for p = 0.25

delta\_2 = 0.5

qs = 0.5

t\_s = 10

w = 0.6

k = 3

q\_s = 0.7

t\_sec = 10

Maximum infected person percentage in one iteration : %24.00

When the spread rate of a virus is at 0.25, the government doesn't have to take too many precautions. However, if they start vaccinating after the first 20 rounds, it can be difficult to control the spread of the virus. Therefore, the government should take proactive measures early on. They should begin vaccinating people as soon as possible, even if the number of vaccines available is limited. They can also be flexible with the second dose and isolation rules.

for p = 0.5

delta\_2 = 0.5

t\_s = 10

w = 0.8

k = 2

q\_s = 1

t\_sec = 10

Maximum infected person percentage in one iteration : %24.5

In order to effectively control the spread of a virus that has a 50% transmission rate, the government must implement strict policies. Firstly, mandatory compliance with isolation rules should be enforced, followed by an early start to the vaccination program. The initial vaccination volume should be increased, and the frequency of administering the second dose should be maximized.

for p = 0.75

delta\_2 = 0.75

t\_s = 10

w = 0.8

k = 1.5

q\_s = 1

t\_sec = 10

Maximum infected person percentage in one iteration : %23.5

In the case of a highly contagious and deadly virus, the government should implement strict rules to control its spread. Infected individuals must follow isolation guidelines without fail, and the vaccination rates, both initial and second dose, must be increased. However, even these measures may not be sufficient. In the event of the first 20 infected individuals, the compliance rate for isolation guidelines is only 50%. If the number of identified cases is increased and the isolation compliance rate is raised to 75%, the disease can be easily managed in its early stages.

In addition, since it is not possible to predict what kind of health problems will occur if the second dose is administered early, no change has been made in the duration of the second dose.