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Course: HIS 113: World Civilization I: OB

Date: January 27th, 2023

Patterns of Disease Spread

A relationship existed between network flows and the spread of diseases as societies transitioned from hunting and gathering to agriculture. Historically, the model of illness spreading has depended on contact between two types of people. The first group is the ineffective individuals, comprising those with the illness (Newman 1). The second group includes the susceptible individuals, encompassing those who do not have the disease but have the potential to get it. As illustrated by the author, "The pattern of these disease-causing contacts forms a network" (Newman 1). Compared to hunting and gathering, agriculture facilitated this network as it compelled individuals to live in densely populated settlements. As a result, this made it increasingly easier for crowd diseases to spread from one person to another. However, the contemporary spread of illness differs from the phenomenon witnessed during the early agricultural days. By using monkeypox as the endemic of choice, the discussion will explore the differences in the pattern of disease proliferation between the early agricultural days and the modern era.

Origin and Spread of Monkeypox

Reporters acknowledged the first incident of the disease in London, United Kingdom, on May 6, 2022. The case had emerged from a British national who had a travel history to Nigeria (Hraib 104069). By May 21, 2022, the disease had already affected 22 persons globally from 13

countries (Hraib 104069). As a viral disease, the disease mainly spreads via contacting or ingesting an infected animal's blood (Hraib 104069). Patient-to-patient infection occurs by contacting an infected person's lesions, fluids, and respiratory droplets. As contact continued, the disease spread to 118 countries. Data shows more than 64,851 cases, with a significant percentage having a travel history ("Monkeypox 2022 Global Epidemiology; Report 2022-09-14"). Reported cases were in the Americas, Europe, Asia, the Middle East, and Africa. Accordingly, the infection levels of monkeypox attained international status.

Modern versus Previous Patterns of Spreading

During the early agricultural period, the densely populated villages provided an easy mechanism for disease spread. The shift from hunting and gathering gave people a more sedentary lifestyle, leading to increased closeness (Morillo 49). Agriculture also meant that humans had increased contact with animals, allowing random mutations that led to increased disease severity (Morillo 50). In addition, crowding remained one of the primary causes of disease spreading. The author says, "Epidemics often broke out when unusually large crowds gathered for periods" (Morillo 50). Regional development of infection was also a significant aspect during the early agricultural era. Different regions came into contact through various mechanisms, such as migration, trade, and the migration of armies from one place to the other (Morillo 51). Therefore, these factors characterized the disease proliferation patterns during the ancient era.

On the contrary, as witnessed in monkeypox, modern epidemics have a more global outlook. The disease-spreading patterns emerge from the globalization process enabled by traveling. Compared to the ancient periods, human beings are today more mobile. During the

early agricultural era, crowding influenced the movement of the disease vector from one person to the other. However, expanding air, land, and water travel have accelerated the spread of pathogens and vectors (Tatem et al. 223). Despite the crowding witnessed during the agricultural periods, regional and continental people remained isolated. Today, this is no longer an issue due to the increased interconnectedness of the globe. Therefore, globalization continues to influence the disease patterns of the modern era.

In conclusion, the contemporary spread of epidemics differs from the early agricultural days. During the agricultural revolution, disease networks relied on crowding and the closeness of people. However, in the modern era, globalization and the movement of people continues to facilitate disease spread, as in the case of monkeypox.

Works Cited

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