

**The Effectiveness of Anticoagulation Therapy in Preventing and Treating the Short-Term and Long-Term Effects of COVID-19: A Systematic Review**

**Background:** Covid-19 affects coagulation in both the long-term and short-term. This review is aimed at evaluating whether using anticoagulation medications may prevent the short-term and long-term sequelae of COVID-19 complications.

**Methods:** Adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines, we identified relevant papers from multiple databases (MEDLINE, EMBASE and PubMed) between 1st January 2020 up to March 31, 2021, to evaluate effectiveness of using anticoagulants in treating hospitalized and post-discharge COVID-19 positive patients. We identified 24 studies and systematic reviews after removing duplicates and published abstracts. The 10 studies with reported demographics had a total of 3935 participants who had confirmed SARS-CoV-2 test by nasopharyngeal or throat swabs, who were 47% male, average age of 62 years of (sd10), and 13% were admitted to the ICU. We also combined studies that reported the incidence of VTE which was 9.3%-26%, after excluding the pooled analysis and systematic reviews to avoid duplicates in numbers and including only (RCTs, Cohort and case-control studies).

**Findings:** The average range of incidence of Venous thromboembolism (VTE) reported from 8 studies was as follows: 9.3%-26%, Pulmonary embolism (PE) with or without Deep vein thrombosis (DVT) occurred in 11.6%-16.5% of patients and DVT alone in 11.9%-15% among hospitalized patients, along with the reported frequency of abnormal coagulation parameters.

**Interpretation:** This review suggests the effectiveness of using anticoagulants in preventing the short-term complications in COVID-19 patients. Future prospective cohort studies and RCTs are needed to better understand the long-term effects.