



## Changes in the Working and Exercise Habits of Managers in Japanese Company Comparison before and after the Spread of COVID-19 Infection

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**Received:** 14-April-2023, Manuscript No. IJMRHS-23-96187; **Editor assigned:** 17-April-2023, Pre QC No. IJMRHS-23-96187 (PQ); **Reviewed:** 02-May-2023, QC No. IJMRHS-23-96187; **Revised:** 10-May-2023, Manuscript No. IJMRHS-23-96187 (R);  
**Published:** 18-May-2023

### ABSTRACT

The purpose of the research was to clarify changes in work styles and lifestyles as the spread of COVID-19 infection continues. The subject of the research is managers working in Japanese companies. The method was interviews and case studies by occupational health nurses. The results were changes in work patterns and lifestyle habits, as well as improvements in health check-up data.

**Keywords:** COVID-19, Exercise habits, Changes in the working, Improvements, Check-up data

### INTRODUCTION

The 2019 outbreak of novel Coronavirus infection (COVID-19) is a respiratory tract infection caused by infection in humans; by July 2022, the cumulative number of people infected will exceed 560 million. By July 2022, the total number of infected people will exceed 560 million, resulting in a global pandemic [1]. In Japan, the disease is also bringing about major changes in social life. The Ministry of Health, Labour and Welfare (MHLW) and others conducted a survey before (January 2020) and after (March 2021) the spread of Coronavirus infection. The survey results were from a group of people, who reported significant weight gain and lack of exercise [2,3]. The prolonged coronary disaster has changed work patterns and lifestyles [4]. However, none of the actual conditions have been investigated and reported in detail. Therefore, this research will ascertain, through case studies, changes in the working environment and lifestyle, as well as the results of health examinations [5,6].

### MATERIALS AND METHODS

#### Case studies

The subjects of this research were managers in Japanese company (manufacturing industry). Interviews were conducted by occupational health nurses and lifestyle and medical check-up data were compared between April 2019 and April 2022, before the spread of COVID-19. Age is indicated as of April 2022 and data from 2019 and 2022 were compared for data that exceeded the normal range or theta that changed significantly [7].

**Research term**

From July to September 2022.

**RESULTS****Case studies**

Details are shown in Table 1.

**Table 1 Comparison of 2019 and 2022.**

Cases	Age	Exercise habits		Drinking habits		Smoking habits		BMI kg/m <sup>2</sup>		Health check-up data		
	2022	2019	2022	2019	2022	2019	2022	2019	2022		2019	2022
Telecommuting												
Case 1	50	No	Yes	Yes	No	No	No	22.9	20.6	GLU mg/dl	116	100
			Every day							HbA1c %	5.9	5.4
Case 2	50	No	Yes	Yes 2 or 3 times a month	Yes 2 or 3 times a month	No	No	20.2	17.6	GLU mg/dl	106	85
			Every day	About 100 cc of shochu	About 100 c of shochu					HbA1c %	5.9	5.3
Office work												
Case 3	50	No	Yes	Yes	No	No	No	29.4	26.9	GLU mg/dl	117	102
			Every day									
Case 4	50	Yes	Yes	Yes, every day	Yes, every day	No	No	24.1	25.3	GLU mg/dl	105	111
		Weekends only	Weekends only	About 540 cc of sake	About 540 cc of sake					HbA1c %	5.6	5.2
										Triglycerides mg/dl	151	233

Case 5	60	Yes	Yes	Yes, every day	Yes, every day	Yes, every day	Yes, every day	24.7	26.2	GLU mg/dl	88	138
		Weekends only	Weekends only	About 540 cc of sake	About 540 cc of sake	About 10 cigarettes	About 10 cigarettes			HbA1c %	5.7	6.0
										Triglycerides mg/dl	204	209
<b>Note:</b> Exercise habit: 1 hour of walking.												

### Case study 1

**50's, male, manager, telecommuting:** Before the spread of the COVID-19 in 2019, as a managerial sales person, he worked outside the office a lot and had opportunities to binge drink and eat at business entertainment a few times a week. However, since FY 2019, he has been working from home, meeting with customers remotely and eating three meals regularly and in a well balanced manner [8].

He no longer has to make a one hour round trip to and from work, and his work hours are now from 9:00 to 17:00, which is his regular working hours, with a lunch break from 12:00 to 13:00 and no overtime work. He is now able to lead a more regular life, walking for an hour almost every day after work and occasionally walking for about 30 minutes during his lunch break. He has not been drinking alcohol since the introduction of telecommuting. Health check-up data improved: BMI from 22.9 kg/m<sup>2</sup> to 20.6 kg/m<sup>2</sup>, GLU from 116 mg/dl to 100 mg/dl and HbA1c from 5.9% to 5.4%.

### Case study 2

**50's male, manager, telecommuting:** Prior to the spread of the COVID-19 in 2019, he was in a management position, working outside the office about once a week and had entertainment meals and drinks once or twice a month. However, since 2019, he has been working from home, meetings are remote and there are no more entertainment meals. The 3.5 hours round trip working hours have been eliminated and the regular working hours are from 8:30 a.m. to 17:15 p.m. with a lunch break from 12:00 to 13:00 and no overtime. The commute to and from work is no longer necessary and the employees are able to lead a more regular life and have time for an hour long walk almost every day after work. He drinks alcohol once or twice a month at home, about 100 cc of shochu on the rocks and the amount of alcohol he drinks before and after the spread of in COVID-19 2019 has not changed. Health check-up data improved BMI from 20.2 kg/m<sup>2</sup> or 17.6 kg/m<sup>2</sup>, GLU from 106 mg/dl to 85 mg/dl and HbA1c from 5.9% to 5.3% [9].

### Case study 3

**50's male, manager, works in an office:** He works from 8:00 a.m. to about 7:00 p.m. with a one hour lunch break. He started walking for one hour daily when his office was closed for two months due to the spread of COVID-19 in 2019 and continues to do so today. Prior to the spread of the COVID-19 he had no exercise habit. In addition, he had opportunities to binge drink and eat at business entertainment a few times a week, but now he does not eat or drink at business entertainment and does not have a habit of drinking at home. The BMI and GLU improved from 29.4 kg/m<sup>2</sup> to 26.9 kg/m<sup>2</sup> and from 117 mg/dl to 102 mg/dl, respectively.

#### **Case 4 and Case 5**

Case 4 is a male manager in his 50's working in an office.

Case 5 is a male manager in his 60's working in an office.

They have been walking for an hour on weekends only and drinking about 540 cc of sake every day since before the spread of the COVID-19 in 2019. Before the spread of the COVID-19, they had two or three occasions a week to binge eat and drink for entertainment, but now they do not eat and drink for entertainment and lead a regular life.

### **DISCUSSION**

Numerous researches have been published on the relationship between exercise and improved health check-up data. However, we have not found any study that discusses the introduction of exercise habits and their results following changes in work patterns before and after the spread of COVID-19, as in the present study.

In all three cases introduced in this research, working patterns changed and the environment became more regular. The number of drinking opportunities has decreased due to the elimination of business entertainment and eating. In cases 1 and 2, the patients had time to commute to work before the spread of COVID-19, but they no longer had that time and they were able to use that free time for exercise. Therefore, the results of this research are valuable especially in Japan because Japanese people have been working too much and the commuting time of Japanese people is long. The commute in case 1 was 1 hour and 1 hour and the commute time in case 2 were three and a half hours.

Cases 1 and 2 were actively introduced exercise for a change of pace, to prevent back pain, and to eliminate lack of exercise, as they worked long hours at their desks on the work shift. Three cases had in common that they were people with high self-care ability because they were in management positions. Cases 1 and 2 requested the introduction of stretching exercises by occupational health nurses at the start of work.

In cases 4 and 5, both were managers with high self-care skills, aware of the need for exercise, and had been exercising since before the spread of the new strain of COVID-19. However, they had been drinking 540 cc of sake every day since before the spread of the novel Corona infection and continued to do so even after the spread of the novel Corona infection, which did not improve the health check-up data.

This research revealed that it is again important to improve not only exercise but also drinking habits.

Regarding the limitations of this research, the present research was a pilot study of managers. The cases that participated in the research were those that were requested by the facility, randomly selected and consent was obtained. We cannot deny the possibility that they actively participated in the research because they originally had an exercise habit or improved their lifestyle. Therefore, it is important to conduct more interviews in the future. We would like to continue to conduct more case studies to understand the types of jobs, whether or not they had management positions, detailed work practices and the actual conditions of their workplaces, to gain a more concrete understanding of the changes in the working environment, etc. associated with the spread of COVID-19 and to clarify how people's lives changed and the impact this had and we would like to clarify the role of occupational health nurses in Japan.

Face to face interviews are essential to the research. In some cases, the survey may have to be postponed because of the spread of infection to the target population or because of difficulties in coordinating with workplaces.

### **CONCLUSION**

This research revealed changes in the working style of managers in Japanese companies and the introduction of exercise habits. We would like to continue our research. We need more cases.

### **ETHICAL CONSIDERATIONS**

This research will be conducted with the consent of the individual in writing, in such a way that the individual cannot be identified. Approval (with approval number 2230) was obtained from the ethical review committee of WAYO women's university.

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