In this article, the significance of pattern recognition in scientific advancements is emphasized. Historical breakthroughs like Copernicus' understanding of the solar system and Darwin's theory of natural selection are discussed to highlight the role patterns play in discoveries. The authors stress how recognizing patterns has been crucial in medicine, citing examples such as John Snow identifying cholera transmission and Landsteiner discovering blood types. The main argument put forth is that patterns not only lead to new findings but also facilitate predictions and informed actions. This can be seen through improvements in water sanitation practices due to pattern recognition and advancements made in blood transfusions based on identified patterns. Shifting gears to the current context, attention is given to the ongoing COVID-19 pandemic and its observed patterns. Various hypotheses have emerged within the scientific community based on identified similarities with other diseases or recognized trends. Debates revolve around proposed patterns like two major lung phenotypes associated with COVID-19 or potential links between factors such as vitamin C, vitamin D, ultraviolet index levels, melatonin production, or even nicotine usage. Overall, this article emphasizes how recognizing different patterns has played a pivotal role throughout history for scientific discovery across various disciplines including medicine while exploring its relevance amidst present-day challenges posed by COVID-19.According to the authors, Gattinoni and colleagues discuss the difficulty of identifying consistent patterns in severely hypoxemic COVID-19 patients, despite having a common cause (SARS-CoV-2). Due to the variability in presentation, response to treatments, and other factors observed among these patients, it is necessary to take a nuanced approach in comprehending this disease. Ottestad and Søvik's study builds upon this observation by comparing COVID-19 patients with individuals who have been exposed to high-altitude conditions. In their research, Ottestad and Søvik delve into the phenomenon known as "silent hypoxia" or "happy hypoxia," which can be observed both in COVID-19 patients and individuals acutely exposed to high altitudes. They argue that acute exposure to high altitude leads to profound oxygen deficiency with minimal respiratory distress - characteristics reminiscent of certain cases of COVID-19. By studying the effects of acute hypobaric hypoxia on blood oxygen saturation levels, they shed light on potential mechanisms underlying low levels of oxygen seen in COVID-19 cases. An important aspect introduced in this article is the consideration of respiratory physiology when understanding COVID-19. The authors present a mathematical equation that helps determine minute ventilation requirements while emphasizing parameters such as carbon dioxide production, physiological dead space, and partial pressure of CO2 in arterial blood. This equation proves useful for clinicians as it enables them to assess and interpret respiratory needs more effectively amongst COVID-19 patients - demonstrating that respiratory distress extends beyond just low oxygen levels. Furthermore, this exploration expands upon the idea that increased work exerted during breathing plays a significant role not only alongside low levels of oxygen but also subjective dyspnea experienced by individuals. The article categorizes physical loads placed upon the respiratory system which includes elastic resistance, inertial components along with minute ventilation necessities. Such an extensive breakdown encourages healthcare professionals to consider a broader range of factors contributing to dyspnea in COVID-19 patients, thereby enhancing our understanding of the disease's underlying mechanisms.A noteworthy point of discussion is the controversy surrounding respiratory system compliance in COVID-19. The article challenges the assumption of markedly reduced compliance early in the disease, citing data from a large cohort of mechanically ventilated COVID-19 patients. The consideration of patient self-induced lung injury (P-SILI) prompts a reevaluation of mechanical ventilation strategies, raising questions about the balance between preventing lung injury and potential complications associated with prolonged sedation and paralysis.The authors call for reflection on the symptomatic presentation and course of COVID-19, acknowledging the uncertainties and controversies surrounding ARDS phenotypes in the context of the pandemic. The caution against interventions solely based on hypoxemia and tachypnea, without considering subjective dyspnea and respiratory distress, underscores the need for a nuanced approach to patient care.Expanding upon the comparison between COVID-19 patients and individuals exposed to high-altitude conditions, the study conducted by Ottestad and Søvik makes a distinctive contribution to the understanding of respiratory distress in the context of the pandemic. By associating acute exposure to high altitude with the observed "silent hypoxia" in COVID-19 patients, the authors prompt a reevaluation of how hypoxemia manifests and its implications for patient management.The equation introduced in the article to calculate minute ventilation requirements adds a quantitative dimension to the discussion, emphasizing the interplay of CO_2 production, dead space, and partial pressure of CO_2 in arterial blood. This equation serves as a practical tool for healthcare professionals to assess the respiratory needs of COVID-19 patients more comprehensively. It underscores the importance of considering multiple factors beyond oxygen levels when formulating treatment strategies, aligning with the call for a nuanced approach to patient care.The exploration of increased work of breathing as a significant driver of subjective dyspnea introduces a paradigm shift in understanding respiratory distress in COVID-19. By categorizing the physical loads on the respiratory system, the article broadens the perspective on factors contributing to dyspnea. This nuanced approach challenges the conventional understanding of respiratory distress and highlights the need for clinicians to consider a diverse set of mechanisms when managing patients, especially in the absence of marked hypoxemia.The controversy surrounding respiratory system compliance in COVID-19 adds complexity to the narrative. Challenging the notion of markedly reduced compliance early in the disease, the article introduces the concept of patient self-induced lung injury (P-SILI) as a potential contributor to compliance changes over the course of illness. This discussion opens avenues for further research into the timing of interventions and the delicate balance between preventing lung injury and mitigating potential complications associated with prolonged sedation and paralysis.As the article navigates through the uncertainties and controversies surrounding acute respiratory distress syndrome (ARDS) phenotypes in COVID-19, it invites healthcare professionals to reflect on the symptomatic presentation and course of the disease. The caution against interventions solely driven by hypoxemia and tachypnea, without due consideration for subjective dyspnea and respiratory distress, reinforces the need for a patient-centered and holistic approach to care.In conclusion, the comprehensive exploration provided by the article, along with the study by Ottestad and Søvik, enriches the understanding of COVID-19 by intertwining observations with respiratory physiology. The comparison with high-altitude exposure, the ventilation requirements equation, and the nuanced discussion on work of breathing and compliance collectively contribute to a more profound comprehension of the disease. As the scientific community continues to grapple with the intricacies of COVID-19, this article stands as a valuable resource, encouraging clinicians and researchers to consider the physiological principles underlying respiratory distress and to approach patient care with a heightened awareness of the multifaceted nature of the disease.