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N442 Contagion Video handout

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

- Do you think the discussion with the physician right after his wife dies realistically portrays how a medical provider could explain such a phenomenon?
The physician was short + dismissive.
- How many times do you touch your face during the movie?
Runtime = 1 hr 46 min → 106 min × 3 = 318 times on the low end.
318 or more, I was also eating w/ my hands.
What do they quote as the range in which people touch their face in an hour?
- Identify the chain of infection:
- What is/are the infectious agent?
180 - 300 x/hr
Virus w/ pig + bat origin
MEV-1 Virus
- What diseases did they rule out?
Meningitis, West Nile, Encephalitis...
H1N1, Bird/Avian Flu
- What is the reservoir?
Humans, pigs, + bats
- What are the portals of entry? The portals of exit?
eyes/nose/mouth Respiratory secretions/droplets in air/on surface
- What are the fomites? Can the virus live for 6 days on a box? → No
Transfer to surfaces
→ credit card, door knobs, etc.
- What is the process they take to determine what the disease is?
samples sent to CDC Bio safety lab for sequencing/identification; Interviews/contact tracing
- What agencies get involved?
CDC, Minnesota Dep. Health, Homeland Security, WHO, Red Cross + FEMA

11. What precipitates these agencies getting involved?

The rate of deaths + prevalence
Interruption of food/supply lines

12. What is the role of these agencies?

CDC: prevent/detect diseases

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

3-4 days

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

quarantine, social distancing

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

Reproductive rate ($R_0 = 4$)

16. What do the investigators do to protect themselves?

N95, mask, gown, face shield/goggles

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

$$\frac{\text{total \# of deaths from virus}}{\text{Minneapolis population}} \times 100,000$$

Betty Clark 3 students
school nurse
 $2+3+1$
 $\frac{6}{3,000,000} \times 100,000 = 0.2$

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

contact tracing

19. What is an epidemic? versus a Pandemic?

single country or region several countries or continents

20. What is a quarantine?

isolating those exposed or infected

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

Active immunity

22. What are the symptoms of the virus?

cough, fatigue, diaphoresis,
dysphagia, seizures, fever

23. How do they develop a vaccine?

Live attenuated vaccines
Rhesus monkey trials

24. How is the vaccine administered?

IntraNasal spray

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

Live vaccines are attenuated,
or weakened, forms of the virus.

Examples of vaccines that are live, attenuated
viral vaccines used in the U.S.

What is the difference?
→ Live-attenuated is one
type of vaccines.

Inactivated vaccines use
killed versions of the germ.

are MMR, varicella, rotavirus,
+ influenza (intranasal).

26. What sort of immunity does the vaccine provide?

active immunity

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

Mass production +
administration at

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

These services provide information,
resources, + administer the vaccine.

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?

Each must communicate to
ensure vaccines reach niche communities

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

yes, time makes a difference.

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

Benefits outweigh the risks

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.

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

— isolate/quarantine mandate
— acquire necessary supplies (PPE) + staff
— report #'s to health dept. + CDC
— contact tracing

Primary: isolation/social distancing, edu, hand hygiene, masks/PPE

Secondary: screening for sx

Tertiary: treatment, grief counseling