Christine Nlandu

N442 Contagion Video Handout

Use your textbooks to understand epidemiology and nursing implications for communicable diseases.

1. Do you think the discussion with the physician right after the main character's wife dies realistically portrays how a medical provider could explain such a phenomenon?

Some providers would be more empathetic and concerned about the cause of death of this patient. Also, the provider started speculating about the cause of death in front of the husband which only made him more anxious and concerned. The physician could only tell the husband that they need to do autopsy because they are not sure about the cause of the illness.

2. How many times do you touch your face during the movie?

More than 20 times

a. Estimated 525 times; movie is 1 hr 45 minutes

    0. 5 * 60 min= 300

    i. 5 *45 min = 225

- **What do they quote as the range in which people touch their face in an hour?**
    - 2000-3000 times a day, 3-5 times a minute (180-300 times an hour)

3. **Identify the chain of infection:**

- Susceptible host (anyone who comes into contact with infected personnel)
- Portal of entry and exit (mouth, cuts, nose and respiratory tract)
- Agent (virus)
- Reservoir (bats, pigs and humans)
- Mode of transportation (airborne, coughing and sneezing, direct and indirect from the casino)

Bat-pig-chef-Gwyneth Palthrow - - - several people at the casino- - -

4. **What is/are the infectious agent?**

The infectious agent is virus, which turn into fomites making the virus easy to spread.

5. **What diseases did they rule out?**

They ruled out Measles and H1N1 from the outbreaks that were in Hong Kong. West Nile, Herpes and encephalitis was later ruled out.

6. **What is the reservoir?**

Where the microbe lives, grows and multiples (EX. Human, animals/ pets, soil and water, soil, insect like mosquitos). Pigs and bats and the adults and children

7. **What are the portals of entry? The portals of exit?**

Portal of entry: mouth, cuts/ broken skin and eyes, respiratory tract, mucous membranes (nose, eyes), genitals, inhalation, anal, and vaginal orifice.

Portal of exit: mouth, cuts/ wounds, nose, bodily fluids, intestinal tract (rectum), feces, urines, and saliva, sweat.

8. **What are the fomites? Can the virus live for 6 days on a box?**

Fomites - Any object or substance capable of carrying infectious organisms such as germs or parasites and hence transferring from one individual to another (Glasses, door handle, chef's hand, cups, handles on the bus and subway, elevator buttons, drinking fountains, touching each other). The virus can live for 6 days, but no longer than 10.

9. What is the process they take to determine what the disease is?

Autopsies of the infected people that die. Culture of sample, which grow virus.

10. What agencies get involved?

CDC, WHO and The Chronicle (the newspaper), Department of Homeland Security

11. What precipitates these agencies getting involved?

The unknown cause of the disease and the fast rate of spreading.

12. What is the role of these agencies?

CDC is receiving the samples of the infected people and is supposed to identify the pathogen that is causing the disease. The WHO is concerned about the public, how to prevent the spread of the disease, and how to ensure that the least amount of people get infected. They are trying to find out where the disease originated and whether it could be a biological weapon and an attack on the country. Also to develop vaccine to save the population.

13. What is the time frame from onset to manifestations of symptoms i.e. incubation period and then to death?

Incubation period is less than 10 days and death occurs in hours after initial symptoms.

14. What are the actions taken by the CDC in terms of containing the infection?

To set up a plan to limit the spread of the disease, track its origin, set up treatment facilities, and develop a vaccine. They closed all the public spaces to limit spread of the virus and kept children at home.

15. What is an "R naught" (R_0) ?

R naught is a mathematical term that indicates how contagious an infectious disease is. (Reproductive rate of the virus). It is the amount of people that are likely to be infected from a person that gets sick. R=reproductive rate of the virus. It depends on multiple factors, like how big is the population of people susceptible to the virus, or how long is the incubation period.

16. What do the investigators do to protect themselves?

Limit the amount of people working with the virus, use PPE, distance from infected people, send an epidemiologist to Hong Kong, the place they suspected this virus to originate from.

17. How do the personnel involved communicate the risks to the public?

Press conference

18. Calculate the mortality rate from the disease in the first 7 days in Minneapolis?

Low 20's

19. What does the epidemiologist from the WHO do to track the progression of the disease?

Track the days between incubation, risk of susceptibility

20. What is an epidemic? versus a Pandemic?

Epidemic: condition occurs when the rate of disease exceeds the usual level of the condition in a defined population.

Pandemic: condition occurs when an epidemic occurs in multiple countries or continents

21. What is a quarantine?

People who have been exposed to the disease are isolated from others to prevent the transmission of disease.

22. Why does the husband not get sick? What type of immunity does he have?

The husband does not get sick because he has natural active immunity.

23. What are the symptoms of the virus?

Seizures, headache, fever, sweating, lethargy, altered loc, coma, cough, difficulty swallowing, and blurred vision.

24. How do they develop a vaccine?

- By taking a toxin and weakening or inactivating them.

25. How is the vaccine administered?

Intranasally and intramuscular.

26. Is it a live virus vaccine versus an attenuated virus vaccine?

- **What is the difference?**
    - Attenuated virus vaccines are live virus vaccines that have been weakened.

27. What sort of immunity does the vaccine provide?

Active, acquired immunity

28. How can the vaccine be administered to the greatest number of people?

Vaccine clinics

29. How does the environment, transportation, communication, essential services, government, and health care facilities get involved?

The CDC is involved almost immediately, tracking all clusters throughout the world. The government is then contacted after the prevalence is determined. From there, communication, environment, transportation, and essential services were involved.

30. In your opinion do local, national, and global politics make a difference in the development and distribution of the vaccine?

Explain your opinion? Yes, local, national and global politics should work collaboratively to develop and distribute the vaccine. Sharing data and research will expedite the process and prevent skewing of distribution of vaccines to various parts of the country/world.

31. Does it make a difference if there is a rush to develop the vaccine?

It does make a difference if there is a rush to develop the vaccine, more people will be working on the same common goal and most, if not all, available resources will be allocated to producing the vaccine.

32. Does it make a difference that a vaccine may have other side effects? Ex: 1976—Swine Flu vaccine.

Yes, the side effects may be worse than the actual disease. Such as GBS when given the Swine flu vaccine in 1976.

33. As a community health nurse: Identify the primary, secondary, and tertiary prevention methods that could 9be used for infectious diseases at both the individual and community levels.

- Primary: education, vaccines, hand washing
- Secondary: screening, identify diseases at the earliest stages, quarantine.
- Tertiary: clinics to reduce the effects of the disease symptoms, support groups for the families who lost a loved one, counseling.

34. What are the steps that a community needs to do to respond to an infectious disease outbreak?

Protection, prevention, and treatment resources are critical in containing an outbreak.