

N442 Contagion Video Handout

Use your text to understand epidemiology and nursing implications for communicable diseases

1. Do you think the discussion with the physician right after his wife dies realistically portrays how a medical provider could explain such a phenomenon? No, the physician did not act in a professional manner. He should have privately explained the death to the husband in a therapeutic manner, and there were no labs or test results to support his theory.

2. How many times do you touch your face during the movie? 50

What do they quote as the range in which people touch their face in an hour? 3-5 times per minute x 60 = 180-300 times per hour

3. Identify the chain of infection: Virus (infectious agent) → Bats & Pigs (reservoir) → Humans (susceptible host) via direct contact & droplets

4. What is/are the infectious agent? The virus was the infectious agent; however, the chef was the ground zero susceptible host that spread the virus onto others

5. What diseases did they rule out? They ruled out meningitis and encephalitis

6. What is the reservoir? Bats and pigs

7. What are the portals of entry? Mucus membranes

What are the portals of exit? Bodily fluids

8. What are the fomites? Fomites are inanimate objects and materials that are likely to carry infection

9. What is the process they take to determine what the disease is? Growing the virus in a lab for testing

10. What agencies get involved? The CDC, Department of Homeland Security (DHS), and state public health departments
11. What precipitates these agencies getting involved? Unknown virus killing several people globally in a short amount of time
12. What is the role of these agencies?
 - CDC
 - o Monitoring and assessing influenza viruses and illness.
 - o Building and supporting surveillance and response capacity.
 - o Improving vaccines and other interventions.
 - o Applying research to provide science-based enhancement of prevention and control policies and programs.
 - DHS
 - o Mitigate the impact of a pandemic on homeland security
 - o Protect public health and safety
 - o Use resources to defend the critical infrastructure and the basic functions of American society
 - State public health departments
 - o Assuring an adequate local public health infrastructure
 - o Promoting healthy communities and healthy behaviors
 - o Preventing the spread of communicable disease
 - o Protecting against environmental health hazards
 - o Preparing for and responding to emergencies
13. What is the time frame from onset to manifestations of symptoms? Day 1 begin signs/symptoms → Day 4 leads to death
14. What are the actions taken by the CDC in terms of containing the infection? Informs the public to quarantine in their homes, practice hand hygiene, and practice social distancing
15. What is an “R naught” (R_0)? Reproductive rate of the virus; $R_0 = \text{new/existing} = 4$
16. What do the investigators do to protect themselves? Use PPE = airborne precautions

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

$$15/425,000 \times 100,000 = 3.53$$

18. What does the epidemiologist from the WHO do to track the progression of the disease? They pinpointed the casino video footage capturing ground zero susceptible host. They were able to do this by tracing videos of the deceased and where they have been, and who they met with.

19. What is an epidemic? It is a widespread occurrence of an infectious disease in a community at a particular time

What is a pandemic? An epidemic occurring worldwide, crossing international boundaries and affecting a large number of people.

20. What is a quarantine? A restriction on the movement of people and goods which is intended to prevent the spread of disease or pests.

21. Why does the husband not get sick? He was already exposed to the virus and survived, so his body made antibodies against the virus

What type of immunity does he have? He had natural immunity

22. What are the symptoms of the virus? Headache, unable to swallow, coughing, and seizures

23. How do they develop a vaccine? Testing on monkeys during vaccine trials; however a female doctor took it upon herself to test a live attenuated virus vaccine called MEV-1 that worked

24. How is the vaccine administered? Administered via injection

25. Is it a live virus vaccine versus an attenuated virus vaccine? It is a live attenuated virus vaccine

What is the difference? A live virus attenuated vaccine uses a weakened form of the virus; whereas, an inactivated vaccine uses a protein or other small pieces taken from the virus

26. What sort of immunity does the vaccine provide? Active immunity
27. How can the vaccine be administered to the greatest number of people? The movie used a lottery drawing representing a birthdate, and those who had their birthday on that date were able to be vaccinated
28. How does the environment, transportation, communication, essential services, government, and health care facilities get involved? One cannot work or exist without the other, so they must work in unison to survive.
29. In your opinion do local, national, and global politics make a difference in the development and distribution of the vaccine? Yes, it is a chain of command that allows for an orderly system to distribute the vaccine to the people
30. Does it make a difference if there is a rush to develop the vaccine? Yes, a rush in development can cause even more problems if there are side effects
31. Does it make a difference that a vaccine may have other side effects? Ex: 1976—Swine Flu vaccine. Yes, side effects can lead to co-morbidities or cause early deaths
32. As a community health nurse: Identify the primary, secondary, and tertiary prevention methods that could be used for infectious diseases at both the individual and community levels.
 - Primary prevention: educate and reinforce hand hygiene
 - Secondary prevention: provide screening tests to detect disease in its earliest stage
 - Tertiary prevention: Self-management programs for those recovering from illness
33. What are the steps that a community needs to do to respond to an infectious disease outbreak?
 - Identify resources and coordinate with local and state health authorities
 - Establish existence of an infectious disease outbreak
 - Verify the diagnosis
 - Construct case definition
 - Find cases systematically and develop line listing
 - Perform descriptive epidemiology & develop hypothesis
 - Evaluate hypothesis and re-evaluate
 - Implement control measures
 - Communicate findings
 - Maintain surveillance

