What is Coronavirus (COVID-19)

David Anderson - World Health Organisation

Introduction

- 31 December 2019, the World Health Organization (WHO) China country office reported a cluster of pneumonia cases in Wuhan, Hubei Province of China
- 7 January 2020, causative pathogen identified as a novel coronavirus (2019-nCoV)
- Initially person-to-person transmission not apparent and the majority of the cases were epidemiologically linked to a seafood, poultry and live wildlife market (Huanan Seafood Wholesale Market) in Jianghan District of Hubei Province
- Case in China are now declining but there is a rapid increase in Europe and Iran.
- Cases now in Africa

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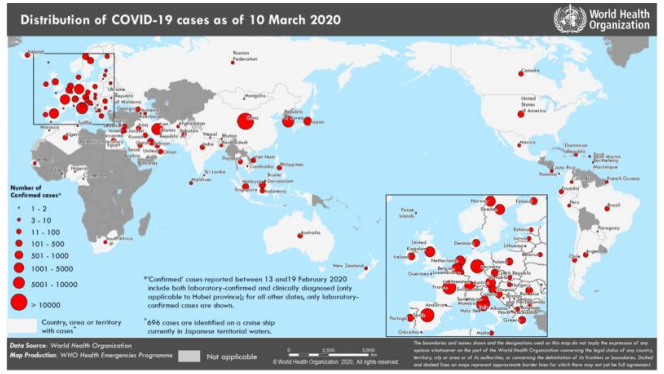

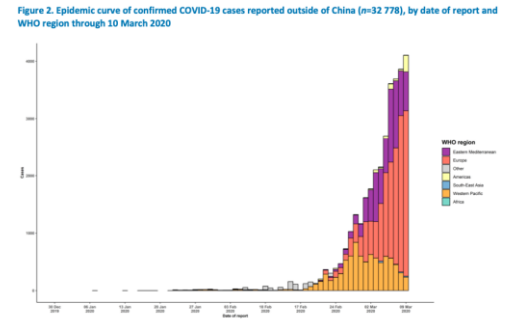

Microbiology

- Coronaviruses are enveloped, single-stranded positive-sense RNA viruses.
- The envelope of the coronaviruses is covered with club-shaped glycoproteins which look like ‘crowns’, or ‘halos’ – hence the name ‘coronavirus.’
- Coronaviruses are responsible for the common cold, and usually cause self-limited upper respiratory tract infections.

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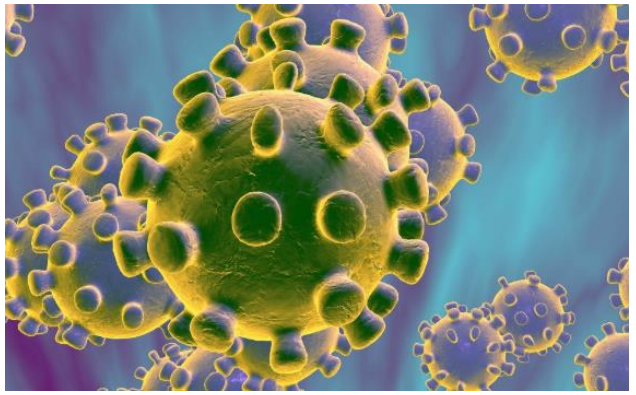

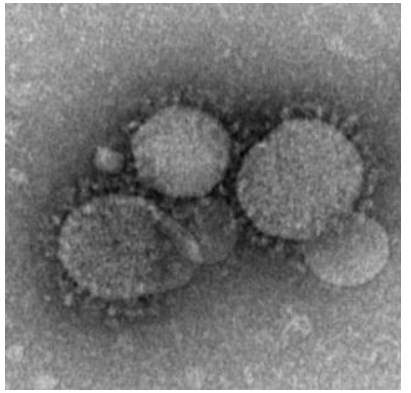

Where did it come from?

- In 2003, a new coronavirus emerged leading to the SARS (severe acute respiratory syndrome) outbreak.
- In 2012, the Middle East respiratory syndrome (MERS) was found to be caused by a coronavirus associated with transmission from camels.
- Following the identification of a cluster of pneumonia cases in Wuhan, Hubei Province of China, Chinese authorities reported on 7 January 2020 that the causative pathogen was identified as a novel coronavirus (2019-nCoV).
- These new coronaviruses have RNA sequences that are very similar to coronaviruses from animals
  - MERS-CoV = camel coronavirus
  - SARS = bat coronavirus
- The animal source of COVID-19 has not been identified but is thought to be bats

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How does it Spread (transmission)

- Main route of transmission respiratory droplets (airborne transmission has not been proven)
- Excreted in stool (possibly faeco-oral) recent studies show that it is not viable
- Mean incubation period 5.2 days, 95th percentile of the distribution at 12.5 days.
- 14 days of isolation or quarantine is suggested as it allows a window of 1.5 additional days.
- In early stages, epidemic doubled in size every 7.4 days
- Basic reproductive number was estimated at 2.2 on average each infectious case gives rise to just over 2 infectious cases.

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Clinical presentation

Who is at highest risk?

- Largest published series to date from China
- Patients with pneumonia the commonest symptoms were fever (83%), cough (82%) and shortness of breath (31%).
- The majority (but not all) of severe cases are elderly or have severe underlying illness
- Among pneumonia patients 51% had chronic diseases
- Health issues which make you more susceptible smoking and hypertension
- The elderly with other health problems

Number of cases and continue to increase

- 84% of cases a mild and recover at home
- 16% require hospitalisation and a small amount require ITU (4%)
- Approximately 2% of reported confirmed cases have died

Signs and Symptoms of Coronavirus

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Signs and Symptoms

Coronavirus
Cold
Flu

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Symptoms	Coronavirus Symptoms range from mild to severe	Cold Gradual onset of symptoms	Flu Abrupt onset of symptoms
Fever	Common	Rare	Common
Fatigue	Sometimes	Sometimes	Common
Cough	Common* (usually dry)	Mild	Common* (usually dry)
Sneezing	No	Common	No
Aches and pains	Sometimes	Common	Common
Runny or stuffy nose	Rare	Common	Sometimes
Sore throat	Sometimes	Common	Sometimes
Diarrhea	Rare	No	Sometimes for children
Headaches	Sometimes	Rare	Common
Shortness of breath	Sometimes	No	No

Sources: World Health Organization, Centers for Disease Control and Preventi

How do I help prevent the spread of Diseases like Coronavirus?

- Avoid close contact with people who are sick
- Cover you nose and mouth with a tissue when you cough or sneeze and then BIN the tissue
- Avoid touching your eyes, nose and mouth
- Clean and disinfect frequently touched objects and surfaces
- Stay at home when you are sick, except to get medical care
- Wash your hands often with soap and water for at least 20 seconds

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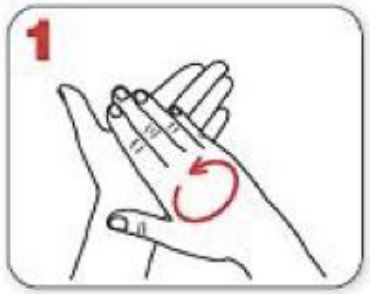
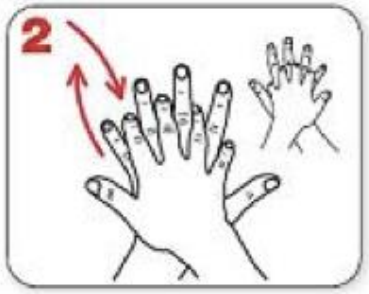
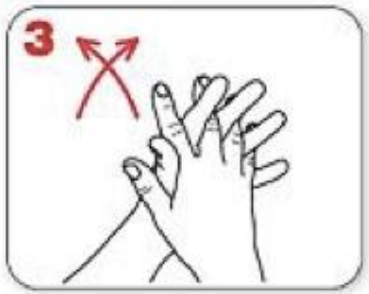
”Social” Hand Washing



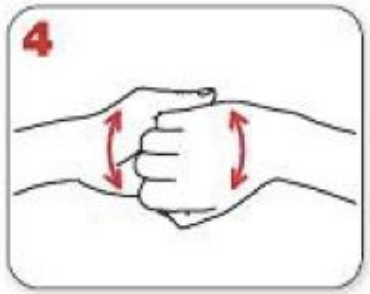
Rub hands palm to palm



right palm over left dorsum with interlaced fingers and vice versa

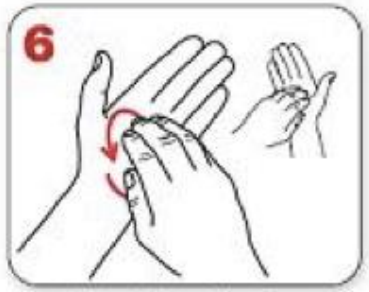


palm to palm with fingers interlaced



backs of fingers to opposing palms with fingers interlocked

rotational rubbing of left thumb clasped in right palm and vice versa



rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa

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QUESTIONS?

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