

ሕክምናዊ መስርሕ መርመራ፡
ፍወሳኝ ክንክንን ሕማም ኮቪድ-19

Covid-19: Principles of Management



ዶ. ሮናስ ተስፋጋብር, ሓፈሻዊ ሓኪም
Yonas Tesfagabr, MD

ፋርማሲስት መሓሪ ዘርእጋብር
Mehari Zeregabr, B. Pharm

Edited by: Menghis Bairu, MD

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Edited by: Dr. Menghis Bairu

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Layout and Cover Design by: Pharm. Abel Fessahaye
abelfis78@gmail.com

DEDICATIONS

Dr. Yonas Tesfagabr: to my beloved family and friends.

Pharm. Mehari Zeregabr: to my late father, Zeregabr Yihdego who was a great teacher and a mentor, to my beloved family and friends

To all front line healthcare colleagues, who are diligently working to safeguard our community both in Eritrea and abroad; and to families who lost their loved ones to COVID-19.

ACKNOWLEDGMENTS

This work could have never been possible without the patience and support of our families, who have always encouraged us to be brave and dream big.

We all know how challenging writing a book can be. It is even harder to write a medical book in Tigrigna, as we lack the vocabulary for many medical terms. Hence translating some terminologies was exhausting but at the same time, it was a lifetime experience. The electronic edition of the printed dictionary “Advanced English-Tigrinya Dictionary” by Tekie Tesfay was one of the resources we used during translation.

We are forever grateful to Dr. Menghis Bairu (Chairperson & CEO-Bairex Medical), without whom this book wouldn’t have been possible. He was always there, starting from the inception up until we finally publish this book. His complete faith in us and the inputs he made all the way through were essential to see this book published. We honor and respect you, Dr. Menghis.

All Bairex Medical faculty members have been working tirelessly preparing weekly webinars mainly in Tigrigna but also in Saho, Tigre, Bilen, Kunama, Arabic, Amharic and English to educate the community. The webinars were, in many ways, helpful for us to understand what the community knows about the pandemic and what needs to be addressed in the book. Therefore we would like to extend our heartfelt appreciation to all medical doctors, pharmacists, nurses, public health officials and students that gave up so much time and energy to educate the community.

We also express our gratitude to Pharmacist Simon Ghebrehiwet, a good friend and colleague who has been a great asset. He unwearingly read all drafts countless times and made numerous inputs that were necessary in shaping this book to its present structure.

Finally, to all family and friends, who put up with us while working on this book. We hope the contributions that this book provides will compensate their longsuffering and massive support towards us.

BACKGROUND

Coronavirus disease 2019 (COVID-19) is the illness associated with the novel coronavirus known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

In December 2019, a cluster of pneumonia cases was reported in china which was found to have been caused by previously unknown virus. It was later revealed that the newly identified virus was from previously known group of viruses known as Corona Viruses and it was named Novel Corona Virus 2019 which was later renamed to SARS Cov -2.

Corona Viruses are large group of RNA viruses that consist of a core of genetic material, surrounded by an envelope of lipid layer with protein spikes. This gives them the appearance of a Crown; Corona (in Latin) which their name was derived from.

There are different types of Corona viruses that can cause mainly respiratory and gastrointestinal diseases. Respiratory illness can range from simple diseases like the common cold to sever illnesses like the SARS Cov of 2003 and MERS of 2012.

SARS Cov-2 was initially identified in Hubei province in China in a group people with pneumonia who had recently been associated with live animal market in the city of Wuhan. The disease was then transmitted to close contacts such as family members and health care workers.

The World Health Organization (WHO) was notified of the outbreak on December 31, 2019. The cases continued to spread outside of the area and then across the world. COVID-19 was reported as a global health emergency by the end of January 2020. As the worldwide case numbers increased, the WHO declared on March 11, 2020, that COVID-19 had reached the pandemic stage.

Initially a lot was unknown about the virus and many of the assumptions were taken from the similarities with the earlier diseases like the SARS and MERS. The origin of the Virus is still unknown but it is documented that many of the corona viruses circulate in a range of animals. For instance SARS Cov virus originated from Bats and MERS from Camels and similarly the SARS Cov-2 Virus is believed to have been originated from the animals in the market.

Symptomatic transmission refers to transmission of SARS-CoV-2 from persons with symptoms. Epidemiology and virologic studies suggest that transmission mainly occurs from symptomatic people to others by close contact through respiratory droplets, by direct contact with infected persons, or by contact with contaminated objects and surfaces. Clinical and virologic studies that have collected repeated biological samples from confirmed patients demonstrate that shedding of SARS-CoV-2 is highest in the upper respiratory tract (URT) (nose and throat) early in the course of the disease, within the first 3 days from onset of symptoms.

The incubation period for COVID-19, which is the time between exposure to the virus (becoming infected) and symptom onset, is, on average, 5–6 days, but can be up to 14 days.

While most people with COVID-19 develop only mild (40%) or moderate (40%) disease approximately 15% develop severe disease that requires oxygen support, and 5% have critical disease with complications such as respiratory failure, acute respiratory distress syndrome (ARDS), sepsis and septic shock, thromboembolism, and/or multiorgan failure, including acute kidney injury and cardiac injury. Older age, smoking and underlying noncommunicable diseases (NCDs), such as diabetes, hypertension, cardiac disease, chronic lung disease and cancer, have been reported as risk factors for severe disease and death.

To date there is no effective treatment but only supportive measures. Thus our greatest strategy against this virus is prevention. As it is true for most pandemics, the game changer strategy would be finding a safe and effective vaccine. Most pharmaceutical companies have been engaged in finding a vaccine. However, vaccine production and distribution comes with its own challenges and has so far been limited to developed countries. Therefore public health measures such as social distancing, hand washing and wearing mask have great importance.

Since the start of the pandemic the scientific world has been able to unravel many facts about this disease. However still there are many facts to be discovered and even some earlier known facts have been subject to change as studies go on. In addition, as the world responds to the COVID-19 pandemic, we face the challenge of an overabundance of information related to the virus. Some of this information may be false and potentially harmful.

Inaccurate information spreads widely and at speed, making it more difficult for the public to identify verified facts and advice from trusted sources, such as their local health authority or WHO.

Therefore, while writing this book we (authors) made it our top priority to make sure the book has detailed, evidence based and up to date information by going through multiple scientific papers from reliable sources including the WHO and CDC. The book is written in our local language Tigrigna so that it is easy to understand and comfortable to read for our many Tigrigna speaking fellows. It is intended for use mainly by those who are in the line of health profession as practitioners or academics as an interim guide for the clinical management of Covid-19. Nevertheless, the book is also equally important to all people interested in understanding the current health crises from a scientific point of view and to avoid the stress that comes from the misinformation and Infodemics.

ድሕረ ባይታ

ሕማም ኮቪድ-19፡ ብቫይረስ-ሳርስ-ኮቭ-2 (SARS-CoV-2) ተባሂሉ ዝጽዋዕ ደቂቕ ታህዋስያን ዝስዕብ ቅጽበታዊ ዝኾነ ጸገማት ስርዓተ ምስትንፋስ እዩ።

ኣብ ቻይና ንመጀመርታ እዋን ኣብ ታሕሳስ 2019 ኣቐዲሙ ኣብ ዓውዲ ስነ-ፍልጠት ሕክምና ብዘይፍለጥ ቫይረስ ዝስዕብ ነድሪ ሳንቡእ ዘለዎም ሕሙማት ተረኪቦም። ድሒሩ ብዝተገብረ መጽናዕቲ ግና ጠንቁ እዚ ሕማም ካብ ኮሮና ተባሂሉም ዝጽውዑ ዓይነት ቫይረስ ከምዝኾነ ክፍለጥ ተኻኢሉ። እዚ ቫይረስ ሓድሽ ካብ ምዃኑ ዝተላዕለ ድማ እጹብ/ሓድሽ-ቫይረስ-ኮሮና-2019 (2019 novel coronavirus)፡ ድሒሩ ድማ ቫይረስ-ሳርስ-ኮቭ-2 (SARS-CoV-2) ዝብል መጻውዒ ስም ክሕዝ ከኣለ።

ቫይረስ-ኮሮና ንጽል ፍሕሶ ዘለዎ ስነ-ሰረት ዝገልጽ ትሕዝቶ (ኣር.ኤን.ኤ/ RNA) ዝውንኑ ቫይረስ ኮሮናም ሕመረታዊ ስነ-ሰረት ዝገልጽ (core of genetic material)፡ ሱብሓዊ ሸፋን (lipid layer envelope) ከምኡ ድማ ትሕዝቶ ፕሮቲን ዘለዎ ኣሻኹ (protein spikes) ትሕዝቶ ይውንኑ። ከምዚ ዝበለ ኣቃውማ ስለዝውንኑ እዩ እምበኣር እዞም ጉጅለ ቫይረስ ኮሮና ዝብል መጻውዒ ክሕዝ ዝኻኡሉ። ኮሮና ዝብል ቃል መበገሲኡ ካብ ቋንቋ ላቲን ኮይኑ ኣኻሊል (crown) ዝብል ትርጉም ዘለዎ እዩ።

ዝተፈላለዩ ዓይነት ቫይረስ-ኮሮና ከምዘለዉ ዝፍለጥ ኮይኑ መብዛሕትኡ እዋን ሕማም ስርዓተ-ምስትንፋስ ከምኡ ድማ ስርዓተ-ከስዕን-መዓናጡን የምጽኡ። ጸገማት ስርዓተ-ምስትንፋስ ካብ ከም ጉንፋዕ ዝመስል ፍኹስ ዝበለ ሕማም ክሳብ ኣብ 2003 ዝተራእየ ሳርስን (SARS) ኣብ 2012 ዝተራእየ መርስን (MERS) ዝኣመሰሉ ከበድቲ ሕማማት ስርዓተ ምስትንፋስ ከምጽኡ ይኸእሉ።

ቫይረስ-ሳርስ-ኮቭ-2 ሳርስ ንመጀመርታ እዋን ኣብ ሁባይ ዝተባህለ ኣውራጃ ናይ ቻይና ዝተራእየ ኮይኑ፡ በዚ ቫይረስ ከምዝተበገሰ ዝእመንሉ ነድሪ ሳንቡእ ዘለዎም ሕሙማት ድማ ምስቲ ኣብ ከተማ ዉሃን ዝርከብ ዕዳጋ እንሰሳታት (live animal market) ጥቡቕ ቅርበት ዝነበሮም ከምዝኾኑ ክፍለጥ ተኻኢሉ ኔሩ እዩ። ካብዚ ብምብጋስ እዩ እምበኣር እዚ ቫይረስ ምስ ሕሙማት ጥቡቕ ምቅርራብ ናብ ዘለዎም ኣባላት ስድራ ይኹኑ ሱብ ሞያ ጥዕና ክሰጋገር ዝኸኣለ።

እዚ ዝተራእየ ሓድሽ ከንታት ናብ ዓለማዊ ውድብ ጥዕና ብ 31 ታሕሳስ 2019 በጺሑኳ እንተነበረ መልከፍቲ ቫይረስ-ሳርስ-ኮቭ-2 ግና ካብ ቻይና ሰጊሩ ናብ ጎረባብቲ ሃገራት ክልሕም ካብኡ ሓሊፉውን ናብ መላእ ዓለም ከባጸሕ ግዜ ኣይወሰደሉን። ነዚ ቅልጡፍ ዝርግሐ መልከፍቲ ቫይረስ ድሕሪ ምዕዛብ ዓለማዊ

ውድብ ጥዕና ብ ጥሪ 2020 ህጹጽ ዓለማዊ ስግኦት ጥዕና (Global Health Emergency) ከምዘተፈጥረ ከሕብር ዝተገደደ። ቁጽሪ ናይቶም በዚ ቫይረስ ዝተለኸፉ ውልቀ-ሰባት ካብ መዓልቲ ናብ መዓልቲ ድሕሪ ምውሳኹ ድማ እዚ ኩነታት መልክዕ ናይ ዓለማዊ ለበዳ ከምዝሓዘ ዓለማዊ ውድብ ጥዕና ብ መጋቢት 11, 2020 ብወግዒ ኣወጀ።

ኣብ መጀመርታ ምቅልቓል ናይዚ ለበዳ ብዛዕባ ጠንቂ ሕጻን ምዃን ዝኾነ ቫይረስ-ሳርስ-ኮቭ-2 እኹል ሓበሬታ ብዘይምንባሩ እዚ ቫይረስ ምስ ካልኣት ተመሳሳልቲ ቫይረሳት ወይ ሕማማት (ሳርስ/መርስ) ዘለዎ ተመሳሳልነት መሰረት ዝገበረ ግምታዊ ትንታኔ እዩ ዝወሃቦ ኔሩ። ከሳብ እዚ ሰዓት'ውን እንተ'ኾነ መጠገሲ (መቆል) እዚ እዋናዊ ቫይረስ ብልክዕ ዝፍለጥ ኣይኮነን። ልክዕ ከምቲ ሳርስ ካብ መንካዕ፡ መርስ ድማ ካብ ገመል ከምዝጠገስ ዝፍለጥ ቫይረስ-ሳርስ-ኮቭ-2 'ውን ካብቶም ኣብ ከተማ ዉሃን ዝርከብ ዕዳጋ ዝርከቡ እንስሳታት ተበረሱ ክኸውን ከምዝኸእል'ዩ ዝግመት።

ባህርያት ቫይረስን ዝርግሐ ናይዚ ሕጻን ከምዘረድኦ መልክፍቲ ቫይረስ-ሳርስ-ኮቭ-2 ካብ ሓደ ምልክት ሕጻን ኮቪድ-19 ከርኢ ዝጀመረ ውልቀ-ሰብ ናብ ካልኣ ጥዕይ ሰብ ካብ ስርዓተ ምስትንፋስ ብዘወጹ ነጠብታ፡ ምስ ሕሙም ወይ በዚ ቫይረስ ዝተበከለ ግሑዝ ነገር ብዝግበር ቀጥታዊ ምትንኻፍ ክመሓላለፍ ይኸእል። ካብ ሕሙማት ኮቪድ-19 ቅምጦ ወሲድካ ድሕሪ ዝተገብረ ስነ-ፍልጠታዊ መጽናዕቲ ቫይረስ-ሳርስ-ኮቭ-2 ኣብ ላዕለዎይ ክፋል ስርዓተ ምስትንፋስ (URT) ዝለዓለ ምርባሕ ዓቕሚ (viral shedding) ከምዘለዎን፡ ድሕሪ ምልክት ሕጻን ኮቪድ-19 ምጅማሩ ድማ ኣብተን ቀዳምት ሰለስተ መዓልቲ ዝያዳ ተላባዒ ከምዝኸውንን ክፍለጥ ተኻኢሉ።

ሕቕፎ ግዜ (incubation period) ናይ ሕጻን ኮቪድ-19 ሓደ ውልቀ-ሰብ ካብቲ መጀመርታ ንመልክፍቲ ቫይረስ ዝተቐላሎ ክሳብ ምልክት ሕጻን ዝጅምረሉ ዘሎ ግዜ ኮይኑ፡ ብገምጋም 5-6 መዓልቲ ይወስድ። ይኹን እምበር እዚ ናይ ሕቕፎ እዋን ክሳብ 14 መዓልቲ ክምጠጥ'ውን ይኸእል።

መብዛሕትኦም መልክፍቲ ሕጻን ኮቪድ-19 ዘጋጠሞም ሰባት ፎኪስን (mild/40%) ማእከላይን (moderate/40%) ምልክት ሕጻን ከርእዩ ከለዉ፡ 15% ሓገዝ ኣክስጅን ዘድልዮ ከቢድ (severe) ሕጻን የማዕብሉ። ካብ ጠቕላላ ሕሙማት ኮቪድ-19 5% ጽኑዕ (critical) ሕጻን ከገንጌም ዝኸእል ኮይኑ ከም ፍሽለት ስርዓተ-ምስትንፋስ (respiratory failure)፡ ቅጽቢታዊ ጸዕረ-ምስትንፋስ (ARDS)፡ ምፍእፋእብ (sepsis) ብሰንኩ ዝሰብ ሃለፍታን (septic shock)፡ ምርጋእ ደምን ምዕባስ ሻንብቆታት ደምን (thromboembolism) ወይ ፍሽለት ዘተፈላለዩ ክፍሊ ኣካላት (multiorgan failure) ዝኣመሰለ ሓልኪ'ውን ከርእዩ ይኸእሉ። ዕድመ (Older age)፡ ምትካኽ ሽጋራ፡ ከምኡ'ውን ዘይተመሓላለፍቲ

ሕዱር ሕማማት (NCDs/ ሽኩርኞ፡ ልዑል ጸቕጢ ደም፡ ሕማም ልቢ፡ ሕማም ሳንቡእ፡ ካንሰር) ድማ ንከቢድ ሳዕቤን ሕማም ኮቪድ-19 ዘቃልዑ ጠንቅታት ወይ ጥዕናዊ ስግኣት ኸኮኑ ዝኸእሉ ካብኡ ሓሊፉ'ውን ሞት ከስዕቡ ዝኸእሉ ኩነታት እዮም።

አቕዲሞም ኣብ ኣገልግሎት ዝጸንሑ ዝተፈላለዩ መድሃኒት ኣብ ጥቕሚ ክውዕሉ ይረኣዩ'ኳ እንተሃለዉ ከሳብ እዚ እዋን ብዘይካ ንሕሙም ዝወሃብ ስማዊ ሓገዝ (supportive) ብቑዕ መድሃኒታዊ ፍወሳ ክርከብ ኣይተኸእለን ዘሎ። ክታብት'ውን ኣብ ምቁጽጻር ለቦዳ ዝተፈላለዩ ተመሓላለፍቲ ሕማማት ዕዙዝ ተራ ይጻወት ። ዋላ'ኳ ብዙሓት ትካላት መፍረ መድሃኒት ነዚ ንምፍታሕ ኣብ ጽዑቕ ስነ-ፍልጠታዊ ምርምር ተጻዒደን ይሃልዎምበር፡ መስርሕ ምምዕባልን ምፍራይን ክታብት ርእሱ ዝኸእለ ብድሆን ኣዝዩ ነዊሕ ግዜ ዝሓትትን እዩ። ስለዚ እዩምበኣር ርሕቀትካ ምሕላው፡ ኣእዳውካ ብንጽህና ምሓዝ ከምኡ'ውን ሸፋን ኣፍን-ኣፍንጫን ምውዳይ ኣገዳሲ መስርሕ ምቁጽጻር ሕማም ኮቪድ-19 ኮይኑ ክቕጽል ዝድለ።

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ቅኑዕ ዘይኮነን ኣደናጋሪን ሓበሬታ ብኣዝዩ ልዑል ናህሪ ክዘርጋሕን ብዙሕ ሰማዒ ድማ ምስ ዝረከብን ኣብ ህዝቢ ክፈጥር ዝኸእል ሻቕሎትን ምድንጋራትን ርዱእ ኮይኑ፡ ህዝቢ ካብ መን ሓበሬታ ይቐበል ክፈልጥን ብንቕሓት ክመለሰን ይግባእ።ኣብ ነፍሲ-ወከፍ ዞባ ዝርከብ ጨንፈር ዓለማዊ ውድብ ጥዕና (WHO) ንኣብነት ሓደ ካብ ምንጪ ቅኑዕ ሓበሬታ ክጥቀስ ይከኣል።

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