his compound. He will have to dig a pit or a hole, provide concrete slab and finally super structure on top to complete the process. The pit is recommend not to be more than three meters deep.
5. Explain five ways in which urbanization creates challenges for effective sanitation and solid waste management.

The following are some of the challenges faces during urbanization:

Over population: when an area is over populated, the quantity of wastes generated will be much. The populace will dispose wastes both in approve and unapproved sites, thereby causing problems of waste management in the urban areas. (Agagu 2009)

Environmental education and participations: Environmental education has been describe by Eguabor (2008: 78) as a permanent process in which individuals and community gain awareness of their environment and acquire knowledge, value, skills, experience and determination which will enable them to act individually and collectively to solve present and future environmental problems.

Inadequate infrastructures: Many local government lack capacity to meet services for waste generation in the rapidly growing areas. When vehicles to evacuate waste and other infrastructures are not provided or inadequate from the local government to the state government, there will be a problem in handling waste generated by the populace.

Physical constraint: The major constraints to waste management includes physical and economic problems. Physical constraint to waste management include lack of comprehensive planning, inadequate infrastructures and development crisis. Comprehensive physical planning incorporates conceiving the plan and considering various aspects of the plan of the urbans areas in terms of waste generation and disposal.

Budgeting: The government budget for environmental protection is always inadequate. This make waste management allocation to be so negligible, leading to the poor waste management in all aspects.

9. How do good sanitation and waste management practices bring a positive effect to urban inhabitants? Give examples for effects on:

1. Health: Reduce environmental pollution.
2. Education: Help in environmental education to enable to acquisition of ecological knowledge and skills in order to raise public awareness of an effective participation in the implementation of the waste management system.
3. Economic conditions: Recycling the waste will help you get the money by selling the waste to some companies and sometimes create job opportunity.
4. The environment: It protect the environment by making it clean and fresh and also save the earth and preserve energy
5. List and briefly describe the measures by which the success or otherwise of a public–private partnership providing water supply services can be assessed.

PPP arrangement refers to a corporation between public and the private sectors in providing public good. However below some of the ways their success can be are assess:

Customer’s services: This is done by asking some respondents whether they are experiencing interruption in their current water supply.

Quality of water supplied: The quality of water is measure interim of physical characteristic like odour, colour, taste and turbidity.

Affordability of water supplied: Affordability is measured in term of cost and the consumers ability to pay.

Accessibility to water: accessibility is measure using the distant to the water point and type of connectivity to the water point.

NB: ALL QUESTIONS CARRY 10 MARKS

BEST OF LUCK!!

References:

Obosi, J. (2017) Impact of public-Private Partnership on Water Service Delivery in Kenya.Open Journal of Political Science, 7, 211-228 doj: 10.4236/ojps.2017.72017

Foege WH. House on Fire: The Fight to Eliminate Smallpox. Berkeley, CA: University of California Press; 2011. (Google Scholar)

Adedibu, A.A. (1984), “Spatial pattern of Solid Waste Generation of Ilorin-Nigerian” Waste Management Journal. Retrieved from [www.springerlink.com](http://www.springerlink.com) on March 19 2010