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Article

Lifestyle changes and psychological anxiety during the Coronavirus Disease 2019 pandemic: Using the Korean Community Health Survey

ChaeBong Kim[1], SungWan Hwang[2], TaeYoung Jung[3,*]

[1] Department of Health and Medical Administration, Jaeneung University, Incheon 22573, Korea
[2] Department of Health Administration, Baekseok Arts University, Seoul 06695, Korea
[3] Department of Research, VHS Education and Research Institute, Korea Veterans Health Service, Suwon, Gyeonggi-do 16275, Korea
*** Corresponding author:** TaeYoung Jung, tyjung1983@gmail.com

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Abstract: This study investigated changes in lifestyles and psychological anxiety among Koreans during the Coronavirus Disease 2019 (COVID-19) pandemic using the 2020 data from the nationwide Korean Community Health Survey. The study outcomes were psychological anxiety about the infection and death, due to COVID-19. Odds ratios (ORs) and 95% confidence intervals (CIs) were used to evaluate the relationship between psychological anxiety and lifestyle changes. During the COVID-19 pandemic, people who practiced healthy behaviors and followed social distancing and quarantine regulations experienced increased psychological anxiety for infection and death. Daily life changes during the COVID-19 pandemic were not associated with psychological anxiety. The result of this study can provide baseline measures for further study on psychological anxiety during re-infection of COVID-19 and future pandemics in Korea.

Keywords: COVID-19; pandemic; psychological anxiety; Korea; life changes

1. Introduction

The Coronavirus Disease 2019 (COVID-19) pandemic has negatively affected people's physical and mental health, and severely impacted their health promotion. Previous studies have demonstrated the relationship between emotions, psychology, and mental health during COVID-19, given the situation of panic and fear due to its spread and fatality. Research has also reported risk factors for psychological and mental health problems during the COVID-19 (Jung et al., 2020). Previous studies using Korean health insurance data, health surveys, and hospital-based health information on the mental health of Koreans have reported an increased risk of psychiatric symptoms in the infected patients and decreases in the use of mental health services for patients with mental illness (Joo et al., 2023). Social distancing and reduced social activities may be major risk factors for depression and anxiety (Giuntella et al., 2021). In order to consider diseases communication of the population due to COVID-19 it is important to monitor the trends in population groups and communities in response. Previous studies have reported the damage to mental health and psychological caused by COVID-19. However, our new interest should focus on people with poor lifestyles or who are sensitive to chronic diseases. Because of we need to actively promote and provide information on infectious diseases to people with unhealthy living practices. Positive healthy behaviors can reduce psychological anxiety, improving mental health outcomes, and assist in estimating health risk factors. Therefore, health behaviors and psychological anxiety are important factors in creating

health plans. Health and life management are essential for the psychological health of patients with COVID-19. This study investigated the association between life changes and psychological anxiety due to the COVID-19 pandemic in South Korea.

2. Methods

2.1. Study data

The study used 2020 data from the Korean Community Health Survey (KCHS), a nationwide survey that provides national statistics on Korean health. The KCHS has the advantage of generalizing population health trends.

2.2. Study population

Of the 229,269 people who participated in the KCHS, 9385 participants, aged ≥19 were finally included in our study. Data were cleaned to select the study population. The study's inclusion criteria excluded responses categorized as unknown, non-response, and no application of all variables included in the analysis. In particular, the proportion of missing values was high for eight questions regarding life changes resulting from the COVID-19 pandemic. The selection flow of the participants for the final analysis is shown in **Figure 1**. This study was approved by the University of Seoul Clinical Research Review Committee (IRB No. UOS NON2023-002).

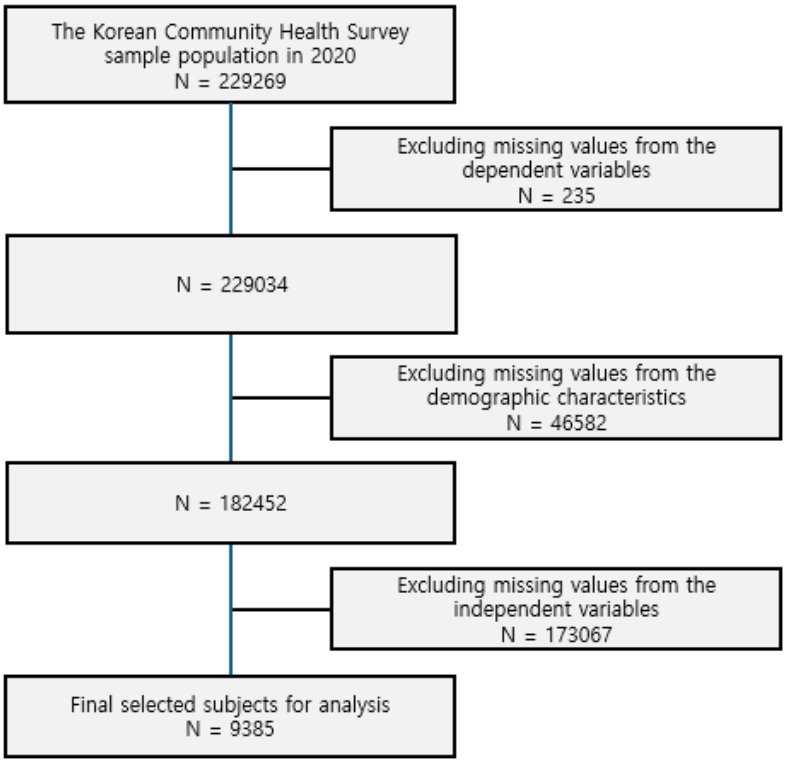

Figure 1. Flow chart of the study population.

2.3. Study variables

2.3.1. Psychological anxiety due to the pandemic

The dependent variable was psychological anxiety, defined as an unpleasant

emotional state that appears vaguely without a specific object, or a psychological state in which relief or conviction is lost. The question related to psychological anxiety in the KCHS was: How worried are you about the COVID-19 pandemic? The responses were categorized in to: extremely worried, worried, and somewhat worried. Being extremely worried and worried about being infected and dying with COVID-19 were defined as having psychological anxiety caused by the infection or death.

2.3.2. Life changes during the COVID-19 pandemic

The questions included changes in physical activity, sleep time, consuming instant or delivered food, drinking, smoking, number of face-to-face encounters, and public transportation use as compared to before the pandemic. The participants responded with an increase, no change, or a decrease.

2.3.3. Health practices and health conditions

The main health practice indicators were smoking, alcohol consumption, walking, and obesity. Smoking status was divided into current smoking, past smoking, and non-smoking. Drinking was investigated as drinking experience in the previous year. Walking included the walking experience over the past week. Obesity was classified as underweight, normal weight, overweight, or obese. Subjective health was classified as good, moderate, or poor, based on an individual's overall health status. Hypertension and diabetes were noted as per medical diagnosis. Depression scores of the PHQ-9 scales (Han et al., 2008; Kroenke et al., 2001) were categorized as normal (0–4 points), mild (5–9 points), moderate (10–19 points), or severe (20 points or more).

2.3.4. Demographic characteristics

The demographic factors included sex, age, residential area, economic activity, and monthly household income. Residents were divided into metropolitan areas (Seoul, Gyeonggi, and Incheon), metropolitan cities (Busan, Gwangju, Daejeon, Ulsan, and Sejong), Si and Do (Gangwon, Chungbuk, Chungnam, Jeonbuk, Jeonnam, Gyeongbuk, Gyeongnam, Jeju), and Daegu Metropolitan City. Participants' economic activity and monthly household income were classified into quartiles.

2.4. Data analysis

The characteristic distribution of participants was based on basic analyses. The relationship between life changes and psychological anxiety was assessed using a logistic regression analysis. Significant factors in the univariate analysis were represented using an adjusted logistic regression model (model 1 and model 2). Model 1 and model 2 reported the relationship between psychological infection anxiety and death anxiety and daily life changes. Each model was derived from a stepwise adjustment of statistically significant variables identified in the univariate analysis. In addition, Unnecessary variables were not included to enhance the fit of each model. The relationship of psychological anxiety and life changes was expressed in odds ratio and 95% confidence interval.

3. Results

3.1. Participant characteristics

The average age of the participants was 45 years, 81.2% were men, 69.0% were economically active, and the average household income was 14.3% in Q1 and 32.9% in Q4. Changes in life during the COVID-19 pandemic included a 47.4% decrease in physical exercise, 8.1% decrease in sleep time, 18.7% increase in instant and delivered food, 41.2% decrease in alcohol use, and 22.0% decrease in smoking. Face-to-face encounters decreased by 80.1% and public transportation use decreased by 55.7%. Smoking was prevalent in 61.5% participants, while alcohol consumption was prevalent in 13.1%. The prevalence rates of obesity, hypertension, and diabetes were 35.3%, 19.0%, and 8.5%, respectively, and, depression was mild at 10.8% (**Table 1**). Psychological anxiety caused by COVID-19 infection was 89.0% and by death was 64.9%.

Table 1. Characteristics of the study population of analysis.

		***N* = 9385**	**%**
Sex	Man	7622	81.2
Age	(mean, min-max)	45.54	19–96
Elderly	Elderly	1480	15.8
Residence	Capital Region	2430	25.9
	Metropolitan City	4307	45.9
	Si and Do	2166	23.1
	Daegu Metropolitan City	482	5.1
Economic activity	Yes	6472	69.0
Household income (monthly)	(Mean, min-max)	385.04	0–2500
	Q1	1345	14.3
	Q2	2332	24.8
	Q3	2625	28.0
	Q4	3083	32.9
Changes in physical activity	Increase	449	4.8
	No change	4487	47.8
	Decrease	4449	47.4
Changes in sleep time	Increase	1125	12.0
	No change	7502	79.9
	Decrease	758	8.1
Changes in the use of instant foods	Increase	1757	18.7
	No change	6525	69.5
	Decrease	1103	11.8
Changes in the use of delivery food	Increase	3038	32.4
	No change	5292	56.4
	Decrease	1055	11.2

Table 1. (*Continued*).

		***N* = 9385**	**%**
Changes in the use of alcohol	Increase	542	5.8
	No change	4976	53.0
	Decrease	3867	41.2
Changes in smoking use	Increase	686	7.3
	No change	6635	70.7
	Decrease	2064	22.0
Changes in the number of face-to-face encounters	Increase	78	80.1
	No change	1785	19.0
	Decrease	7522	8.01
Changes in the use of public transportation	Increase	162	1.7
	No change	4000	42.6
	Decrease	5223	55.7
Smoking	Current smoking	5773	61.5
	Smoking in the past	2059	21.9
	Non-smoking	1553	16.5
Drinking	Yes	1227	13.1
	No	8158	86.9
Walking practice	Yes	7907	84.3
	No	1478	15.7
Obesity	Underweight	292	3.1
	Normal	3426	36.5
	Overweight	2357	25.1
	Obesity	3310	35.3
Subjective health	Good	5085	54.2
	Usually	3513	37.4
	Bad	787	8.4
Diagnosis of hypertension	Yes	1779	19.0
	No	7606	81.0
Diagnosis of diabetes	Yes	796	8.5
	No	8589	91.5
Patient Health Questinnaire-9 severity	Normal	8048	85.8
	Mild	1018	10.8
	Moderate	294	3.1
	Severe	25	0.3

3.2. Life changes related to psychological anxiety due to COVID-19 infections

Life changes related to psychological anxiety caused by COVID-19 infections included changes in physical activity, sleep time, and smoking. People with reduced physical activity had a 1.247 (1.017–1.528) increase in psychological anxiety compared with those with increased physical activity. People with reduced sleep time

showed a 1.274 (1.043–1.555) increase in psychological anxiety compared to those with increased sleep time. People with reduced smoking experienced a 1.317 (1.073–1.618) increase in psychological anxiety compared to those with increased smoking. In addition, women's psychological anxiety increased by 1.523 (1.335–1.737) compared to men, and among the non-elderly, it increased by 1.268 (1.049–1.532) compared to the elderly. Those who stopped walking had a 1.329 (1.170–1.509) increase in psychological anxiety compared to those who practiced walking. Unhealthy participants had an increase in psychological anxiety of 1.295 (1.075–1.562) compared to healthy participants (**Table 2**).

Table 2. Relationship between changes in daily life caused by COVID-19 and psychological infection anxiety.

	Un-adjusted		**Model 1**		**Model 2***	
	Odds ratio	**95% CI**	**Odds ratio**	**95% CI**	**Odds ratio**	**95% CI**
Women (ref. men)	1.838	1.509–2.238	1.995	1.605–2.479	2.025	1.628–2.520
Age	1.009	1.005–1.012	1.009	1.004–1.013	1.011	1.006–1.016
Elderly (ref. non-elderly)	0.919	0.772–1.093				
Residence						
Metropolitan City (ref. capital region)	0.983	0.832–1.160				
Si and Do (ref. capital region)	0.978	0.833–1.147				
Daegu Metropolitan City (ref. capital region)	0.757	0.754–0.999				
Economic activity (ref. no)	1.249	1.130–1.481	1.320	1.138–1.532	1.366	1.175–1.588
Household income						
Q1 (ref. Q4)	0.811	0.669–0.982	0.709	0.571–0.881	0.736	0.591–0.916
Q2 (ref. Q4)	1.073	0.903–1.275	0.997	0.835–1.190	1.018	0.851–1.217
Q3 (ref. Q4)	1.213	1.022–1.439	1.200	1.010–1.426	1.223	1.028–1.455
Changes in physical activity						
No change (ref. increase)	1.174	0.883–1.560			1.072	0.792–1.450
Decrease (ref. increase)	1.436	1.077–1.914			1.239	0.916–1.678
Changes in the sleep time						
No change (ref. increase)	1.202	0.993–1.454				
Decrease (ref. increase)	1.175	0.881–1.567				
Changes in the use of instant foods						
No change (ref. increase)	0.909	0.765–1.080				
Decrease (ref. increase)	0.872	0.685–1.109				
Changes in the use of delivery food						
No change (ref. increase)	0.810	0.699–0.939			0.768	0.652–0.905
Decrease (ref. increase)	0.774	0.620–0.966			0.678	0.536–0.857
Changes in the use of alcohol						
No change (ref. increase)	1.112	0.849–1.458				
Decrease (ref. increase)	1.212	0.920–1.597				
Changes in smoking use						
No change (ref. increase)	1.275	1.012–1.605			1.300	1.015–1.663
Decrease (ref. increase)	1.472	1.133–1.912			1.317	0.992–1.748

Table 2. (*Continued*).

	Un-adjusted		Model 1		Model 2*	
	Odds ratio	**95% CI**	**Odds ratio**	**95% CI**	**Odds ratio**	**95% CI**
Changes in the number of face-to-face encounters						
No change (ref. increase)	1.762	1.000–3.107			1.482	0.791–2.779
Decrease (ref. increase)	2.212	1.270–3.851			1.526	0.822–2.832
Changes in the use of public transportation						
No change (ref. increase)	1.822	1.234–2.689			1.608	1.053–2.457
Decrease (ref. increase)	2.583	1.750–3.813			2.308	1.509–3.531
Smoking						
Smoking in the past (ref. current smoking)	1.251	1.060–1.476	1.186	0.997–1.411	1.143	0.953–1.370
Non-smoking (ref. current smoking)	1.355	1.120–1.639	1.038	0.842–1.278	1.088	0.879–1.346
No drinking (ref. drinking) last	1.067	0.878–1.298				
No walking practice (ref. walking practice) first	1.180	0.979–1.421				
Obesity						
Underweight (ref. normal)	0.741	0.524–1.049				
Overweight	1.016	0.857–1.204				
Obesity	0.968	0.831–1.128				
Subjective health						
Usually (ref. good)	1.312	1.140–1.510	1.211	1.047–1.400	1.205	1.041–1.395
Bad (ref. good)	1.218	0.952–1.558	1.176	0.904–1.529	1.188	0.912–1.546
Diagnosis of hypertension						
Yes (ref. no)	1.207	1.015–1.435	1.052	0.866–1.279	1.073	0.882–1.305
Diagnosis of diabetes						
Yes (ref. no)	0.913	0.729–1.145				
Patient Health Questinnaire-9 severity						
Mild (ref. normal)	0.823	0.676–1.004				
Moderate (ref. normal)	0.781	0.554–1.102				
Severe (ref. normal)	0.876	0.262–2.934				

*Adjusted for sex, age, economic activity, household income, changes in physical activity, changes in the use of delivery food, changes in smoking use, changes in the number of face to face encounters changes in the use of public transportation, smoking, subjective health, diagnosis of hypertension.

3.3. Life changes related to psychological anxiety due to death from COVID-19

Changes in life related to psychological anxiety caused by COVID-19 deaths included changes in smoking and use of public transportation. Those who continued smoking had a 1.300 (1.015–1.663) increase in psychological anxiety compared with those who increased smoking. People with reduced use of public transportation showed a 2.308 (1.509–3.531) increase in psychological anxiety compared to those with increased use of public transportation. Women had a 2.025 (1.628–2.520) increase in psychological anxiety compared to men. Psychological anxiety increased with age by 1.011 (1.006–1.016). With regard to monthly household income, Q3 was associated with increased psychological anxiety (**Table 3**).

Table 3. Relationship between changes in daily life caused by COVID-19 and psychological death anxiety.

	Un-adjusted		**Model 1**		**Model 2**	
	Odds ratio	**95% CI**	**Odds ratio**	**95% CI**	**Odds ratio**	**95% CI**
Women (ref. men)	1.627	1.449–1.826	1.522	1.335–1.736	1.523	1.335–1.737
Age	1.020	1.017–1.022	1.020	1.016–1.024	1.018	1.014–1.022
Non-elderly (ref. elderly)	1.838	1.619–2.088	1.274	1.055–1.537	1.268	1.049–1.532
Residence						
Metropolitan City (ref. capital region)	1.473	1.321–1.642	1.325	1.183–1.483	1.301	1.161–1.457
Si and Do (ref. capital region)	1.730	1.555–1.925	1.534	1.372–1.716	1.478	1.320–1.656
Daegu Metropolitan City (ref. capital region)	1.679	1.364–2.062	1.594	1.292–1.967	1.569	1.271–1.938
Economic activity (ref. no)	0.776	0.707–0.852				
Household income						
Q1 (ref. Q4)	1.623	1.412–1.866	0.968	0.824–1.138	0.960	0.816–1.130
Q2 (ref. Q4)	1.188	1.062–1.329	0.952	0.845–1.072	0.919	0.842–1.070
Q3 (ref. Q4)	1.136	1.019–1.265	1.029	0.921–1.150	1.025	0.917–1.145
Changes in physical activity						
No change (ref. increase)	1.534	1.258–1.869			1.398	1.136–1.720
Decrease (ref. increase)	1.194	0.980–1.454			1.247	1.017–1.528
Changes in the sleep time						
No change (ref. increase)	1.368	1.204–1.554			1.116	0.971–1.284
Decrease (ref. increase)	1.502	1.239–1.822			1.274	1.043–1.555
Changes in the use of instant foods						
No change (ref. increase)	1.379	1.238–1.536			1.021	0.891–1.169
Decrease (ref. increase)	1.519	1.297–1.780			1.025	0.840–1.250
Changes in the use of delivery food						
No change (ref. increase)	1.443	1.316–1.583			1.051	0.935–1.182
Decrease (ref. increase)	1.654	1.423–1.923			1.154	0.954–1.396
Changes in the use of alcohol						
No change (ref. increase)	1.284	1.070–1.541			1.046	0.850–1.287
Decrease (ref. increase)	1.101	0.915–1.324			0.985	0.803–1.210
Changes in smoking use						
No change (ref. increase)	1.284	1.094–1.507			1.107	0.920–1.332
Decrease (ref. increase)	1.557	1.303–1.860			1.317	1.073–1.618
Changes in the number of face-to-face encounters						
No change (ref. increase)	1.065	0.643–1.763				
Decrease (ref. increase)	0.665	0.405–1.092				
Changes in the use of public transportation						
No change (ref. increase)	1.167	0.847–1.607				
Decrease (ref. increase)	1.368	0.995–1.881				

Table 3. (*Continued*).

	Un-adjusted		Model 1		Model 2	
	Odds ratio	**95% CI**	**Odds ratio**	**95% CI**	**Odds ratio**	**95% CI**
Smoking						
Smoking in the past (ref. current smoking)	1.114	1.002–1.237	0.930	0.830–1.042	0.886	0.787–0.997
Non-smoking (ref. current smoking)	1.488	1.316–1.681	1.110	0.963–1.278	1.076	0.933–1.241
No drinking (ref. drinking) last	1.829	1.593–2.101	1.140	0.974–1.335	1.125	0.960–1.318
No walking practice (ref. walking practice) first	1.497	1.324–1.693	1.342	1.183–1.523	1.329	1.170–1.509
Obesity						
Underweight (ref. normal)	1.135	0.878–1.467				
Overweight	0.931	0.834–1.039				
Obesity	0.940	0.850–1.039				
Subjective health						
Usually (ref. good)	1.272	1.162–1.392	1.103	1.003–1.212	1.109	1.008–1.219
Bad (ref. good)	1.858	1.566–2.205	1.286	1.068–1.548	1.295	1.075–1.562
Diagnosis of hypertension						
Yes (ref. no)	1.497	1.336–1.677	1.031	0.903–1.177	1.037	0.908–1.184
Diagnosis of diabetes						
Yes (ref. no)	1.471	1.251–1.729	0.994	0.831–1.188	0.989	0.827–1.183
Patient Health Questionnaire-9 severity						
Mild (ref. normal)	0.925	0.808–1.059				
Moderate (ref. normal)	1.130	0.881–1.449				
Severe (ref. normal)	1.708	0.681–4.282				

*Adjusted for sex, age, residence, economic activity, household income, changes in physical activity, changes in the sleep time, changes in the use of instant food, changes in smoking use, smoking, drinking, walking practice, subjective health, diagnosis of hypertension, diagnosis of diabetes.

4. Discussion

This study investigated the relationship between life changes and psychological anxiety during the COVID-19 pandemic. Psychological anxiety about COVID-19 infection was related to changes in food delivery, smoking, and use of public transportation. Psychological anxiety about COVID-19 death was related to changes in physical activity, sleep time, and smoking. During the COVID-19 pandemic, Koreans relied on using food delivery services (Choi et al., 2022; Jo et al., 2020) that may have increased their psychological anxiety due to concerns of infection, and practiced social distancing (Nguyen and Vu, 2020). Decreased smoking during the COVID-19, which appears to be due to voluntary social distancing (Bang et al., 2021; Choi et al., 2022; Han and Kim, 2021; Kwon and Jung, 2022), increased their psychological anxiety regarding infection. The decrease in the use of public transportation in psychologically unstable situations caused by COVID-19 explains the early stages of COVID-19 in Korea (Lee and You, 2020; Park et al., 2020) as a self-protective activity.

Interestingly, this study shows that there was a relationship between a decrease in public transportation use and COVID-19 infection anxiety. Anxiety caused by

COVID-19 deaths differed from anxiety about COVID-19 infection, which was primarily due to life changes, while death anxiety was related to health behaviors (Bang et al., 2021; Han et al., 2022; Kim and Cho, 2020). Previous studies have reported a relationship between the achievement of health behaviors (Strecher et al., 1986) and mental health (Mo et al., 2021; Yıldırım and Güler, 2022; Zhou et al., 2021).

This survey was conducted during the early stages of COVID-19 in Korea, whereby the incidence of infections increased significantly in Daegu Metropolitan City, and people were concerned about the spread of community-based infections (Kim et al., 2021; Shim et al., 2020). Residents of Daegu Metropolitan City showed anxiety about COVID-19 infection deaths in our study similar to those in previous studies (De Hert et al., 2021; Kim et al., 2020). The media and information broadcast also played an important role in people's negative emotional reactions (Lee et al., 2021).

Studies examining the relationship between COVID-19 and lifestyle, and psychological distress have emerged from various countries, including Spain, Italy, Australia, the United Kingdom, and the United States. These studies demonstrate that changes in lifestyle and health behavior can significantly affect an individual's psychological state. Unlike previous research, this study emphasizes the differences in lifestyle and health behavior in relation to psychological anxiety about infection and the fear of death. It suggests that anxiety and fear related to COVID-19 are influenced more by individual voluntary behaviors than by racial and cultural characteristics.

Public anxiety has decreased since the early days of COVID-19 despite infections still being reported. We need to prepare and respond to the spread of COVID-19 and other new infectious diseases as anxiety is higher in large cities and crowded areas (Bhadra et al., 2021; Morgul et al., 2021). Although the causes of COVID-19 vary, this study found increased anxiety about death from COVID-19 among women compared to men (Gebhard et al., 2020).

Previous studies that have reported gender differences in infectious disease awareness have shown that women are more conscious than men (Dryhurst et al., 2020; Galasso et al., 2020; Rana et al., 2021). Increased anxiety over COVID-19 deaths in women may also be due to the difference in health interest and preventive behavior for COVID-19 as women tend to have better health behaviors and knowledge than men. Though effects of race, region, and socioeconomic factors (Jamieson et al., 2021) cannot be ignored. In this study, the elderly had lower psychological anxiety about COVID-19 than other adults (Hu et al., 2021; Lee et al., 2015; Tran et al., 2020).

The infected elderly and high-risk patients had an increased risk of death due to COVID-19 (De Hert et al., 2021; Mo et al., 2021). We estimated that psychological anxiety may have increased among the elderly as they may have relatively low health information and literacy compared with other adults. Therefore, education should be provided to improve the ability of the elderly to prevent and respond to new infectious diseases.

In this study, the relationship between changes in daily life and psychological anxiety in Koreans in the early stages of COVID-19 was reported, but there were not many factors that reported a significant relationship. We found increased psychological anxiety about COVID-19 deaths among people with reduced physical activity and walking practice (Jung et al., 2022).

Positive lifestyle changes and health behaviors may increase psychological anxiety about infectious diseases, but have protective effects that contribute to the spread of infection (Lio et al., 2021; Kim and Cho, 2020; Puig-Perez et al., 2022). Participation in COVID-19 prevention activities is less likely to cause infectious diseases than others (Pedrosa et al., 2020).

Further, this study will be of interest to stockholders because, our findings demonstrate that it is important to monitor the trends in population groups and communities in response to new infectious disease outbreaks or disasters, particularly among people with poor lifestyles or those who are sensitive to chronic diseases. The study suggests the need to actively promote and provide information on infectious diseases to people with unhealthy living practices. Our findings emphasize the differences and innovations compared to other studies.

Korea has experienced infectious disease events such as SARS, MERS, and COVID-19. There is also the possibility of a new epidemic in the future, yet it lacks communication skills towards a timely response (Lee and You, 2020; Lee et al., 2013, 2020). COVID-19 has caused several mental health problems among Koreans. South Korea has been criticized for its severe controlling during COVID-19, which may have led to deterioration of its people's mental health (Lee et al., 2021). Information on Koreans' psychological anxiety is needed to prepare them for future infectious disease disasters.

This study has several limitations. First, cross-sectional study design make it difficult to identify causal relationships between factors. Therefore, a longitudinal study design is recommended. Second, this study used data on national samples from Korea, and much data were lost owing to missing values. The normality for the independent variables is noted as a limitation of this study. Third, the dependent variable was not valid for evaluating psychological anxiety. Therefore, future studies should investigate the validity of psychological anxiety measures. Fourth, as changes in life due to COVID-19 are subjective evaluations, they may vary depending on individual respondents. Fifth, we reported the results for psychological anxiety, but not psychiatric anxiety symptoms during COVID-19. This study revealed conflicting results regarding the relationship between COVID-19 and psychiatric anxiety; therefore, the results should be interpreted with caution. Despite these limitations, our study provides insightful relations regarding mental health and infectious diseases.

5. Conclusion

This study identified factors related to psychological anxiety among Koreans during the COVID-19, and found that people who lacked lifestyle changes experienced poor psychological anxiety caused by COVID-19. Our findings are impactful for health risk communication in the context of re-infection in Korea and the spread of new infectious diseases. It is important to monitor the trends in population groups and communities in response to new infectious disease outbreaks or disasters. Our actions should focus on people with poor lifestyles or those who are sensitive to chronic diseases. Therefore, we need to actively promote and provide information on infectious diseases to people with unhealthy living practices.

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