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*health*



Virtual Experience Day  
European Public Health

## Post-discussion about the case: Covid-19

### Learning goals:

1. What is a virus?
2. What are characteristics of the novel coronavirus that cause COVID-19?
3. What are risk factors for developing serious symptoms and/or dying from COVID-19?
4. How is SARS-CoV-2 transmitted at the biological level? And within a community (at social level)?
5. What are differences in the incidence and prevalence of COVID-19 (and death rate or 'CFR' due to the disease) among various countries of Europe?
6. What were the policies of the ECDC toward COVID-19 in early March of 2020?
7. What are the considerations that weighed into the decisions by the Dutch Cabinet to close the elementary schools as of March 17<sup>th</sup>, 2020?
8. What was recommended as best practice for the control of COVID-19 in early March of 2020? How does that differ from what is thought to be best practice today?

### Answers to the learning goals:

1. What is a virus?

It is a very small submicroscopic infectious agent that replicates only inside the living cells of an organism

  - A genome
  - Protein shell
  - Viral genome 'data'
  - Also sometimes have like overcoats to protect them (envelopes)
  - Attacks the cells of the organism
  - Depends on the immune system
2. What are characteristics of the novel coronavirus that cause COVID-19?
  - Different structure than the previous ones
  - They have muted and now they have spikes on the envelope
    - a better way of survival
    - normally viruses can't survive a lot of time like on the surface is with ultra-violet rays
    - spikes help the virus to get through the respiratory system and attach to the low respiratory areas like bronchioles
  - Better transmissibility than the seasonal influenza
  - RNA virus → higher rates of mutation
3. What are risk factors for developing serious symptoms and/or dying from COVID-19?
  - Asthma (moderate to severe)
  - Chronic lung disease
  - Diabetes
  - Serious heart conditions
  - Chronic kidney disease being treated by dialysis
  - Severe obesity
  - People aged 65+
  - People who live in a nursing home or long-term care facilities
  - Immunocompromising diseases

- Liver disease

SO → mainly people who have a lowered immune system

Also, for e.g. smokers are at higher risk because of the damage that they've done to their lungs.

4. How is SARS-CoV-2 transmitted at the biological level? And within a community (at social level)?
  - Supposed that the COVID-19 originated from bats
    - Not exactly about the intermediary animal through which it crossed over to humans
  - Can be transmitted from asymptomatic people (people who don't have any symptoms)
  - Transmitted through the large droplets generated during coughing, sneezing,...
  - Patients can be infectious for as long as symptoms last and even on clinical recovery
  - Also transmissible through fomites (surfaces, objects,...)

More things to discover as it is a very “new” virus.

5. What are differences in the incidence and prevalence of COVID-19 (and death rate or ‘CFR’ due to the disease) among various countries of Europe?
 

In Europe the countries with the highest incidence are Spain, Germany, Italy and France. The most prevalent countries are Belgium, Iceland, Italy, Luxembourg and Spain.


The highest numbers of deaths in Europe have been reached by Italy, Spain, France and the UK. Almost 25 thousand in Italy. Belgium is currently the 1<sup>st</sup> European country regarding death per million habitants.

Can change in the future, also depends on the density of the country and the capacity of the health system to test.

6. What were the policies of the ECDC toward COVID-19 in early March of 2020?
 

The measures taken should ultimately aim at protecting the vulnerable populations from severe illness and fatal outcomes

  - By reducing transmission in the general population
  - Enabling the reinforcement of the health care systems
  - By implementing social distancing
  - By reducing physical contact as a mean of interrupting transmission
  - To ensure the continuation of essential services and supplies to everyone who is subjected to the social distancing measures
  - Providing financial compensation for loss of income and employment to facilitate adherence to prescribed public health measures
  - Every healthcare facility should initiate training for all staff and those who may be required for healthcare provision during surge capacity.

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7. What are the considerations that weighed into the decisions by the Dutch Cabinet to close the elementary schools as of March 17<sup>th</sup>, 2020?
    - A lot of critics from the general population
    - The government wanted the schools to stay open and
      - A lot of teachers became ill
        - So it wasn't really possible to stay open anymore
    - First the government tried to keep the schools open because this could help the essential workers to perform their activities
      - Three days after they re-evaluated the situation
        - Found that more people will be getting sick like teachers and other children
          - Decided to close all the schools
  
  8. What was recommended as best practice for the control of COVID-19 in early March of 2020? How does that differ from what is thought to be best practice today?
    - Still differing in some countries
      - Some countries that are easing up their guidelines a little bit so more people are allowed to go outside
      - In the Netherlands you are still not allowed to have events etc
      - Certain countries didn't go as strict as others so
        - In some countries you were not able to go outside at all whereas in some countries like Germany you're not allowed to be in contact with people but you're still allowed to go for walks
    - Controversy with masks
      - In the beginning they said you shouldn't wear a mask if you're not infected whereas now some countries are starting to oblige people to wear masks. Other countries are highly recommending it and it is still quite unsure.
    - Still evolving, still changing