TELEWORK OF INTERIOR ENVIRONMENT IN JAPANESE STUDENT

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ABSTRACT
Due to the pandemic of the COVID-19 infection, almost Japanese university were to move the classes online. Heretofore, there were canceled as a face-to-face gave the guidance for entrance ceremony, registering for the course and lectures except for special skill trainings. Almost university student had to join the classes from their room of the residence. Under in ordinary circumstances, it was free utilization of campus equipment as open space PC and library for their own learning. For the experienced student, it was prepared high performance computer in each laboratory. However there were expected up to about 90 minutes in a day by 5 frames, approximately totally 8 hours at the longest, and additional assignments of these lessons will be handled by telework in their room. Originally, it was hard to say that all university students were able to get telework in an appropriate environment, because of conditions precedent using campus equipment as schooling. Moreover, prolonged VDT work in improper posture cause to increase the frequency of ergonomic injuries and illnesses. The purpose of this study was to investigate the individual student environment of working for ICT in the rooms. The individual data from photo was classification desk, chair, chair with armrest or not, desk light, cushion for ergonomic evaluation as a guideline of Ministry of Health, Labour and Welfare. The Data were collected over 300 students via cloud e-Learning system from May to December in 2020. There were 30% student who has no chair, using low table and sitting the floor. There were 23% student has used Japanese style low table called Chabudai for the attend their classes. The major findings out of this study, it was not enough the equipment for the long hours study in a day about 23% student from their room. There was significant difference population proportion teszt between male and female, using desk or low table. It was conducted an online questionnaire to over 300 university students in their 20s to investigate whether an appropriate working environment was established. Compare and evaluate with the ideal working environment and report the current situation.

KEYWORDS
Telework, Household Goods, Room Interior

1. INTRODUCTION
In 7th April 2020, the Government of Japan had first issued a state of emergency. It was performed time leg for staggered school attendance at least, almost university classes were to change the online mode as same as e-Learning in Tokyo. Generally, Japanese university has a few computer rooms for free to use every student to study activity as same as library. That’s why, the student has to study their own room and interior equipment.

It was well known subjective discomfort, work posture and muscle activity of PC users were quantitatively evaluated. Risk assessment and prevention of musculoskeletal disorders (MSDs) or physical discomfort of personal computer (PC) users have been a frequent topic in previous research from prevalence PCs the 1980s. These studies have described biomechanical and epidemiological evidence that supports the association between prolonged use of computer displays and data entry devices as keyboard and mouse in awkward postures and the development of MSDs or discomfort of the neck, shoulder, wrist and hand of PC users of various ages (Jaschinski et al. 1998, Gerr et al. 2004). However, it was focused on between office workers and exclusive use for prevention of human error, using alternative data entry devices or displays, such as touchscreens. Therefore, there was not enough data about telework environment of individuals, about desk and chair. It is not known how users would determine the most preferred position of the screen when
they are required to operate what they see in the display and how the preferred position of the posture in home would influence user discomfort and other biomechanical risk factors, such as the activity of upper extremity and neck muscles. Many companies were to permit bring back to home the monitor and chair in office. In the Tokyo metropolitan area of universities were to assist communication of first Internet connection for video conference as the Zooming classes.

In the current study, the sitting position, shoulder and neck muscle activities, subjective ratings of visual discomfort and the movement of participants’ elbows were quantified during an individual computer use task in home (typing using keyboard, mouse operations) of their own ICT environment. It was hypothesized that the use of PCs would be associated with home goods and subjective depended on desk and chair in home equipment more frequent fatiguing postures for long hours learning by PC using.

2. METHODS

There were 388 university students from 19 to 23 years old participated in this study. It was collected the telework environment as their room photo of taken the room by themselves. It was performed analysis procedure, with or without chair, kind of chair, with chair high adjustment function or without, seating face environment, chair elbow holder or not, kind of desk shape, kind of chair type, lighting, overall working environment. The analysis was done manually. There was a few student no desk and no chair. During the process of the analysis, there was a few student having multiple study room, then items that did not correspond to the items were excluded. Therefore, the total for each item was different. After classification from photos, it was calculated the popular proportion each sort items while sexuality and universities.

3. RESULT

There were 91 % students using the laptop PCs in their room (Figure 1). There were about 20 % without chair (Figure 2). In case of own the chair, not adjustable chair high was 43 % (Figure 3). It was 17 % chair with arm rest (Figure 4), 32% sheeting face with something of cushion (Figure 5). There was 14% using Japanese low table called “Chabudai” (Figure 7). It was illustrated Japanese low table on the PC, called Chabudai. There was significant difference population proportion test between male and female in desk or low table, also arm rest or not in chair. It was preferred to choose the room interior in women’s university student as low table than normal desk. Then, it was a lot of population proportion in statically, male student has sitting the chair with arm rest.

Figure 1. Internet access device of student
Figure 2. The ratio of chair or not in room.
4. DISCUSSION

About 80% of university students use chairs in their work environment. Although it occupies, the ratio of proper maintenance as a VDT work environment is less than 30% as a whole. Traditional Japanese-style rooms have floors of tatami mats (Figure 7). The mats are made of straw and rush and consist of a thick base.
and a soft, smooth surface that covers the base. There was not suitable to put on computer chair in traditional Japanese room, because of soft material for floors in Japanese houses. It is not unsuitable for teleworking, but it is clear that most students are working in an environment that is inadequate for several hours of continuous work. If you continue to work in this environment, you will be more likely to suffer health problems such as VDT syndrome, which is a concern. It was considered that there was a low awareness and awareness of the recommended work environment, and there was a limit to the improvement of the work environment for students living alone or not having their own room. Therefore, it may be possible to raise awareness and promote improvement of the working environment by knowing the current state of the teleworking environment of university students through this survey. In addition, it is expected that it will contribute to the development of a fulfilling learning environment that matches the learning content.

5. CONCLUSION

A reasonable accommodation is required as any change in the telework environment to help a student with a better performance apply for their student life, or enjoy the benefits for health conditions. Then sitting behind a desk for hours at a time, it was possibility of a career of neck and back pain or sore wrists and fingers. It was considered proper home ergonomics, including correct chair height, adequate equipment spacing and good desk posture, for student stay comfortable at their room.

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REFERENCES