

N442 Contagion Video handout - Kayla Cox Schrubb

Use your textbooks 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?
 - I do not think this Dr. approached this situation realistically. He was not sympathetic and did not want to run any tests for answers on why this man's wife died.

2. How many times do you touch your face during the movie?
 - too many to count

What do they quote as the range in which people touch their face in an hour?

- 3-5 x per min, 180 to 300 times per hour

3. Identify the chain of infection:
 - infectious agent: MEV-1
 - reservoir: a bat
 - portal of exit: chef cooking the meat did not wash his hands before meeting a guest (Beth)
 - mode of transmission: direct contact
 - portal of entry: Beth's mucous membranes
 - susceptible host: Beth and everyone who comes in close contact with her or contaminated surfaces

4. What is/are the infectious agent?
 - MEV-1

5. What diseases did they rule out?
 - meningitis
 - encephalitis
 - flu

6. What is the reservoir?
 - a bat/pig that ate contaminated food

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

- portal of exit: chef cooking the meat did not wash his hands before meeting a guest (Beth)
 - portal of entry: Beth's mucous membranes
- 8.** What are the fomites? Can the virus live for 6 days in a box?
- transmission from surfaces. No, it cannot live for days in a box.
- 9.** What is the process they take to determine what the disease is?
- they first find out why there are unexplained deaths
 - after interviewing Beth's husband, they began to trace who came into contact with Beth and where she all traveled too
 - took blood and tissue samples from infected people who died
 - put the populations on quarantine/isolation precautions
- 10.** What agencies get involved?
- CDC
 - WHO
 - minnesota local health department
 - federal government
- 11.** What precipitates these agencies getting involved?
- deaths start happening around the world without knowing the cause
 - help get blood samples from the patients that have died from the virus
 - figuring out the virus and build a correct vaccine
- 12.** What is the role of these agencies?
- find out how the virus works
 - what type of immunity is needed for the vaccine to work
 - help get information out to the public
 - administer the vaccine in to the populations as fast as possible
- 13.** What is the time frame from onset to manifestations of symptoms i.e. incubation period and then to death?
- approx 2 to 4 days
- 14.** What are the actions taken by the CDC in terms of containing the infection?
- Started by interviewing people who had contact with Beth
 - put the populations in isolation/quarantine
 - started developing a vaccine

- held press conferences to inform the public and keep them updated with their findings of the infection

15.What is an “R naught” (R_0) ?

- Stands for basic reproduction number. This measures how many people, on average, one infected person will infect in a population.

16.What do the investigators do to protect themselves?

- they wear full body protective suits with respirators or N95 masks
- very cautious about touching surfaces
- continuously using hand sanitizer/washing hands
- social distance
- stay out of high-risk areas

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

- 8 deaths/3.3 million population = 0.24

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

- gets a full history on Beth's husband that was exposed to the virus
- travels to Hong Kong because she believed Beth got exposed there
- interviews local health departments
- found the footage from the casino where Beth stayed and found who she interacted/came in contact with

19.What is an epidemic? versus a Pandemic?

- pandemic: virus is spread worldwide
- epidemic: high percentage of disease occurring in a certain area

20.What is a quarantine?

- This is when people isolate themselves. They should stay home and not come into contact with anyone. They should social distance from everyone. This includes shutting down schools and public gatherings.

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

- He was immune. He has innate immunity

22.What are the symptoms of the virus?

- Cough, tired, fever, difficulty swallowing, drowsiness, seizures, foaming out the mouth, headache, pale skin, sudden onset

23. How do they develop a vaccine?

- they first had to identify the virus and understand how it affected the body
- then they grew the virus in a lab
- then had to figure the type of immune response that was needed to protect against the virus by testing on animals

24. How is the vaccine administered?

- Through a nasal spray

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

- it is a live vaccine

What is the difference?

- live virus vaccine: live virus form of the virus, but typically do not cause the disease
- attenuated virus vaccine: uses a weaker version of the virus that would cause the disease

26. What sort of immunity does the vaccine provide?

- active immunity

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

- Because of the vaccine being a nasal spray, it provides an easy administration and can be done in large distribution. It also can be self-administered.
- they also administered the vaccine to the high-risk groups and went down from there
- having the large vaccination sites also helps

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

- They all are able to help figure out how the virus worked/spread, come up with a vaccine, and distribute it in the correct manor.

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

- yes

Explain your opinion?

- These politicians can decide where the vaccines go first, some don't believe in vaccines, and they have to come up with the funding.

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

- yes, if the vaccine is not correctly made and tested in the appropriate manor, it could hurt the populations rather than help

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

- It does. Side effects can turn people away from receiving the vaccination

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: vaccines, education
- secondary: screenings
- tertiary: compliance, treat disease after testing positive

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

- a spike in a disease reported in a community would result in testing to figure out how and why, and then policies will go into play to help decrease the spread.