A Systematic Literature Review of Tendency of Pathogenic Diseases in the Patients of Covid-19

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Abstract

The virus is comparable to the SARS-CoV-2 virus for several physical and pathogenic characteristics. The incidence of death and infection of seasonal influenza is lower than that of SARS-CoV-2.. The research aims to find out the tendency of the pathogenic disease in the patients of covid-19 and also to highlight the major pathogenic diseases caused by Covid-19. Researcher as well started searching for electrification: Elsevier Science Direct, Taylor and Francis, Stringer, Scopus as well as Google Scholar, to evaluate the tendency of pathogenic diseases in the patients of COVID-19 investigation already identified in open access publications or online publications, dissertations, grey literature such as abstracts, peer-reviewed journals, and unpublished reports during the period started from 1900s to 2021. In this study, study selection and extraction, publications by year, analysis of data sources, publication by context, Citation analysis, publications by context, tendency of pathogenic diseases in the patients of Covid-19, statistical analysis of covid-19 associated/pathogenic diseases have been discussed in results section. The studies included with correlation between tendency of pathogenic diseases and Covid-19 patients were analyzed. The data on the tendency of pathogenic diseases in the patients of COVID-19 were analyzed from all studies. The current research was dependent on the outcomes of the reporting studies. In order to undertake a descriptive data analysis and word frequency (keywords) have been analyzed. All statistical data were analyzed using Microsoft Excel. It is resulted that the Covid-19 patient not only affected one issue, but they also suffered from many other diseases like acute coronary artery diseases or cardiomyopathy cancer, chronic obstructive pulmonary disease (COPD) another chronic kidney disease, Sickle cell disease, weak immune system, pregnancy-related many serious issues, and many other viral and bacterial diseases.

Keywords: Pathogenesis; Covid-19; Pandemic; Tendency

Introduction

Too many nations have propagated the present epidemic of the new virus known as a corona virus (SARS-CoV-2), which is epicentered in the Hubei Province of the PRC. The virus can be seen as authentic by creatures sold from the maritime fish market in Wuhan and the Chinese health authorities have been describing fever, toxin and breathing difficulties in people with pneumonia [1]. The virus is comparable to the SARS-CoV-2 virus for several physical and pathogenic characteristics. Interaction may lead to the trans-

mission of the virus. Individuals who are terminally ill generally get older or have comorbidities. The incidence of death and infection of seasonal influenza is lower than that of SARS-CoV-2. Most of those infections stay unknown as they propagate [2]. Long term SARS-CoV projects provide a greater understanding of the system of replication, tropism, and immune response mechanisms, taking into account potential functions of groups of proteins, the development of strategies for the vaccination of animals and humans and antiviral therapies and very likely the isolation and characterization of

human new pathogens [3]. Corona viruses are enclosed pathogens, which are positive single-stranded, big RNA viruses, which also infect animals as well as humans. In 1967, Tyrell and Bynoe, describing the pathogens from individuals with ordinary colds, first identified coronaviruses. Due to their form as spherical virions with a core shell and surface projection like the solar couronne they have termed coronaviruses. The Latin name simply means "corona" [4,5]. The genomes are somewhere between 27 kb to 31 kb in size. SARS-CoV-2 is linked to or comparable to the SARS-CoV virus and is part of a B-lineage of beta-coronaviruses [6]. The 4 major architectural gene codes the protein N (nucleocapsid protein), the protein S (spike protein), the SM (small membrane protein), and the glycoprotein membrane with the addition of HE (an glycoprotein membrane) in beta-corona viruses HCoV-OC43 and HKU1 [7]. SARS-CoV-2 has 96% bat coronavirus similar [8]. Evidently, SARS-CoV-2, at the Huanan market in Wuhan, China, succeeded in making his move from animal to human. Nevertheless, the parameters that really don't seem to offer the correct transmission route must be identified as quickly as possible. The common presenting sign and indications of COVID-19 linked COVID SARS-CoV-2 that permitted pneumonia to be detected. Recent reports also indicate gastro-intestinal and asymptomatic symptoms, particularly in young person [9]. Comments to date show that there is a mean five-day initiation duration and a median three day initiation (range: 0-24) [10]. There is still no definitive estimation of the proportion of patients who remain asymptomatic during SARS-CoV-2 infection. Clinical evidence of the disease generally begins in Symptomatic individuals after fever, cough, nasal congestion, weariness, and other symptoms of upper respiratory tract infections after less than a week. In roughly 74 percent of patients having computed tomography upon admission, the infection may lead to serious illness with dyspnea and severe chest Symptoms comparable to Pneumonia. Pneumonia develops mostly in asymptomatic illness in the second or third weeks. Prominent symptoms of viral pneumonia include reduced oxygenation, fluctuation of plasma gas, alterations in visible radiation and other imaging methods, abnormality of ground glass, patches, alveolar secretions, and lobules participation, which finally indicate worsening. Inflammation indicators (C-reactive protein and pro inflammatory cytokines) appear to be prevalent and high lymphopenia [11]. Other studies conducted on 431 verified cases suggest that the present pandemic can treble the number of persons afflicted every seven days and that one infection spreads to an average of 2.2 (R0) patients [12]. SARS-CoV epidemic estimates in 2004 have shown R0 to 3 [13]. The early stage of epidemic current data-driven research suggests a mean R0 of 2.3 to 3.6 [2,11]. Thicker groups are riskier, And undoubtedly, because of the opaque trade between China and Africa, the most threatened area in Africa. Very few African nations have adequate and proper diagnostic measures and there are clear obstacles to deal with and conduct these outbreaks. Africa may soon suffer from the disease. Research have shown and found that individuals over sixty are at higher risk than sick youngsters [1]. At 13 Feb'20, there was only approximately 2.3% (1371/60462; 13 February 2020, 06:53 PM CET) of cases of mortality in the case of COVID-19 infections; 9.75% (781/8085) of the SAR S-CoV pandemic and 33.2% (868/2484) of the outbreak of the COV-MERS since 2012. The angiotensin to convert the enzyme II (ACE2) as an entrance receptor infects lung alveolar epithelial cells through receptor mediated endocytosis. Computer technology suggests that AP2 related protein kinase 1 (AAK1) medicines that alter these proteins may limit viral entrance into target cells. Baricitinib is an inhibitor of AAK1 and Janus kinase and has been used for the treatment of rheumatoid arthritis [14]. Around 79% of individuals identified in China were categorized as mild, 13% severe and 4% serious; greater CFR was seen in older and concomitant individuals with typical indicators such as lethargy blocked nose, or tiredness (cardiovascular disease, diabetes, chronic respiratory disease, hypertension, cancer, etc.) No fatal instances identified with chronic illnesses have been related to our knowledge. The danger of infections due to disease activity, diseased circumstances of morbidity, suppressive treatment, etc. is well recognized for rheumatic chronic disease. Covid-19 alone is highly harmful, but the main problem now is that Covid-19 has produced numerous additional acute illnesses and found that some patients had other pathogens during confinement [15]. The corona disease (covid-19) clinical problems are including respiratory, but there are multiple other pathogenic diseases reported widely in the patient of covid-19. The Covid-19 patient not only affected one issue, but they also suffered from many other diseases like acute coronary artery diseases or cardiomyopathy cancer, lung diseases, urinary problems, blood cells diseases or destruction, weak immune system, pregnancy-related many serious issues, and many other viral and bacterial diseases. So nowadays burning issue is that how we overcome not only covid-19 but also another disease which is caused by the corona virus and serve to the humanity so it is need of the hour to find out different techniques for treatment for the victim of Covid-19. The research aims to find out the tendency of the pathogenic disease in the patients of covid-19 and also to highlight the major pathogenic diseases caused by Covid-19.

Research Methodology

Protocol and registration

A systematic review similar to the Cochrane process was conducted. Preferring Reporting Products framework in the research document is consistent with the Systematic Review and Meta-Analysis (PRISMA).

Eligibility criteria

Each article was thoroughly examined at the eligibility stage. For each paper, the researchers have extracted the proposed suggestions as well as the particulars of the trials that either tested or confirmed those recommendations from each report. The articles were also removed from the systematic literature review if the suggested design principles were regarded as design standards, too broad for this work, or confusing for the researcher to understand (coders). Several data collection techniques were used to keep documents organized during the detection and filtering phases. To store the documents obtained from the checked articles, interpret the results, and make notes, online Google spreadsheets were used as a collaboration tool to be much more relaxed and interactive work.

Screening criteria

It is evaluated at a profound level during scanning measures, which one of the authors suggests might include useful material for reviewing the literature. Three research assistants independently reviewed each element's quality throughout that phase and labeled it with either yes or even no. In short, academic publications were extracted based on the above-listed search strategies. After the elimination of duplicate papers containing redundant material, potentially significant posts were still there. Titles and abstracts were then scanned, and insignificant studies were excluded, leaving a total of potentially essential studies. Abandoned reports were derived as guidelines for particular purposes or those specifically offered system architecture instructions.

Data sources

We looked at the prospective, placebo-controlled study, double-blind, ICAP (double-blind trial, multicenter), CORP and double-blind, multicenter, randomized controlled trial prerecorded contemporary about association between pathogenic diseases and covid-19. Researcher as well started searching for electrification: Elsevier Science Direct, Taylor and Francis, Stringer, Scopus as well as Google Scholar, to evaluate the tendency of pathogenic diseases in the patients of COVID-19 investigation already identified in open access publications or online publications, dissertations, grey literature such as abstracts, peer-reviewed journals, and unpublished reports during the period started from 1900s to 2021. Researchers were recently using phrases and keywords to search literature, including such "pathogenic diseases," "COVID-19," and so forth. Investors and scholars have systematically searched the reference lists of all the experiments in order to continue this work. Investors evaluated the study and discovered important unpublished literature on the tendency of pathogenic diseases in the patients of COVID-19. Until December 2021 we have restricted our objective to study which only include humans and are available in English in scholarly journals. Reasonable studies of all established journals (mostly focused on selection criteria) were analyzed to identify research projects that may have ignored the detailed review of the directory.

Study selection procedure

By the team of researchers personal suggestions were used to design and improve the selection criteria. Following the guidelines of past analysis the analysis was carried out. The inclusion and exclusion criterion were used to distinguish between important and non-significant studies, such as the sample population, which included all correlations between tendencies of pathogenic diseases in the patients of COVID-19 in addition to conventional medical therapy. Inclusion criteria were random clinical trials, retrospective, qualitative, prospective, quantitative studies; Irrespective of the language difficulty of application study was done in all countries; the prototype design of the researches was reviewed for analysis; the findings were presented in English language. The critical related characteristics and characteristic of the participants in study (e.g., gender, age) have been included. The particular research that did not assist any of the other factors was rule out from the analysis, such as the time span of the research, population comparison and the total number of experimental procedures. COVID -19 with extreme diseases, non-English speaking interventions, improper use of a leadership manual, and interventions with unique content were all considered in the study's exclusion criteria. We have not controlled compliance as per results. On the summary of an article a quantitative analysis was focused which did not fall within the need for addition and did not meet the criteria for prohibition. We examined the report entirely for the determination of eligibility metrics.

Data quality assessment, extraction, and collection procedure

Publishing particulars (i.e., trial authors and neologism, sample, populace, study design, correlation, continent and the year of the journal), integration, correlation and trends between tendencies of pathogenic diseases in the patients of COVID-19 have been included. Interpretations of the result were retrieved and obtained. The information was collected independently from researchers using and searching the correct protocol. Petty disputes were resolved by discussions with the third spectator, and eventually a consensus was reached during the debate. Publication bias in studies (Persons involved had dizziness, the experiment was prematurely stopped for feasibility before the planned enrollees were completed, and they were lost on follow-up) was also analyzed. The recognized records seemed to be n=300 via electronic databases. Documentation, consequently recognized from many other references, was n=0. After returned demolition, documents would be included n= 250 and the record were then evaluated on the considerations for segregation and integration. The full-text publications were reviewed based on the qualifying criteria, which resulted in a total of 77. A total of 50 articles were considered for the systematic review. A consistent data-extraction method was carried out to obtain data. The threshold of occurrences and the confidence intervals were set. The Cochrane risk analysis, data retrieval, literature review and bias acknowledgment were carried out separately.

Data items

In this study, study selection and extraction, publications by year, analysis of data sources, publication by context, Citation analysis, publications by context, tendency of pathogenic diseases in the patients of Covid-19, statistical analysis of covid-19 associated / pathogenic diseases have been discussed in results section.

Data analysis

The studies included with correlation between tendency of pathogenic diseases and Covid-19 patients were analyzed. The data on the tendency of pathogenic diseases in the patients of COVID-19 were analyzed from all studies. The current research was dependent on the outcomes of the reporting studies. In order to undertake a descriptive data analysis and word frequency (keywords) have been analyzed. All statistical data were analyzed using Microsoft Excel.

Results and Discussion

In this section, our literature review results have been presented concerning our initial research questions.

Study selection and extraction

300 papers were chosen from a collection of just over 1000 articles for the primary search or identification process. The database lists of all the studies are reviewed systematically to do such work. Analysts on the subject were classified as researchers and contributors. A full-text review of the 250 articles has been carried out to extract from correspondence in the Eligibility process. This review omitted 173 more papers because it was too general or ambiguous to recommend actual research data on the tendencies of pathogenic diseases in the patients of COVID-19. This process resulted in 77 papers marked as applicable to the current study. In the end, in the course of the information withdrawal ('Contained' in the chart of PRISMA), further checked the concluding set of articles to remove the related literature data found in the systematic review of the tendencies of pathogenic diseases in the patients of COVID-19 and specifics of the studies which generated and/or validated the design guidelines. Subsequently, the titles and abstracts were screened, and international studies were omitted, leaving a total of 50 potentially useful reviews. In figure 1, the procedure we accompanied in our research for clarifying can follow related papers in PRISMA diagrams. Some of our previous work follows up this interdisciplinary analysis of the literature in this area. However, the current study's focus concentrated on reviewing tendencies of pathogenic diseases in the patients of COVID-19 studies published from the 1900s to 2021 to provide a snapshot of current research in this field. This analysis shows that the systematic review of the tendencies of pathogenic diseases in the patients of COVID-19 is an evolving field of research, demonstrating a consistent rise in the number of publications from the beginning of the 1900s. The data were collected separately from researchers using the correct procedure and documentation. Interviews with the third analyst settled squabbles, and after the discussion, the consensus was reached. The required information was collected in the final stage of methodology, and any differences between authors were addressed and resolved. Then, they summarized these 100 articles. The practice of summarizing and categorizing papers helped us to get a range of important and impressive hints.

As a consequence, many possible future initiatives and guidelines have been suggested. It should note that the study investigation was carefully carried out and given a thorough basis for the systematic review of the tendencies of pathogenic diseases in the patients of COVID-19. It should note that during the PRISMA technique implementation, the key problem was the tacit expression of methods in the abstract and methodological sections of the papers.

Therefore, the writers must go through the entire content of the articles and take a more in-depth look at more information to determine the exact form of the tendencies of pathogenic diseases in the patients of COVID-19 criteria assessment. While it took a substantial amount of time in the selection process, it supported undertaking this analysis by selecting the most appropriate publications.
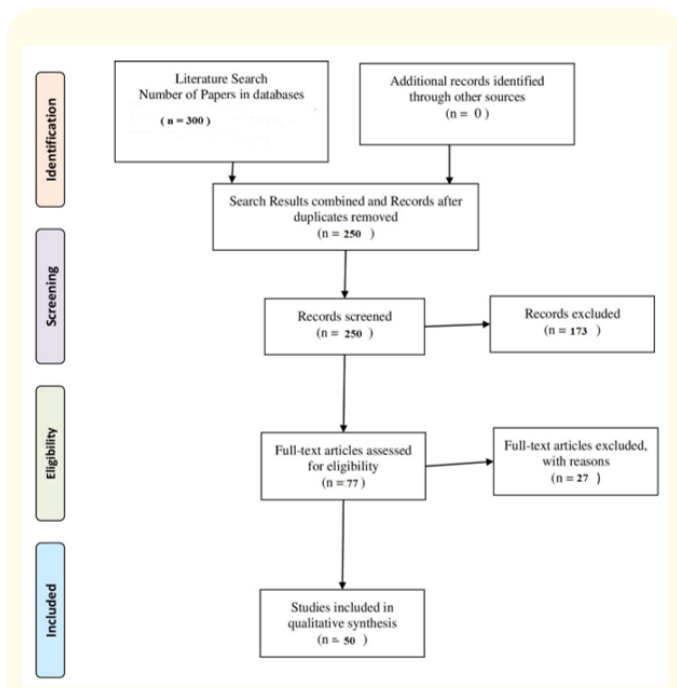

Figure 1: PRISMA flow diagram shown study selection and extraction strategy.

Included studies number of publications per year

Figure 2 shows the number of researches per year of the tendencies of pathogenic diseases in the patients of COVID-19 publications in terms of year. That can be seen, the research span the years 1900s to 2021, with a total of 50 studies shown in the proposed investigation. It is obvious that the largest number of publications with 78% (N=39/50) is increasing dramatically in 2020. To bear in mind, these results reflect only the number of tendencies of pathogenic diseases in the patients of COVID-19 publications that undertake as the previous studies.
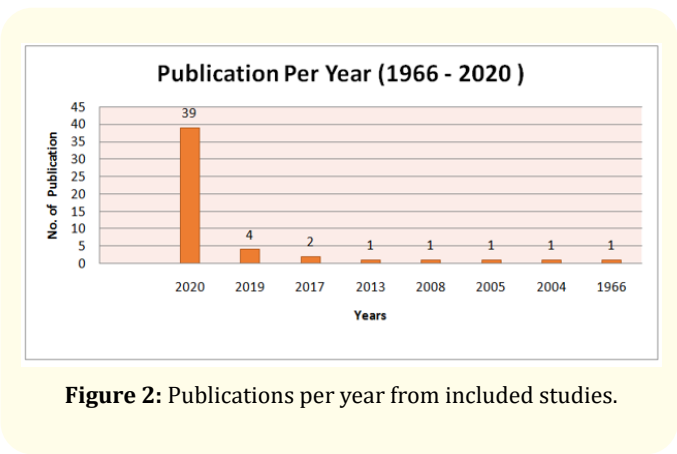

Figure 2: Publications per year from included studies.

Analysis of data sources

Figure 3 depicts the pattern of the analyzed studies based on data sources that were examined for included research. As portrayed in figure below, the majority of the reviewed papers seem to be from Elsevier Science Direct (N = 16/50) and the smallest numerous studies were from SCOPUS (N = 6).
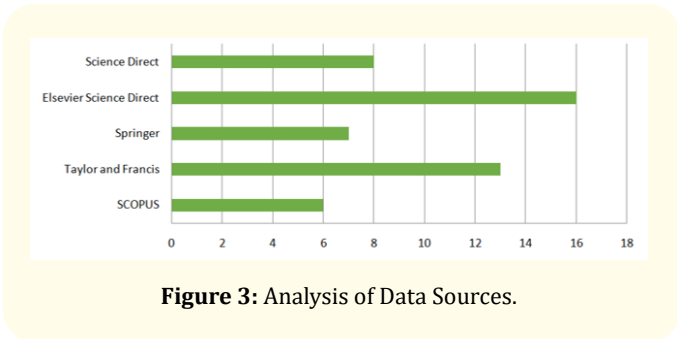

Figure 3: Analysis of Data Sources.

Publications by context

The allocation of the examined publications as per their study context is depicted in figure 4. Tendencies of pathogenic diseases and COVID-19 were the most considered context. It is evident that perhaps the associated pathogenic diseases was used in 34 percent of the assessed research (N = 17). Following that, 30 percent of research on novel corona virus (N = 15) and novel corona virus patients (N = 13) have 26 percent age, whereas research on the transmission dynamics was 5 and 10 percent age, correspondingly.
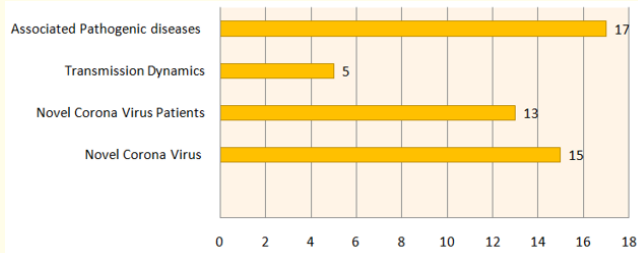
Figure 4: Publications by context from included studies.

Analysis of tendency of pathogenic diseases in the patients of Covid-19

In the table 1, the tendency of pathogenic diseases in Covid-19 patients have discussed. Mildly (fatigue, fever, cough, anorexia, sore, dyspnea, myalgia, throat, nasal, headache, congestion, diarrhea, hyposmia, nausea, vomiting), Fever, cough, dyspnea, tachycardia, blood oxygen saturation levels (SpO2) less than 90%) are symptoms of moderate pneumonia, Severe pneumonia(fever, cough, dyspnea, tachycardia were the mostly discussed pathogenic diseases. Other details of pathogenic diseases related to all organs of COVID-19 patients have been presented in table.

Organ involvement associated with COVID-19 Patients	Pathogenic Diseases	Associated laboratory abnormalities	Risk factors	Pathogenic mechanisms	Ref.
Respiratory system	Mild (fatigue, fever, cough, anorexia, sore, dyspnea, myalgia, throat, nasal, headache, congestion, diarrhea, hyposmia, nausea, vomiting)	Increased hs-CRP lymphocytopenia, prolonged PT, elevated LDH	-	Direct viral invasion	[16,17]
	Moderate pneumonia (blood oxygen saturation levels (SpO$_2$) ≥90%, cough, fever, dyspnea, tachycardia)	Increased hs-CRP lymphocytopenia, prolonged PT, elevated LDH	Male > female	Direct viral invasion	[18]
	Severe pneumonia (fever, cough, dyspnea, tachycardia, blood oxygen saturation levels [SpO$_2$] <90%)	Elevated LDH, neutrophilia, and D-dimer, elevated hs-troponin I lymphocytopenia Increased hs-CRP	Male > female Elderly DM HTN Age Malignancy, CeVD, CKD	Respiratory failure caused by the virus's neuroinvasive potential; pancreatitis caused by the virus Direct viral invasion; hypokalemia and hypophosphatemia-induced respiratory failure; ACE 2 downregulation; CRS	[19]
Cardiovascular system	ACS (newly discovered EKG abnormalities)	hs-troponin T elevation, higher leukocyte counts, lower lymphocyte counts, higher levels of D-dimer, CRP, procalcitonin, NT-proBNP	Elderly, Male > female HTN, CAD, CKD, CHF	Plaque destabilization; Insufficient cardiovascular reserve and inflammatory response; hypoxia induced by ARDS	[20]
	Malignant arrhythmia and exacerbation of heart failure	hs-troponin T and NT-proBNP elevation	CHF, CAD	Inflammatory response; Inadequate cardiovascular reserve and; hypokalemia	[21]
	Fulminant cardiomyopathy (cardiogenic shock)	-	Pregnancy (case report); African-American ethnicity (case report); morbid obesity (case report)	High inflammatory burden and CRS; possible neuroinvasive potential	[22]

	Pericardial effusion and cardiac tamponade	-	No identified risk factors	High inflammatory burden and CRS	[23]
Kidneys	AKI (proteinuria, hematuria)	Abnormal urine analysis ;Elevation of BUN and SrCr; CPK; (microalbumin,α1-microglobulin, immuno-globulin-G and transferrin)	Elderly, HTN, CHF, DM	De-position of immune complexes; direct viral invasion; hypoxia, shock CRS; rhabdomyolysis; nephrotoxins	[24]
	Electrolyte imbalance	Hypokalemia		Disturbance in ACE 2/Ang 1-7 axis	[1,25]
Endocrine involvement	Mild pancreatitis	Amylase and lipase elevation		Direct viral invasion (?)	[1]
	Diabetic ketoacidosis, hyperosmalarity	Hyperglycemia	Diabetes mellitus	Disturbance in ACE 2/Ang 1-7 axis	[26]
Obstetric complications	Preterm birth, Intrauterine growth restriction, miscarriage, preeclampsia-like syndrome	Hypertension, proteinuria, elevated liver enzymes, thrombocytopenia	-	Vaso-constriction because of renin-angiotensin disturbance	[27,28]
Blood cells	Thrombocytopenia	-	-	Alveolar damage affect the resident megakaryocytes; Direct viral invasion; CRS; thrombosis formation	[29]
	Decreased hemoglobin	-	-	Viral proteins bind to porphyrin	[30]
Immune system	Macrophage damage, Lymphopenia, decreased NK cells, decreased CD8+ T cells; T-cell exhaustion	Elevation of TNF-α, IL-6 and IL-10	-	Direct viral invasion to CD169+ macrophages IL-6-induced lymphocyte apoptosis	[31,32]
Liver	Mostly asymptomatic	Elevation of AST, ALT, LDH, γ-GT, and bilirubin (rare)	Male > female adults severe disease	Possible function of metabolites entering the gut-brain axis, DILI, SIRS CRS, Hypoxia, and possible viral invasion directly	[33]
Gastrointestinal system	Diarrhea, abdominal pain, nausea, vomiting, anorexia	Not identified		Direct viral invasion	[34]
Coagulation dysfunction	DIC and SIC; large vessel stroke; APS; VTE	Elevation of D-dimer and FDP levels, PT and thrombocytopenia	Severe disease	Direct viral invasion (to endothelial cells); Hypoxia-induced coagulation; dysfunction; Immobility	[35]
Central nervous system	Dizziness, fatigue, head-ache, impaired consciousness, Ischemic stroke, ataxia, epilepsy; necrotizing encephalopathy; cerebral hemorrhage	Thrombocytopenia, higher BUN, lymphocytopenia	Severe disease > nonsevere disease Lower lymphocyte count (probable immunosuppression)	Possible role of the metabolites entering through the gut-brain axis (dizziness and fatigue); direct viral-injury by respiratory droplets or hematogenous route; possible intracranial CRS (encephalopathy)	[36]

Peripheral nervous system	Hypogeusia, hyposmia, neuralgia	-	Female patients, younger patients	Possible direct viral injury	[37]
	Guillain-Barre	-	-	Auto-immunal inflammatory reaction activatedvia the virus	[38]
	ADEM	-	-	Auto-immunal inflammatory reaction generatedvia the virus	[39]
Musculoskeletal	Myalgia, rhabdomyolysis	Increased CRP and D-dimer, neutrophilia, lymphocytopenia

Increased ALT and AST, SrCr, CPK, and LDH with severe illness | No identified risk factor | Hypokalemia, Possible direct viral injury, T-cell-mediated, viral toxin, response, deposition of the virus antibody complex | [40] |
| Skin involvement | Petechiae, erythematosus rash, urticaria, chickenpox-like vesicles | - | - | - | [41] |
| Ocular involvement | Conjunctival hyperemia, chemosis, epiphora and increased secretions | leukocytosis, LDH, procalcitonin and CRP levels | - | Possible lacrimal infection and virus migration from the nasolacrimal duct | [42,43] |
| PIMS-TS | Unrelenting fever, rash, nonpurulent conjunctivitis, edema, nausea, abdominal pain, myalgia, odynophagia, pericardial effusion,

effusion, severe, ascetic, myocarditis gastrointestinal symptoms, coronary artery, TSS, abnormalities | Leukopenia, Thrombocytopenia Elevation of IL-6, procalcitonin, C-reactive protein, ferritin and D-dimer; Hypoalbuminemia | African ancestry | CRS, antibody-dependent enhancement | [44] |
| Multiorgan failure in adults | Septic shock, AKI, cardiac injury, ARDS, liver failure | Lymphocytopenia, thrombocytopenia, ↑Ferritin, ↑D-dimer, ↑PT, ↑FDP, myoglobin, ↑CRP ↑IL-6, ↑PLR, ↑NLR | Immunosuppressed patients | CRS, sHLH | [45] |

Table 1: Tendency of pathogenic diseases in the patients of covid-19.

"ADEM: Acute disseminated encephalomyelitis; ALT: Alanine transaminase; ACS: Acute coronary syndrome; ADEM: Acute disseminated encephalomyelitis; Acute respiratory distress syndrome (ARDS) is a condition in which the body's respiratory system becomes inflamed and CAD: Coronary artery disease; AST: Aspartate aminotransferase CHF: Chronic heart failure; CKD: Chronic kidney disease; CLD: Chronic liver disease; CeVD: Cerebrovascular disease; CHF: Chronic heart failure; CLD: Chronic liver disease; CeVD: Cerebrovascular disease; CeVD: Cerebrovascular disease; CeVD: Cer CRP: C-reactive protein; CPK: Creatine phosphokinase; CPK: Creatine phosphokinase; CPK: Creatine phosphokinase; CPK:" Cytokine release syndrome (CRS) is a condition in which the body's own hormones are released into the Cardiovascular disease (CVD) is a condition that affects the heart and circulatory system. DILI stands for drug-induced liver damage; DIC is for disseminated intravascular coagulation. Fibrin degradation products (FDP) are a type of protein that breaks down into smaller pieces. Gamma-glutamyl transferase (-GT) is a type of enzyme that converts glutamine to glutamine. Human immunodeficiency virus (HIV) is a virus that causes a person's immune system to become in Hypertension (HTN) is a condition in which the blood pressure is elevated. Interleukin 6 (IL-6) and lactate dehydrogenase (LDH) are two terms that are used interchangeably.: PLR: Platelet/lymphocyte ratio; SIC: Sepsis-induced coagulopathy; SIRS: Systemic inflammatory response syndrome; PIMS-TS: Pediatric inflammatory multisystem syndrome temporally linked to SARS-COV-2; PIMS-TS: Pediatric inflammatory multisystem syndrome temporally linked to SARS-COV-2; PIMS-TS: Pediatric inflammatory multisystem syndrome temporally linked to SARS-COV-2; PIMS-TS: Pediatric TSS: Toxic shock syndrome.

Statistical analysis of COVID-19 associated/pathogenic diseases

Table 2 summarizes a list of chronic medical illnesses that may alter COVID-19's clinical course. Hypertension, cardiovascular and cerebrovascular illness, and diabetes were shown to be the most common pathogenic diseases (N = 1458) in the study.

COVID-19 Associated/ Pathogenic Diseases	Guann., *et al.* (N = 1099) [46]	Wangg., *et al.* (N = 139) [47]	Chenn., *et al.* (N = 99) [48]	Shi., *et al.* (N = 81) [49]	Huang., *et al.* (N = 41) [50]	Analysis N = 1458
	23.7% (n = 261)	46.4% (n = 64)	51% (n = 50)	26% (n = 21)	32% (n = 13)	28% (n = 409)
CVA and CAD	3.8% (n = 42)	19.7% (n = 27)	40% (n = 40)	17% (n = 15)	15% (n = 6)	31.7% (n = 129)
Hypertension	15% (n = 165)	31.2% (n = 43)	-	15% (n = 11)	15% (n = 6)	55.5% (n = 228)
GI disease	-	-	11% (n = 11)	-	-	2.7% (n = 11)
Diabetes	7.4% (n = 81)	10.1% (n = 14)	12% (n = 12)	12.1% (n = 11)	20% (n = 8)	30.6% (n = 125)
Malignancy	0.8% (n = 11)	7.1% (n = 11)	1.2% (n = 2)	5.5% (n = 5)	2.1% (n = 2)	6.4% (n = 26)
CNS diseases	-	-	1.1% (n = 1)	-	-	0.2% (n = 1)
COPD	1.2% (n = 12)	2.9% (n = 4)	1% (n = 1)	11.3% (n = 9)	2.9% (n = 1)	6.6% (n = 27)
CRF	0.8% (n = 8)	2.7% (n = 4)	-	4.2% (n = 3)	-	3.3% (n = 15)
Immunodeficiency	0.3% (n = 2)	1.2% (n = 2)		-	-	1% (n = 4)
Hepatitis/ Liver Cirrhosis	21.4% (n = 23)	2.4% (n = 4)	-	9.2% (n = 7)	2.5% (n = 1)	8.6% (n = 35)

Table 2: Statistical analysis of COVID-19 associated/pathogenic diseases.

*"CAD: Coronary artery disease; CVA: Cerebrovascular accident; GI: Gastrointestinal; CNS: Central nervous system; COPD: Chronic obstructive pulmonary disease; CRF: Chronic renal failure".

Conclusion

This study has been conducted on the lines of systematic literature review; about the multiple pathogenic diseases which could be prevail in the patient of covid-19. The Covid-19 patient not only affected one issue, but they also suffered from many other diseases like acute coronary artery diseases or cardiomyopathy cancer, chronic obstructive pulmonary disease (COPD) another chronic kidney disease, Sickle cell disease, weak immune system, pregnancy-related many serious issues, and many other viral and bacterial diseases. So nowadays burning issue is that how we overcome not only covid-19 but also another disease which is caused by the corona virus and endanger the humanity so it is need of the hour to highlight all co-related diseases so that different techniques for treatment of the victim of Covid-19 could be found. Because of the paucity of medicines accessible and validated, most measures are based on the use of public health and quarantine methods. To minimize a delay in danger identification, the primary lesson points of this COVID-19 pandemic are to maintain openness. Second, travel restrictions, delays and efforts for self-quarantine led to logarithmic instances expansion.

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