

N442 Contagion Video handout

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-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?**

I don't think the physician should have said what he did to the freshly grieving husband. He just found out that his wife died and then the physician states that it may be due to a disease in China but that there are no current health alerts. There should have been no discussion on the physicians opinion on how she might've died, and definitely not then until after the autopsy is performed to provide real answers backed by science. Putting a potentially serious claim on the husband is not appropriate.

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

A lot, I'm not sure how many times. I do it subconsciously.

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

Three to five every minute, so 180 to 300 times an hour.

- 3. Identify the chain of infection:**

The agent, the host, and the environment.

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

The MEV-1. It is a lethal airborne virus.

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

Measles and H1N1 from the outbreaks that were in Hong Kong. Herpes and encephalitis were later ruled out.

- 6. What is the reservoir?**

An infected fruit-eating bat drops fruit, and the pig eats the infected fruit; the pig goes to the chef. From there is transferred between humans.

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

The portal of entry was human touch. The portal of exit was airborne (respiratory).

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

Doorknobs, shared utensils, food, etc.

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

They traveled to the sites affected by the disease to determine how the outbreak began by identifying the first victim's case. Next, they gather data on secondary, tertiary, and subsequent cases which characterize the outbreak. Lastly, local and state public health officials work to stop the spread.

10. What agencies get involved?

The CDC and WHO (World Health Organization).

11. What precipitates these agencies getting involved?

They get news of an outbreak and are required to intervene in order to contain the spread.

12. What is the role of these agencies?

The CDC works to create a vaccine since they are the center for disease control and prevention, they also initiate quarantine. The WHO organization worked internationally in the movie. They were working together to find a vaccine and advocated for safety protocols.

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

Beth dies within four days of contracting the disease. Symptoms would occur within hours of death. The incubation period was around 24-48 hours which was very fast.

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

Create a vaccine and quarantine.

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

It measures how many new victims a disease carrier is likely to infect. The higher the R_0 , the more contagious the disease is.

16. What do the investigators do to protect themselves?

Gloves, masks, bodysuits, and glasses.

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

Social media/the news played a big role in the movie. It produced fear throughout the public with the news. Social media told them to stay inside and call the hotline if they had problems. Blogs were used to discuss the situation.

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

Low 20s

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

Identify potential cases and clusters of people with consistent symptoms and track where those people traveled. Contact tracing was used.

20. What is an epidemic? versus a Pandemic?

An epidemic is a disease that affects a large part of a community or region. A pandemic spreads over multiple countries or continents.

21. What is a quarantine?

Restrictions that prevent the spread of a disease. This restricts people and services from normal activities.

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

The husband seems to have natural immunity, which protects a person against the disease.

23. What are the symptoms of the virus?

Fever, cough, headache, malaise, even death and frothing around the mouth.

24. How do they develop a vaccine?

They created the vaccine and tested it on a monkey to see if it would work. Hextall (a CDC staff member) injected herself with the vaccine, which was not yet proven to work. It was developed and distributed in approximately 144 days.

25. How is the vaccine administered?

A birth-date-based lottery chose who got it. An intranasal live attenuated.

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

What is the difference?

A live attenuated virus vaccine contains weakened bacteria or virus, which helps the body produce antibodies to then fight off the bacteria if the person comes into contact with it again. Inactivated vaccines contain inactivated pathogens that cannot replicate, but provide a short term immunity to it. Inactivated vaccines usually require boosters. The movie demonstrated a live attenuated vaccine.

27. What sort of immunity does the vaccine provide?

Active immunity

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

Set up stations or areas where people can come by and get vaccinated. Let it be known through social media, TV, and other sources to get the word out of clinics or areas providing vaccinations. Resources to produce enough vaccinations is critical.

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

They all work together to provide the ultimate goal of containing the disease, and helping those who are infected.

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, because if all of them are advocating and pushing for a vaccine, it causes the people to want the vaccine, and pushes companies to make them more readily available. Also, countries can help out with other countries to ensure proper resources are being made available to them.

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

If a vaccine is rushed, it doesn't have the time needed sometimes to fully become aware of side effects and long-term effects. If not done properly, it can cause issues to the public.

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

It depends on the side effects. Side effects of the flu vaccine can be generalized aching in the area the vaccine was given, can cause tiredness, and sometimes even body aches. However, the body is building resistance to the strains in the vaccine, so that can be normal side effects. However, damaging side effects such as Guillain-Barre syndrome with the Swine Flu vaccine is not okay. Therefore, there is a risk/benefit analysis that plays a role with a scenario such as that.

33. 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: Educate the public regarding immunizations. Counsel patients traveling to other countries about protection from infectious diseases and refer them to the health department regarding mandatory immunizations.

Secondary: Early detection through screening and case finding. Refer to suspected cases for diagnostic confirmation and reporting. Provide post-exposure prophylaxis. Individuals can self-quarantine and notify people they live with or partner to get screened.

Tertiary: Provide resources for those who have developed a disease, or after the infection is done, provide healing and recovery resources.

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

Stay calm, keep a safe distance from people if you have to go out, stay home as much as possible, WASH YOUR HANDS, and keep a healthy diet and exercise to keep up bodies ability to fight off any infections. The community should come together to support the needs of everyone.