Research Article

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Possible Treatment of COVID-19 in Current Pandemic and Successful Treatment of Other Medical and Surgical Diseases by Using Modern Medical Science and Technology

Ahsan Ali Siddiqui*, MD, MSPH, UK

Consultant Public Health, Quality Management & Patient Safety Department, General Directorate of Health, Saudi Arabia

ABSTRACT

Background and Objective: To highlight the importance of Latest Medical science inventions and their use to benefit the living beings.

Methods: The Author of this Article has done Literature Review, Comparison and Critical analysis of more than 20 Published Articles and other reviews. Author has chosen the Comparative Literature review as methodology for this research article. The purpose is to show that Randomly chosen articles are in favor of Possible Treatment of COVID-19 in current Pandemic and successful treatment of other Medical and surgical diseases by using Modern Medical science and Technology. SPSS 19 software is used to show Diagrammatic presentation for the results and analysis.

Results: Author of this Article has used SPSS 19 Software to present the results. First SPSS Diagram shows that All selected 15 Articles favor the Importance of Possible Treatment of COVID-19 in current Pandemic and successful treatment of other Medical and surgical diseases by using Modern Medical science and Technology. The Second SPSS Diagram shows that 15 Articles agreed 100% for the Importance of Possible Treatment of COVID-19 in current Pandemic and successful treatment of other Medical and surgical diseases by using Modern Medical science and Technology.

Conclusion: To conclude, modern Medical science inventions and latest treatment has helped the people to live longer and enjoy healthy life as compare to past decades. Although still there is no Vaccination or treatment available for COVID-19 Pandemic but due to Medical science and technology still supportive treatment is available. Currently Dexamethasone, Remdisivir, Favipiravir, Azithromycin and Plasma therapy has shown some promising results against COVID-19 Novel Cov. Preventions such as Hand washing for 40 seconds, Isolation, wearing mask N95 others in crowded places also help to reduce the numbers of COVID-19 Cases.

KEYWORDS: Covid-19; Sars-CoV-2; Chloroquine; Hydroxychloroquine; lopinavir/ritonavir; Favipiravir; Remdesivir; Nitazoxanide; Ivermectin; Cytokines; Antiviral; WHO list of Tuberculosis; Preventive Measures against tuberculosis; Sleep Apnea; Hypertensive patients; Duration of hypertension; Neurological symptoms; Hypertension; Blood pressure levels; Vitamin-A deficiency, Maternal mortality; Child mortality

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Address for correspondence: Ahsan Ali Siddiqui, MD, MSPH, UK, Consultant Public Health, Quality Management & Patient Safety Department, General Directorate of Health, Saudi Arabia

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INTRODUCTION

An unprecedented outbreak Linzi F [1] of the novel coronavirus in China (COVID-19) occurred in December 2019 and then engulfed the entire world, presenting a significant and urgent threat to global health. Many research institutes have been involved in the development of drugs and vaccines against COVID-19. At present the strategy of new use of old drugs is mainly used to screen candidate drugs against the novel coronavirus later termed severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and inhibit excessive immune response. This related research has made great progress (Figure 1).

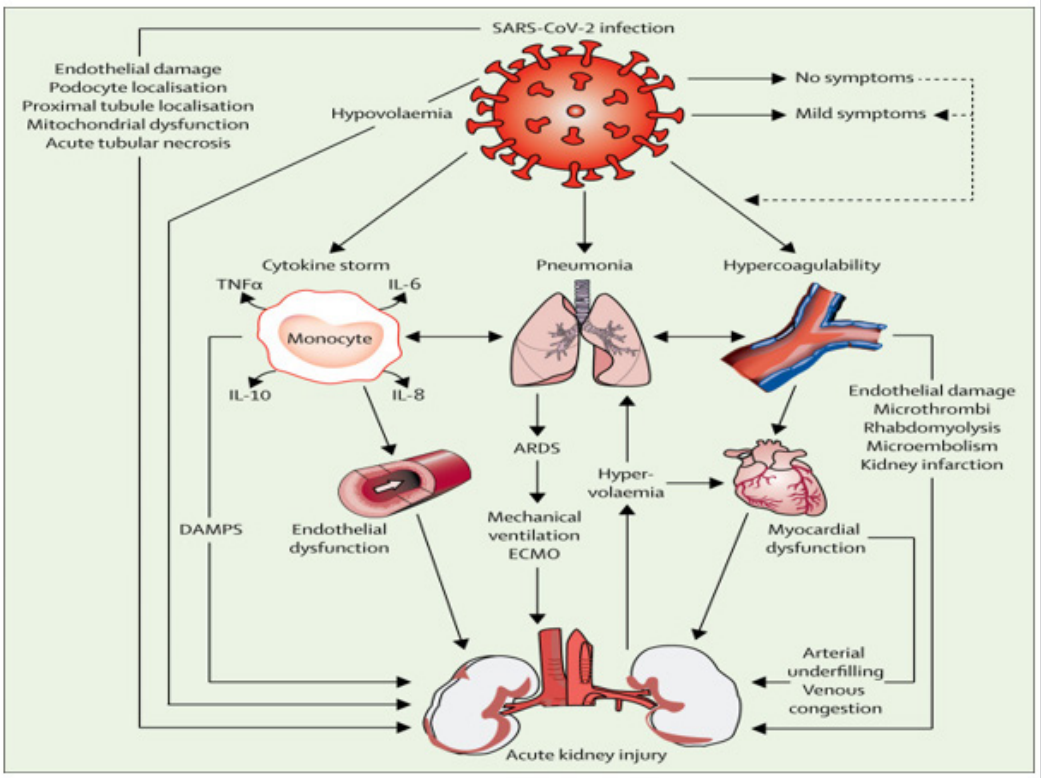

Figure 1: Corona virus pathogenesis [24].

COVID-19 testing can identify the Ahsan [2] SARS-CoV-2 virus and includes methods that detect the presence of virus itself (RT-PCR, isothermal nucleic acid amplification, antigen) and those that detect antibodies produced in response to infection. Detection of antibodies-serological tests can be used both for diagnosis and population surveillance. The Aim is to tell the Importance of early testing for COVID-19 novel corona virus of the suspected communities. The earlier to find out the Positive results of the COVID-19 novel corona virus more robust preventions against COVID-19 could be implemented. As we all know that current Pandemic of COVID-19 novel corona virus is deadly and without vaccine and proven Treatment. More than quarter million people recently has died and more than four million people suffering from COVID-19 all over the world till May 2020.The lesson learned from the Pandemic COVID-19 is that our health systems and health agencies do not have abilities to save their citizens and they have to work hard to improve their abilities to save their citizens (Figure 2).

Latest Inventions in Science and Medical Technology Ahsan AS [3] are Blessing for all the Living being on this Planet Earth. From Human beings to Animals all are getting benefits to enjoy better health in twenty first century by modern treatment and surgical procedures for humans and Animals. The Human Doctor and Veterinary Doctor are getting modern medicines and technology to save the lives of their patients. Latest Medical Inventions for example Nuclear Medicine/ Nuclear scan, CT Scan, MRI Scan, Laparoscope Machine, Imaging Machine, Ultrasound, X-Rays, ICU Facility with Ventilators, Endoscopy Instruments, Others are helping the Doctors and Patients to provide and receive latest Treatment for the ill and sick. Although the Advancement in Medical Technology and Sciences still a lot of Research and hard work needed as still scientists could not find the appropriate and proven treatment and Vaccine of COVID-19 (Figure 3).

Lopinavir a protease inhibitor of Yan W [4] human immunodeficiency virus type 1 (HIV-1) showed good inhibitory effects on SARS-CoV replication in cell-based assays. In clinical trials, the combination of lopinavir and ritonavir benefited the patients with SARS by reducing the viral loads. Lopinavir has been identified as a main protease inhibitor of SARS-CoV and approved for inhibiting the SARS-CoV replication. Recent docking simulation studies showed that lopinavir can also directly bind to the catalytic pocket of SARS-CoV-2 main protease indicating its potential to reduce the viral loads in patients with COVID-19. However, in clinical trials no benefits were observed with lopinavir-ritonavir Yan W [4] treatment beyond standard care in patients with COVID-19. Global Health and other organizations Ahsan AS [5] such as WHO, UNHCR, UN, UNESCO, UNICEF did not act fast to Prevent and Control the COVID-19 Pandemic. Other Governments of the countries in the world act very slowly for the warnings given by WHO and other scientists.

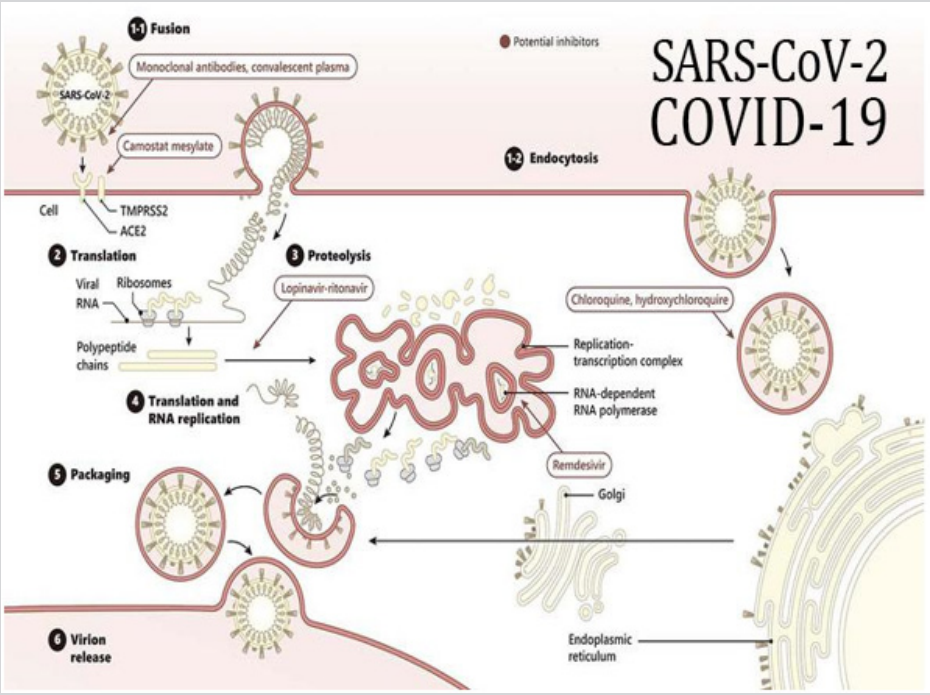

Figure 2: Corona virus pathogenesis [24].

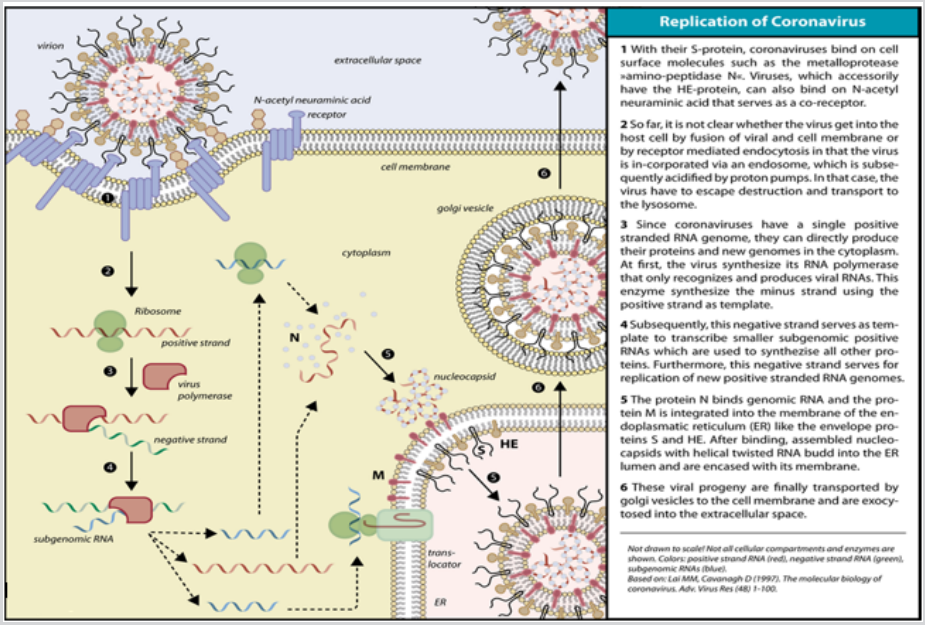

Figure 3: Corona virus pathogenesis [24].

Later since November 2019 till now approximately 350,000 people have lost their lives due to COVID-19 and approximately 5 Million people are infected by this COVID-19 disease. Lessons should learn from COVID-19 Pandemic and it is not over yet as scientists predicts that COVID-19 is with us for next couple of years. The vaccine of COVID-19 is under development and there is not exact Ahsan AS [5] treatment for COVID-19 by medical sciences till now.

While there is no vaccine Ahsan AS [6] currently available for COVID-19 patients the treatment with Convalescent Plasma with other western medicines saves lives of hundreds of thousands of patients in COVID-19 Pandemic. There is need of more advance research and action to find out the Treatment of COVID-19 Pandemic. Global health including public health preventive medicine has failed the world in this current COVID-19 Pandemic when more than Quarter million people died all around the world and approximately 4.2 Million people suffered from this deadly COVID-19 Pandemic.

After seeing the Disaster resulting Ahsan AS [6] from COVID-19 Pandemic in last five months all over the world, where almost 370,000 people died and approximately 6 Million people are sick due to COVID-19. There is urgent need of vaccine of COVID-19

Pandemic and there is news that may be Vaccine could be available in December 2020 or later. The lesson learned is that we in Twenty first century do not have capability to develop immediate Medicines or Vaccines for new disease. Medical Scientists need to study more and Medical Science need more hard work to learn the diseases and their urgent treatment.

The main Aim is to highlight Ahsan AS [7] the latest Prevention Treatment and Vaccine development of COVID-19 recently in Mid-2020. Currently there is no proven treatment of COVID-19 and still no Vaccine available for public. Some of the Antiviral drugs has shown promising results in treatment but more Scientific Medical research is needed to find the Treatment as earliest as possible. The SPSS Diagrammatic Presentation shows that firstly 13 Articles agreed 100% and 2 Articles did not, that there is urgent need of better Management and Treatment of COVID-19 novel corona virus. Second SPSS Diagram shows that All 15 Articles Favours the Importance of Urgent Recent Management and Treatment, Vaccine for the COVID-19 novel corona virus. There are some pictures, CT Scans and names of the Medicines involves in the Latest Treatment of the COVID-19 included in this Article.

The main theme is to discuss Ahsan AS [8] the Preventions training and control strategies against COVID-19 novel corona virus in China in initial first two months of Pandemic. When Chinese health authorities in Wuhan china found Novel coronavirus pneumonia-NCP in patients in health facilities they first treated them with TCM-Traditional Chinese medicines with western medicines. In most of the cases they have found TCM-Traditional Chinese medicines more effective than other medicines. The current positive statistics of Pandemics about China shows the complete control on COVID-19 with no spread and no Fatalities in May 2019. While the Pandemic of COVID-19 is on the rise Ahsan AS [8] all around the world specially in the USA, Europe and the UK.

Current Pandemic of COVID-19 Ahsan AS [9] has taught us that we in the twenty first century is not ready to provide health care to vulnerable community such as elders, children and sick people with chronic illness. Such vulnerable people with bad health and low socio-economic status are more prone to get effected by COVID-19 novel corona virus. More serious work needed to be done by Global health agencies and world organizations such as WHO, CDC, UN, UNESCO, UNHCR others. Governments and health departments has to make useful health policies to implement in deadlines with serious accountability to fight against any Epidemic or Pandemic.

The main Aim is to show Ahsan AS [10] the Importance and role of medical sciences to save lives of mankind from Communicable and Non-Communicable Diseases including current COVID-19 Pandemic. This Article includes various Articles references discussing the Diseases such as Hypertension, Diabetes, Cancer, Tuberculosis, Avian Flu and COVID-19. This Article teaches us the lesson that Technology in Medical Sciences and Inventions, Discovery of new Medicines and Surgical Instruments are Blessings for Mankind. Latest Technologies such as MRI Scans, CT Scans, Chemotherapy, Radiotherapy, Nuclear Technology, X rays/ Ultrasound, Latest Laparoscopic surgery, Endoscopy, Angioplasty others are treating more ill patients than ever before. But more Medical research is needed to find the Treatment for COVID-19 Pandemic Ebola, MERS, Avian Influenza, Swine Flu and other Viral diseases.

METHODS

The Author of this Article has done Literature Review, Comparison and Critical analysis of more than 20 Published Articles and other reviews. Author has chosen the Comparative Literature review as methodology for this research article. The purpose is to show that Randomly chosen articles are in favor of Possible Treatment of COVID-19 in current Pandemic and successful treatment of other Medical and surgical diseases by using Modern Medical science and Technology. SPSS 19 software is used to show Diagrammatic presentation for the results and analysis (Table 1).

Table 1: 15 Selected Articles to show the Importance of Possible Treatment of COVID-19 in current Pandemic and successful treatment of other Medical and surgical diseases by using Modern Medical science and Technology.

S.NO	Complete Reference of the Articles selected for study	Study favors the Importance of Possible Treatment of COVID-19 in current Pandemic and successful treatment of other Medical and surgical diseases by using Modern Medical science and Technology - YES	Study Ignores the Importance of Possible Treatment of COVID-19 in current Pandemic and successful treatment of other Medical and surgical diseases by using Modern Medical science and Technology - No	Percentages % of Articles agreed the Importance of Possible Treatment of COVID-19 in current Pandemic and successful treatment of other Medical and surgical diseases by using Modern Medical science and Technology
1	Ahsan AS (2020) The need of early detection of positive COVID-19 patients in the community by viral tests (e.g. RTPCR Tests) and antibody tests (Serological Tests) to stop the spread. Am J Biomed Sci & Res 9(1): 78-87.	YES	-------	100%

2	Ahsan AS (2020) The use of latest medical technology and taking benefits from technology to treat various medical diseases including COVID-19 in the current pandemic. Open Acc J Bio Sci 2(3): 393-400.	YES	-------	100%
3	Ahsan AS (2020) COVID-19 Pandemic and Public health Preventions to Reduce the Infection, Incidence and Distribution among the Community. Open Acc J Bio Sci 2(2): 345-352.	YES	-------	100%
4	Ahsan AS (2020) Role of convalescent plasma therapy in successful prevention and treatment of COVID-19 novel corona virus critical patients, in 2020 global pandemic. Biomed J Sci & Tech Res 28(2): 21398-21407.	YES	-------	100%
5	Ahsan AS (2020) The urgent need of reliable and approved vaccina-tion for covid-19 novel corona virus in current pandemic. Biomed J Sci & Tech Res 28(2): 21435- 21443.	YES	-------	100%
6.	Ahsan AS (2020) The recent management and treatment of covid-19 novel corona virus better use of science, better treatment for COVID-19 Patients. Open Acc J Bio 2(3): 366-373.	YES	-------	100%
7	Ahsan AS (2020) COVID-19 novel corona virus control and preventions in china and discussing their national success to back to normal life, while world is combatting the deadly viral pandemic. Biomed J Sci & Tech Res 27(4): 20974-20984.	YES	-------	100%
8	Ahsan AS (2020) The Epidemiology of COVID-19 novel corona virus to possibly control the disease and other factors relating to health around the world. Open Acc J Bio Sci 2(2): 330-337.	YES	-------	100%
9	Ahsan AS (2020) The role of medical sciences to save lives of mankind from communicable and non-communicable diseases including current COVID-19 pandemic. Open Acc J Bio Sci 2(3): 384-392.	YES	-------	100%

10	Linzi F, Shuang J, Xinrong Y, Zhibin W (2020) COVID-19 Drug Treatment in China. Curr Pharmacol Rep 19: 1-9.	YES	-------	100%
11	Yan W, Lei C (2020) Lung tissue distribution of drugs as a key factor for COVID-19 treatment. British J Pharmacology.	YES	-------	100%
12	Ahsan AS (2018) The global threat of bird (Avian) flu its treatment methods and public health preventive measures. SOJ Vet Sci 4(3): 1-4.	YES	-------	100%
13	Jamali Z, Siddiqui AA, Jamali D, Nazim S (2018) Correlation of early and late cord clamping time with hematological variables: an observation study focusing on the neonatal outcomes. SOJ Gynecology Obstetric Women's Health 4(1): 1-5.	YES	-------	100%
14	Reena K, Ali SA, Zubair T, Fatima S (2018) Levels of electrolyte in cancer patients; a prospective study focusing on the Variations before and after therapy. Palliat Med Care 5(4): 1-4.	YES	-------	100%
15	Amna MB, Siddiqui AA, Wajid Z (2018) Presentations in patients of chronic myeloid leukemia; an observational study focusing on the association of hematological parameter on gender. Cancer Sci Res Open Access 5(1): 1-5.	YES	-------	100%

RESULTS

Author of this Article has used SPSS 19 Software to present the results. First SPSS Diagram shows that All selected 15 Articles favor the Importance of Possible Treatment of COVID-19 in current Pandemic and successful treatment of other Medical and surgical diseases by using Modern Medical science and Technology. The Second SPSS Diagram shows that 15 Articles agreed 100% for the Importance of Possible Treatment of COVID-19 in current Pandemic and successful treatment of other Medical and surgical diseases by using Modern Medical science and Technology. Measure and statistical Analysis: IBM (2006) IBM SPSS Software USA (Figure 4,5).

DISCUSSION

The role of Modern Medical sciences for prevention and treatment of Medical Diseases: This Article has explored the Ahsan AS [11] Avian (bird) flu in terms of definition classification signs and symptoms caused by Avian flu statistics of morbidity and mortality caused by Avian flu in Turkey, Thailand and other effected countries. In this article I have talk treatment health implications, risks and the warnings about the Avian flu and food safety implications in humans to prevent from the harmful effects of the Avian flu. I have also discussed the some of the actions taken by the UK government to prevent the population of the UK from harmful effects of the Avian flu. I have told the dangers and the harmful effects done by the Avian flu and how this deadly disease spread in the communities silently and the health departments comes to know about this disease when it done its work Ahsan AS [11] killing the innocent people terrorize the whole community by its deadly results. Globally various studies have Jamali [12] discovered different views regarding the time of cord clamp in which mother and new-born safety are amongst the chief considerable points of differences. Numerous health care personnel worldwide try to deliver the baby and clamping of the cord as quickly as possible. The present study predicted that no correlation in either group existed between hemoglobin hematocrit and bilirubin with increasing cord clamping time. Furthermore, there was no association observed in neonates with anemia, low hematocrit, polycythemia and high bilirubin with increasing cord clamping time (Figure 6).

Chronic Myeloid Leukemia-CML Amna [13] is malignancy of blood that arise from a molecular alteration in a solitary pluripotent hematopoietic stem cells resulting in continuous production of the myeloid progeny. In 90% of cases CML is caused due to the existence of Philadelphia chromosome and infrequently by Hyperdiploidy of greater than 50 chromosomes. The translocation among chromosome 9 and 22 t (9,22) (q34; q11) leads to the development of break point cluster region and Abelson's (BCR-ABL) a new fusion gene that codes for an oncoprotein (P210) positioned in the

cytoplasm that has a strong ability to activate tyrosine kinase. Which as a result activates numerous signals that convert hematopoietic stem cells into the leukemic cells consequently augmented tyrosine kinase action which plays a vital role in the pathogenesis of CML. Electrolyte derangement has been Reena [14] documented during cancer chemotherapy leading to the electrolyte imbalance. So, we conducted this study to evaluate the type and frequency of affected electrolytes. The mean age of patients was 43.21±12.85 years while weight was 56.02±11.25 kg. In our study significant difference existed in electrolytes parameters. In our study potassium level before and after the chemotherapy was 3.99±0.25 mg/dl and 3.51±0.76 mg/dl (p<0.001) respectively while sodium level before and after the chemotherapy was 139.66±2.35 mg/dl and 132.23±7.28mg/dl (p<0.001) respectively. Urea level recorded was 19.952±4.46 mg/dl and 27.12±15.29 mg/dl (p<0.001) respectively while recorded creatinine levels before and after Reena [15] chemotherapy was 0.60±0.21 and 0.84±0.44 mg/dl respectively (p<0.001).

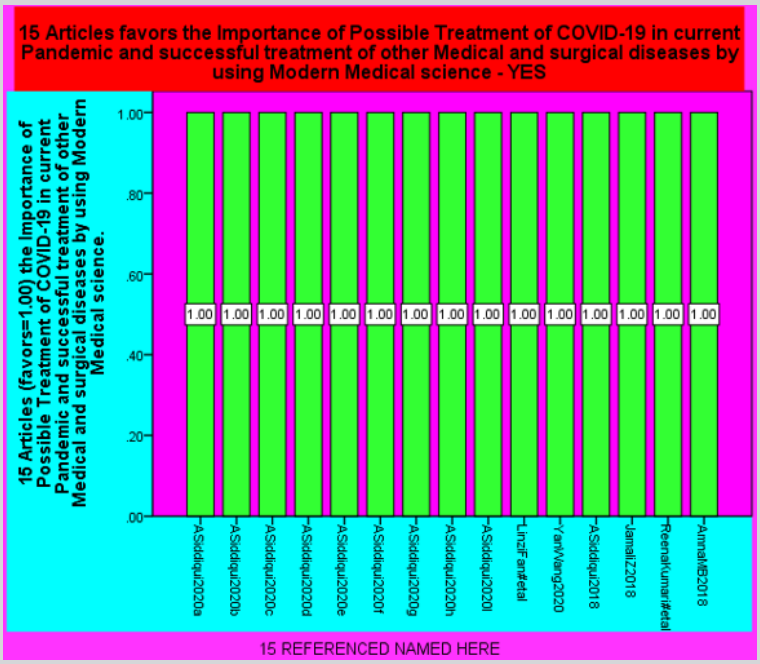

Figure 4.

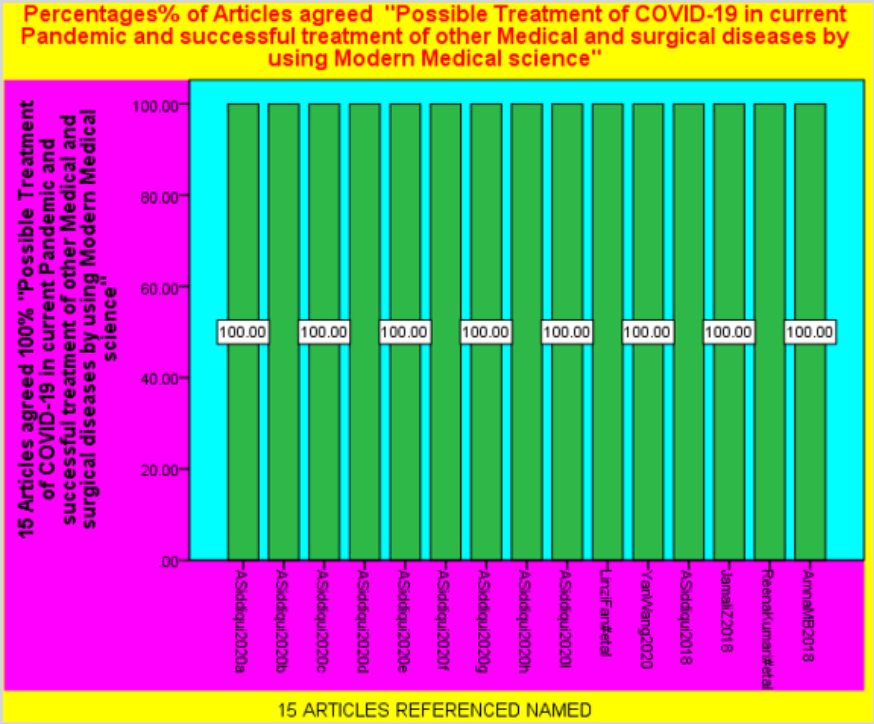

Figure 5.

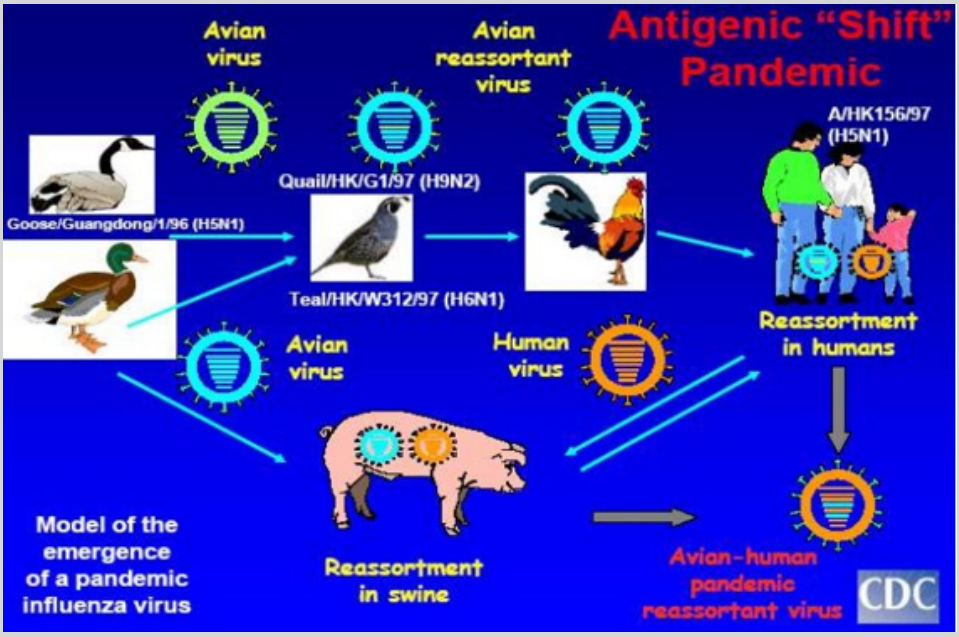

Figure 6.

Febrile neutropenia's one of the Reena [16] most prominent complication of cancer chemotherapy and leads to decreased efficacy of treatment due to reduction in dosage of chemotherapy. The mortality rate from febrile neutropenia remains on higher side. In patients having solid tumors, the incidence of febrile neutropenia ranges from 10%-50% and is apparently ≥80% in patients having hematological malignancies. The mortality associated with Febrile Neutropenia require prompt hospitalization and aggressive antimicrobial treatment. In patients having Gram-negative and Gram-positive bacteremia mortality rates of 18% and 5% have been stated respectively. Our study showed that among male and female cancer patients on chemotherapy, more than half of males were found to have febrile neutropenia, while fewer females had febrile neutropenia. There was no significant difference in occurrence of febrile neutropenia between two genders.

Chronic Myeloid Leukemia-CML is hematopoietic Amna [17] malignancy arising from a molecular modification in single pluripotent hematopoietic stem cells that results in constant creation of the myeloid progeny. In 90% of cases CML is because of the presence of Philadelphia chromosome and uncommonly by Hyperdiploidy of >50 chromosomes. The present study predicted the median age of 40.29 years in patients suffering from chronic myeloid leukemia. Furthermore, no significant difference existed in hematological parameters and therefore no correlation observed with age in various hematological parameters in these patients.

Hypertension is regarded as an important Adnan [18] public health challenge worldwide because of its high prevalence. It is known to increases the risk of various medical conditions such as heart attack, stroke, kidney failure and blindness. The Comparative Risk Assessment Collaborating Group has identified hypertension as the third leading risk factor for morbidity and as the leading risk factor for mortality worldwide. The prevalence of smoking, chest pain, vision problems, fatigue and confusion were found to be different between both genders. Furthermore, the prevalence of smoking, headache, vertigo, chest pain, vision problems, dyspnea, increased urinary frequency, nausea, sleep apnea, irregular heartbeat/palpitation fatigue and confusion were found to be different between both age groups.

Electrolyte imbalance is one of the multiple issues faced by cancer patients it can be associated with ongoing chemotherapy. When such electrolyte imbalances occur associated with malignancy, they can become life threatening and require emergency treatment modalities to prevent fatality. The most prevalent electrolyte disorder in malignancy suffering patients is hyponatremia. According to one study, 14% hyponatremic patients were having underlying malignancy. This study predicted that there is difference in electrolyte levels before and after chemotherapy in cancer patients. Furthermore, no correlation was observed in various electrolytes with the duration of chemotherapy although the difference in electrolyte levels is not clinically significant and can be managed promptly in less time. This can prevent secondary impairment in cancer patients already undergoing chemotherapy.

Cancer chemotherapy causes a lot of complications among them one is febrile neutropenia which leads to decrease in efficiency of treatment due to reduction in dosage of chemotherapy. Higher mortality rate has been demonstrated due to febrile neutropenia. Febrile neutropenia in patients having hematological malignancies is apparently about ≥ 80% while in patients having solid tumor the incidence ranges from 10%-50%. Aggressive antimicrobial treatment and hospitalization Reena [19] is required in febrile neutropenia associated with high mortality.

The accepted therapeutic Sarah [20] paradigm for the past half-century for the treatment of advanced cancers has involved the use of systemic chemotherapy drugs cytotoxic for cycling cells (both normal and malignant) during DNA synthesis and/or mitosis. The failure of this therapeutic modality to achieve high-level consistent rates of disease-free survival for some of the most common cancers including tumors of the lung, colon breast, brain, melanoma and others is the focus of this paper. A retrospective assessment of critical milestones in cancer chemotherapy indicates that most successful therapeutic regimens use cytotoxic cell cycle inhibitors in combined maximum tolerated dose-dense acute treatment regimens originally developed to treat acute lymphoblastic leukemia and some lymphomas.

Directly observed treatment (DOT) prevents Siddiqui A [21] (multi drug resistant) MDR-TB. TB is a common serious but treatable complication of HIV infection. It is estimated that 30-50% of those with AIDS in the developing world also have TB. TB is probably no more infectious when occurring in the context of HIV. Infection with HIV leads to extensive destruction of the immune defense mechanisms of the body. The development of tuberculosis following infection with tuberculosis micro-organisms is usually prevented by the actions of the immune system. This article describes a model for TB control program which contains the essential components of a successful TB control program including three priority strategies for TB prevention and control. A) identifying and treating persons who have active TB, B) finding and screening persons who have had contact with TB patients, C) screening Siddiqui A [22] populations at high risk for TB infection and development to isolate infected persons.

Defining Paradigm in the reflection Siddiqui A [23] of above research question 'how can we reduce the incidence of T.B. in adults in Karachi Pakistan?' What will be the strategies, challenges and what are the outcomes? Is this really possible to reduce the incidence of T.B in adults in Karachi Pakistan by applying new strategies and methods. The paradigm gives us the way how we can investigate the research question and it gives us the real path to follow for research. It gives us sense and makes us realistic to apply genuine applications to investigate the research question.

According to our study no correlation Jamali Z [24] exists between hemoglobin and hematocrit with cord clamping time but weak positive correlation was observed between bilirubin levels with clamping time in seconds. Previous physiological studies have revealed that approximately 25% to 60% (54-160 mL) of the entire blood volume in combined fetal–placental unit at full gestation is present in placental circulation and about 60% of the fetal red blood cells are found in placenta. One of the ancient interventions that humans have performed includes umbilical cord clamping. It can be early cord clamping (ECC) (clamping cord <10 seconds after delivery) or delayed cord clamping (DCC) (clamping cord 30-180 seconds after delivery) [25,26].

CONCLUSION

To conclude, modern Medical science inventions and latest treatment has helped the people to live longer and enjoy healthy life as compare to past decades. Although still there is no Vaccination or treatment available for COVID-19 Pandemic but due to Medical science and technology still supportive treatment is available. Currently Dexamethasone, Remdisivir, Favipiravir, Azithromycin and Plasma therapy has shown some promising results against COVID-19 Novel Cov. Preventions such as Hand washing for 40 seconds, Isolation, wearing mask N95 others in crowded places also help to reduce the numbers of COVID-19 Cases.

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26. Google images (2020) Avian flu pathogenesis.