Introduction

COVID-19 originated in Wuhan, China, and as the prevalence of human-to-human propagation intensified, the World Health Organization (WHO) declared a pandemic on March 11, 2020 [[1](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref001)]. The disease affects all ages [[2](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref002), [3](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref003)], and countries have issued policies to prevent infections, such as “social distancing” and “staying at home” [[4](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref004)]. Previous studies have demonstrated the necessity of preventing the spread of COVID-19 in areas with high population densities through different control measures [[5](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref005)–[7](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref007)]. For this reason, South Korea has applied various regulations such as social distancing, working from home, and administrative orders to limit gatherings in order to avoid high population densities [[8](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref008)].

COVID-19 leads to isolation because people have to remain at home to prevent infection, but this is likely to have a detrimental effect on the physical and mental health of individuals [[9](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref009)]. In particular, previous research has demonstrated government actions related to spatial distancing as being effective public health measures; however, they could also cause health problems other than COVID-19 infection such as psychological distress and fear [[10](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref010)]. Health must be considered in these circumstances since there is no reliable cure for this disease yet, and apart from vaccination, its resolution remains unpredictable. Therefore, it is essential to prioritize the preventive approach as practiced in Korea to stay protected and maintain health and wellbeing [[11](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref011)].

From the perspective of prevention, a healthy lifestyle is crucial [[12](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref012)]. Lifestyle has been defined diversely and comprehensively in research and is still being studied. According to Park (2019), lifestyle can be classified according to people’s life patterns, and can be defined as a complex concept that involves a person’s consciousness of life, values, and character [[13](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref013)]. Drinking, smoking, exercise, nutrition, and stress are also elements of lifestyle according to the WHO’s definition of the term [[14](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref014)]. Previous studies have highlighted the importance of healthy lifestyles as they are crucial in maintaining and improving physical and mental health and improving the quality of life [[14](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref014), [15](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref015)]. Previous research linking COVID-19 and lifestyle patterns illustrated that an individual’s lifestyle is a crucial factor for preventing infectious diseases [[16](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref016)].

However, most research has been conducted on lifestyle changes for certain age groups, and the number of studies on lifestyle for all age groups is insufficient [[17](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref017), [18](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247970#pone.0247970.ref018)]. To prepare for future problems with infectious diseases or pandemics, it is necessary to conduct a comparative analysis before and after infectious diseases break out and take suitable measures. Additionally, among studies related to infectious diseases, there is insufficient research on the changes in lifestyles of people before and after COVID-19, and there are few studies on how infectious diseases affect lifestyles, mental health, and quality of life. Therefore, this study summarizes these factors using basic data.

The purpose of this study is to investigate the lifestyle, mental health, and quality of life of people post COVID-19. This study was conducted through online questionnaires based on lifestyle profile problems related to COVID-19, mental health, and quality of life. Furthermore, based on the study of lifestyle conditions that have changed due to the pandemic, the research aims to be used as basic data for developing countermeasures that national and local governments can take in the event of a disaster.