ABSTRACT
Coronavirus disease (COVID-19) caused by severe acute respiratory syndrome-associated coronavirus 2 (SARS-CoV-2) is one of the biggest health challenges across the globe ever since its eruption in late 2019. Novelty, contagiousness, and lethality of the virus demand the expedited production of potential therapeutic agents and strategies against it. Since no COVID-19 specific drug is available yet, it persists a crucial challenge to determine what therapeutic strategies should be adopted for the treatment of coronavirus patients. Until there is any specific drug for COVID-19, repurposing of the existing FDA-approved drugs is the most suitable approach to treat the severely ill patients of COVID-19. This review will summarize the existing antiviral drugs being repurposed and probed for their potential as effective anti-COVID-19 drugs all over the world.

Key Words: Antiviral Drugs, Coronavirus, Drug Repurposing, Drug Repositioning.

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Introduction
The present pandemic caused by SARS-CoV-2 has shown unprecedented challenges to the global health system.\(^1\)\(^2\) SARS-CoV-2 like other coronaviruses is known to induce abnormal, inadequate host immune response linked with a severe respiratory lung disorder. It can also lead to multi-organ failure.\(^3\) The World Health Organization (WHO) proclaimed it as a pandemic on 11\(^{th}\) March 2020.\(^4\) The outbreak has spread around the globe with 18, 793, 522 confirmed cases of coronavirus including 707, 715 mortalities as of 6\(^{th}\) August 2020.\(^5\) Nearly 220 countries have reported the confirmed cases of coronavirus in all continents except Antarctica.\(^6\) Pakistan is also one of the countries which are affected by this pandemic. Pakistan has reported 282,645 confirmed cases including 6,052 deaths as of 7\(^{th}\) August 2020.\(^7\) There is a dire need to develop an effective therapeutic strategy against COVID-19 as the number of deaths and as well as confirmed cases are still growing. This review takes into account the antiviral drugs along with their mechanisms of action that are in clinical trials as potential anti-COVID-19 drugs. The review summarizes the details of phases and country-wise distribution of the clinical trials underway on repurposed antiviral drugs (Table 1).

Fusion Inhibitors
Umifenovir
Umifenovir (Arbidol) is a fusion inhibitor drug clinically approved to treat Influenza. Arbidol halts the viral fusion with the cell membrane as well as with the endosome by incorporation into the membrane. Arbidol also intrudes with the hydrogen bonding meshwork of phospholipids.\(^8\) Deng et al., (2020) have demonstrated that compared with lopinavir-ritonavir (LPV/r) alone, the combined treatment of arbidol and LPV/r has exhibited more profound results in COVID-19 patients.\(^9\) Chen et al., (2020a) has reported the findings of a randomized clinical trial which showed an increased recovery rate in the arbidol group as compared with favipiravir.\(^10\) Another randomized phase IV clinical trial was initiated in January 2020 to evaluate the efficacy of arbidol versus standard of care treatment (NCT04260594). Chen et al., (2020c) highlighted the role of arbidol in combination with adjuvant therapy in shortening the recovery time and fever of the SARS-CoV-2 patients.\(^11\) A phase IV clinical trial to investigate the therapeutic potential of LPV/r and
| Drug       | Original Indication | Mechanism of Action | Trial Identifier | Phase | Country                      |
|------------|---------------------|---------------------|------------------|-------|------------------------------|
| Arbidol    | Influenza           | Fusion Inhibitor    | NCT04260594      | 4     | China                        |
|            |                     |                     | NCT04252885      | 4     | China                        |
|            |                     |                     | ChiCTR2000029621 | 4     | China                        |
|            |                     |                     | IRCT20200322046833N1 | 3     | Iran                         |
|            |                     |                     | IRCT20180725040596N2 | 3     | Iran                         |
|            |                     |                     | NCT04350684      | 4     | Iran                         |
|            |                     |                     | IRCT20080901001165N46 | 3     | Iran                         |
|            |                     |                     | IRCT20200523047550N1 | 3     | Iran                         |
|            |                     |                     | IRCT20151227025726N15 | 4     | Iran                         |
| Remdesivir | Ebola Virus/Broad Spectrum | Viral Polymerase Inhibitor | EUCTR2020-001366-11-ES | N/A   | Spain                        |
|            |                     |                     | NCT04257656      | 3     | China                        |
|            |                     |                     | ISRCTN83971151   | 3     | Saudi Arabia; Indonesia; Iran; Ireland; Israel; Italy; Kenya; Malaysia; Norway; Peru; Philippines; Qatar; South Africa; Spain; Switzerland; Thailand; Argentina; Brazil; Canada; Germany; Lebanon; Honduras; India |
|            |                     |                     | NCT04280705      | 3     | United States; United Kingdom; Denmark; Japan; Germany; Greece; Korea, Republic of Mexico; Singapore; Spain; India |
|            |                     |                     | JPRN-JRCT2031190264 | 3     | United States; Korea; Japan |
|            |                     |                     | EUCTR2020-001366-11-IE | N/A   | Portugal; France; Canada; Spain; Ireland; Australia; Norway; Italy; India |
|            |                     |                     | NCT04292730      | 3     | Sweden; United States; China; France; Germany; Hong Kong; Italy; Japan; Korea, Republic of Netherlands; Singapore; Spain; Switzerland; Taiwan; United Kingdom; Iran |
|            |                     |                     | NCT04315948      | 3     | France; Luxembourg           |
|            |                     |                     | NCT04401579      | 3     | United States; Japan; Korea, Republic of Mexico; Singapore |
|            |                     |                     | NCT04409262      | 3     | United States                |
|            |                     |                     | NCT04431453      | 2/3   | United States and United Kingdom |
|            |                     |                     | EUCTR2020-001803-17-GB | 2/3   | United States; Italy; United Kingdom; Spain |
| Favipiravir | Influenza/Broad Spectrum | Viral Polymerase Inhibitor | ChiCTR2000029548 | N/A   | China                        |
|            |                     |                     | ChiCTR2000030984 | 4     | China                        |
|            |                     |                     | ChiCTR2000030987 | 2/3   | China                        |
| Drug                          | Infections        | Study Details                                                | Phase | Country        |
|-------------------------------|-------------------|-------------------------------------------------------------|-------|----------------|
| Oseitamivir                   | Influenza         | Viral Neuraminidase Inhibitor                               | 4     | China          |
|                               |                   | NCT04255017                                                 |       |                |
|                               |                   | NCT04303299                                                 | 3     | Thailand       |
|                               |                   | IRCT20200410047009N1                                         | 4     | Iran           |
|                               |                   | NCT04338698                                                 | 3     | Pakistan       |
|                               |                   | NCT04261270                                                 | 3     | China          |
| Ribavirin                     | HCV               | Viral Polymerase Inhibitor                                  | 2     | Hong Kong      |
|                               |                   | NCT04494399                                                 |       |                |
|                               |                   | NCT04392427                                                 | 3     | Egypt          |
|                               |                   | NCT04356677                                                 | 1     | United States  |
| Azvudine                      | HBV, HCV, HIV     | Reverse Transcriptase Inhibitor                             | N/A   | China          |
|                               |                   | ChiCTR2000029853                                             |       |                |
|                               |                   | ChiCTR2000030424                                             | N/A   | China          |
|                               |                   | ChiCTR2000030487                                             | N/A   | China          |
|                               |                   | ChiCTR2000030041                                             | N/A   | China          |
| Compound                        | Disease | Primary Action                          | Identifier 1 | Country           | Identifier 2 | Country           |
|--------------------------------|---------|-----------------------------------------|--------------|-------------------|--------------|-------------------|
| Clevudine                      | HIV     | Viral Polymerase Inhibitor              | NCT04347915  | 2                 | N/A          | Republic of Korea |
| Sofosbuvir                     | HCV     | Viral Polymerase Inhibitor              | DRKS00022203  | N/A               | N/A          | Egypt             |
|                               |         |                                         | CTR/2020/06/025760 | N/A       | India           |                 |
|                               |         |                                         | IRCT2020062407908N1 | 3         | Iran            |                 |
|                               |         |                                         | IRCT20200328046886N1 | 3         | Iran            |                 |
|                               |         |                                         | IRCT20200128046294N2 | 3         | Iran            |                 |
|                               |         |                                         | NCT044660443   | 2/3               | Egypt         |                 |
|                               |         |                                         | IRCT20200324046850N2 | 2         | Iran            |                 |
|                               |         |                                         | NCT04468087    | 2/3               | Brazil        | Spain            |
|                               |         |                                         | IRCT20100228003449N29 | 2/3     | Iran            | Spain            |
| Etraviratibine/Tenofovir       | HIV-1   | Reverse Transcriptase Inhibitor         | NCT04405271   | 3                 | Argentina     | China             |
|                               |         |                                         | NCT04334928    | 3                 | Spain         | China             |
|                               |         |                                         | EUCTR2020-001385-11-ES | 3         | Spain         | China             |
| Lopinavir/Ritonavir            | HIV-1   | Viral Protease Inhibitor                | NCT044359095  | 2/3               | Colombia      | China             |
|                               |         |                                         | NCT04365582    | 3                 | France        | China             |
|                               |         |                                         | IRCT20190804044429N1 | 2/3     | Iran           | China             |
|                               |         |                                         | IRCT20200418047116N1 | 2         | Iran           | China             |
|                               |         |                                         | LBCTR2020043495 | 3                 | Lebanon       | China             |
|                               |         |                                         | PACTR202004893013257 | 3         | Ghana          | China             |
|                               |         |                                         | IRCT20200517047485N1 | 3         | Iran           | China             |
|                               |         |                                         | EUCTR2020-001528-32-IT | 3         | Italy          | China             |
|                               |         |                                         | EUCTR2020-001549-38-DE | 3         | Germany        | China             |
|                               |         |                                         | NCT04455958    | 2                 | United States | China             |
|                               |         |                                         | PACTR202006537901307 | 3         | Burkina Faso   | Cameroon; Democratic Republic of the Congo; Equatorial Guinea; Ethiopia; Ethiopia; Uganda; Ghana; Guinea-Côte D’Ivoire; Kenya; Mozambique; Sudan; Tanzania; |
| Darunavir                      | HIV     | Viral Protease Inhibitor                | NCT04435587   | 4                 | Thailand      |                  |
| Atazanavir                     | HIV     | Viral Protease Inhibitor                | IRCT20200504047298N1 | 3         | Iran           |                  |
|                               |         |                                         | NCT04452565    | 2/3               | United States | Iran              |
| Nelfinavir                     | HIV     | Viral Protease Inhibitor                | JrCT2071200023 | N/A               | Japan         |                  |
| Nitazoxanide                   | Diarrhea| Viral Protease Inhibitor                | NCT04423861   | 2                 | Brazil        |                  |
arbidol against COVID-19, completed in May 2020 (NCT04252885) showed that the treatment with LPV/r or arbidol has few effects in improving the clinical results of patients. Moreover, Zhu et al., (2020) demonstrated that umifenovir treatment is better to LPV/r in COVID-19. Different phase III and phase IV clinical trials with arbidol are underway in China (ChiCTR2000029621) and Iran (IRCT20200322046833N1, IRCT20180725040596N2, NCT04350684, IRCT20200523047550N1, IRCT20151227025726N15).

Viral Polymerase Inhibitors

Remdesivir

Remdesivir is an antiviral agent with an ability of inhibitory activity against RNA viruses. Remdesivir is a nucleotide analog that decreases the viral RNA production by obscuring viral RNA polymerase. Its antiviral mechanism is delayed chain termination of nascent viral RNA. Holshue et al., (2020) showed that intravenous administration of the antiviral drug remdesivir has good therapeutic results in a COVID-19 patient in the USA. To analyze the curative potential of remdesivir against COVID-19, a phase III clinical trial was conducted on 237 SARS-CoV-2 hospitalized patients in China (NCT04257656). The outcomes exhibited that remdesivir was linked with non-significant faster clinical recovery among patients. However, there was an early halt of drug administration in 12% of participants due to the ill effects on the gastrointestinal tract, liver, and cardiopulmonary status. Later in February 2020, another adaptive, randomized, phase III clinical trial was conducted in the USA. In this trial 1062 patients were enrolled, the patients in the experimental group were administered with the first dose of 200 mg of remdesivir followed by the 100mg up to ten days (NCT04280705). The results of this study showed that remdesivir significantly reduced respiratory tract infection and recovery time in coronavirus patients. In addition to these, another randomized phase III trial was conducted with 4891 participants in the USA (NCT04292899). The study was intended to investigate the effectiveness and safety of two remdesivir regimens (5 days and 10 days of treatment). However, the results showed no appreciable difference between the two arms.

National Institute of Allergy and Infectious Diseases (NIAD) initiated a multicenter, phase III clinical trial to compare the antiviral potential of remdesivir with the combination of remdesivir and baricitinib (NCT0441579). In another phase III clinical trial, 1113 participants were recruited to analyze the efficacy of two remdesivir regimens (NCT04292730). Many other phase III clinical trials with the viral polymerase inhibitor, remdesivir in coronavirus patients have been started in France and Luxembourg (NCT04315948), United States (NCT04409262), Germany, Argentina, Brazil, Canada, Spain, Honduras, Indonesia, Iran, Ireland, Israel, Italy, India, Kenya, Norway, Peru, Philippines, Malaysia Saudi Arabia, South Africa, Qatar, Switzerland, Lebanon, Thailand (ISRCTN83971151), USA, Korea, Japan (JPRN-jRCT2031190264), Portugal, France, Canada, Spain, Ireland, Australia, Norway, Italy, India (EUCTR2020-001366-11-IE), United States and United Kingdom (NCT04431453), USA, Spain, Italy, UK (EUCTR2020-001803-17-GB) and Spain (EUCTR2020-001366-11-ES).

Favipiravir

Favipiravir (Avigan) is an antiviral agent with the potential to inhibit viral RNA polymerase. Favipiravir exhibits its antiviral activity by targeting the RNA polymerase (catalytic domain), halting the addition of nucleotides at the time of viral RNA
replication. The misregulation in RNA replication of the virus produces higher transition mutations which prompts destructive mutagenesis.\textsuperscript{20} It has been employed for the treatment of various ailments including Influenza and Ebola.\textsuperscript{21} Current in-vitro and clinical studies have reassigned favipiravir as a prospective candidate drug for the COVID-19 treatment. Clinical trials with favipiravir against SARS-CoV-2 have been carried out strenuously in many countries of the world. Clinical trial initiated in February 2020 in China to investigate the therapeutic potential of favipiravir in combination with baloxavir marboxil, in coronavirus patients (ChiCTR2000029544) showed no promising results.\textsuperscript{22} However, Chen et al., (2020) has reported that coronavirus patients administered with favipiravir showed an increased recovery rate (71.43\%) as compared to arbidol (55.86\%). The period of cough and fever was also appreciably reduced in the favipiravir treated group than in the arbidol group.\textsuperscript{10} Another phase III clinical trial is in process since March 2020 in China to compare the therapeutic potential of favipiravir with combination of favipiravir and chloroquine phosphate (NCT04319900). A phase IV multicenter trial in China evaluating the efficacy of favipiravir in conjugation with tocilizumab (ChiCTR2000030894).and various phase II and phase III clinical trials are commenced to investigate the effectiveness of favipiravir against SARS-CoV-2 in China (ChiCTR2000030987, ChiCTR2000029996), Italy (NCT04336904), Japan (JPRN-JapicCTI-205238, JPRN-jRCTs031190226, JPRN-jRCTs031200026, JPRN-jRCTs041200025, JPRN-jRCTs041190120, Bangladesh (NCT04402203), Thailand (TCTR20200514001), United Kingdom (EUCTR2020-001904-41-GB, EUCTR2020-002106-68-GB, NCT04373733, EUCTR2020-001449-38-GB), Turkey (NCT04411433), India (CRI/2020/06/025799, CRI/2020/06/025957, CRI/2020/05/025114), China, Germany, Romania (NCT04425460), Iran (IRCT201501227025726N14, IRCT20150808023559N20, IRCT20200428047228N1, IRCT201507020592N26), Saudi Arabia (NCT04464408), Russian Federation (NCT04434248), United States (NCT04346628, NCT04358549), Egypt (NCT04349241, NCT04351295).

\textbf{Sofosbuvir}

Sofosbuvir is a nucleotide analog, with antiviral activity against the hepatitis C virus (HCV). Sofosbuvir is a well-known inhibitor of NS5B polymerase of HCV. Sofosbuvir is recommended in combination with daclatasvir, ledipasvir, velpatasvir, or peginterferon-alfa.\textsuperscript{23} Recently, a phase II, phase III clinical trial of sofosbuvir was initiated on 1\textsuperscript{st} August 2020 in Egypt to evaluate the efficacy of sofosbuvir with or without ribavirin against SARS-CoV-2 (NCT04460443). Different clinical trials have been initiated with sofosbuvir in India (CRI/2020/06/025760) and with a combination of sofosbuvir and daclatasvir in Egypt (DRKS00022203), Iran (IRCT20200624047908N1, IRCT20200128046294N2), and Brazil (NCT04468087). Sofosbuvir is also in clinical trials, in combination with ribavirin (IRCT20200328046886N1), ritonavir (IRCT20200324046850N2), and ledipasvir (IRCT20100228003449N29) in Iran.

\textbf{Ribavirin}

Ribavirin is an antiviral drug use for the treatment of hepatitis C. Ribavirin exhibits its antiviral activity by inhibition of viral RNA polymerase. and inosinate dehydrogenase (IMP dehydrogenase) which is essential for the production of guanosine triphosphate, ultimately causing destructive mutagenesis.\textsuperscript{24} Hung et al., (2020) demonstrated in a phase II clinical trial that triple combination antiviral drug therapy ribavirin, LPV/r, and interferon beta-1b was safe and superior in shortening the recovery time and reducing the viral load of COVID-19 patients. Another phase II clinical trial to analyze the effectiveness of ribavirin and interferon beta-1b against SARS-COV-2 (NCT04494399) is underway since July in Hong Kong. The combination of ribavirin with LPV/r or interferon beta-1b is recommended by the China National Practice Guidelines for the treatment of COVID-19 patients.\textsuperscript{25} Currently, different clinical trials are analyzing the therapeutic potential of ribavirin alone or in combination with nitazoxanide and ivermectin in the USA (NCT04356677) and Egypt (NCT04392427) respectively.

\textbf{Clevudine}

Clevudine is an antiviral drug clinically approved in Korea and the Philippines for the treatment of
hepatitis B. Clevudine is a nucleoside analog, involved in the inhibition of hepatitis B virus (HBV) polymerase by clevudine 5’ triphosphate. A phase II clinical trial has been initiated on 6th May 2020 in Korea to analyze the safety and efficacy of 120 mg dose of clevudine versus placebo once-daily administration for 14 days in patients suffering from COVID-19 (NCT04347915).

**Viral Neuraminidase Inhibitors**

**Oseltamivir**
Oseltamivir (Tamiflu) is an antiviral drug clinically approved for the treatment of Influenza. It targets the viral neuraminidase to inhibit the release of viral particles from host cells, consequently decreasing the proliferation of the influenza virus in the respiratory tract. A study in China reported that treatment with oseltamivir has shown no positive clinical outcome in hospitalized patients of coronavirus. A randomized phase IV clinical trial was initiated in China to investigate the efficacy of three antiviral drugs, arbidol hydrochloride, lopinavir-ritonavir, and oseltamivir against SARS-CoV-2 pneumonia (NCT04255017). A phase III randomized clinical trial was initiated in Thailand to analyze the different combinations of oseltamivir, chloroquine, and favipiravir as a therapeutic strategy to combat the ill effects of COVID-19 (NCT04338698).

**Reverse Transcriptase Inhibitors**

**Azvudine**
Azvudine is an inhibitor of reverse transcriptase with antiviral potential against HBV, HCV, and human immunodeficiency virus (HIV). Ren et al., (2020) reported that azvudine has effectively reduced the recovery time in the treatment of SARS-CoV-2, however, clinical trials of azvudine treating SARS-CoV-2 with a large sample size are warranted. Moreover, in June 2020 another clinical trial has been initiated with azvudine for the treatment of coronavirus patients (NCT04425772). Different clinical trials are ongoing with azvudine to evaluate its antiviral potential against SARS-CoV-2 in China (ChiCTR2000029853, ChiCTR2000030424, ChiCTR2000030487, ChiCTR2000030041, ChiCTR2000032769).

**Emtricitabine/Tenofovir**
Emtricitabine/Tenofovir (Truvada), is a combination nucleoside reverse transcriptase inhibitor used to treat or prevent HIV-1. A randomized clinical trial was initiated in China as a therapeutic regimen for coronavirus patients with lopinavir-ritonavir and emtricitabine/tenofovir (ChiCTR2000029468). Different clinical trials are ongoing with emtricitabine/tenofovir for the prevention of COVID-19 in Argentina (NCT04405271) and Spain (NCT04334928, EUCTR2020-001385-11-ES).

**Viral Protease Inhibitors**

**Lopinavir-Ritonavir**
Lopinavir is an HIV-1 specific protease inhibitor. Lopinavir is administered in combination with ritonavir as its bioavailability through oral route is very low. The co-administration of lopinavir with ritonavir also improves its antiviral activity. The mechanism of action of lopinavir is to mimic the peptide linkage usually targeted by the viral protease, thus inhibiting the activity of the HIV-1 protease. Cao et al., (2020) have reported no significant clinical outcome in lopinavir-ritonavir arm of a clinical trial in hospitalized coronavirus patients compared to standard care. However, a study from South Korea has reported that viral protease inhibitor (LPV/r) treatment has reduced SARS-CoV-2 titers with no or very little viral load detected in the follow-up study. Another randomized, multicenter phase IV trial was initiated in China to compare the efficacy of chloroquine phosphate and lopinavir-ritonavir (ChiCTR2000029741). Different phase II and Phase III clinical trials with LPV/r in coronavirus patients are ongoing in Spain, Belgium, France, Germany, Netherlands, United Kingdom, Luxembourg (EUCTR2020-000936-23-FR), France (EUCTR2020-001188-96-FR, NCT04365582), USA (NCT04328012, NCT04455958), Ghana, Nigeria, South Africa, United Kingdom, India (EUCTR2020-001448-24-GB), Japan (JPRN-jRCTs031190227), Austria (NCT04351724), Colombia (NCT04359095), Iran (IRCT20190804044429N1, IRCT20200418047116N1).
Darunavir
Darunavir is a second-generation approved protease inhibitor for the treatment of HIV. Chen et al., (2020) reported the results of clinical trials showing that darunavir/cobicistat failed to increase the nucleic acid negative conversion rate in comparison to the control group for COVID-19 patients. Another phase IV clinical trial has been initiated in Thailand to compare the efficacy of ivermectin with the combined treatment of darunavir/ritonavir and hydroxychloroquine among asymptomatic and adult COVID-19 patients (NCT04435587).

Atazanavir
Atazanavir is a viral protease inhibitor used for the treatment and prevention of HIV. Previous studies have suggested its bioavailability within the upper respiratory tract, this has impelled it an interesting molecule for the treatment of SARS-CoV-2. A randomized phase III clinical trial has been initiated in Iran to compare the therapeutic potential of atazanavir/ritonavir with lopinavir/ritonavir (IRCT20200517047485N1) and lopinavir/hydroxychloroquine (IRCT20100228003449N30). Moreover, another clinical trial of atazanavir is also ongoing in combination with NA-831 and dexamethasone (NCT04452565).

Nelfinavir
Nelfinavir is an effective viral protease inhibitor of HIV. It has been reported previously that nelfinavir impedes the replication of SARS-associated coronavirus. Therefore, the anti-SARS potential of the Nelfinavir makes it a good lead compound for designing the therapeutic regimen of COVID-19 patients. A clinical trial in Japan has been initiated to evaluate the efficacy of nelfinavir for asymptomatic or mild COVID-19 (IRCT2071200023).

Viral Nucleoprotein (N protein) Inhibitors
Nitazoxanide
Nitazoxanide is an antiparasitic and antiviral drug. It shows in vitro inhibitory activity against coronaviruses including the Middle East respiratory syndrome (MERS) coronavirus by halting the viral nucleoprotein (N protein) expression. It also reduces the release of pro-inflammatory cytokines. Due to its profound antiviral activity against other coronaviruses, nitazoxanide is a prospective drug candidate for the treatment of coronavirus patients. A randomized phase II clinical trial was initiated in July 2020 to investigate the efficacy of nitazoxanide as a medication for SARS-CoV-2 patients (NCT04423861). Another phase III clinical trial was launched to investigate the effectiveness of nitazoxanide (NCT044441398). Several clinical trials are ongoing for the investigation of the antiviral potential of nitazoxanide against COVID-19 in India (CTR1/2020/06/025849), the United States (NCT04486313), Nigeria (NCT04459286), and Argentina (NCT04463264).

In addition to this, some other clinical trials have also been initiated to analyze the therapeutic potential of nitazoxanide as a prophylactic agent in COVID-19 in the US (NCT04343248, NCT04359680), Brazil (NCT04435314), and Mexico (NCT04406246).

Summary
Several FDA approved drugs that are originally indicated to treat infection of viruses other than SARS-CoV-2 have shown promise in the COVID-19 patients in multiple clinical trials in different counties, It is important that repurposing of the existing drugs should be emphasized because of the sense of urgency and their advantages related to cost, time, and safety.

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