



The Analysis of Health Care Behavior in Flight Operation, Case Study One of the Full-Service Airline

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Abstract

This research aimed to study congenital diseases and analyze the healthcare behavior of flight operation officers. The population in this research was 18 flight operation officers (FOO). Data were collected from semi-structured interviews, which were conducted based on literature reviews and theories related to healthcare. Since this research had a time constraint, the authors used purposive sampling to one of the full-service airlines at Suvarnabhumi Airport. From the total population, only 13 FOO were interviewed because the others 5 were on duty. The results found that the most frequent congenital diseases were office syndrome, allergy, high blood pressure, migraine, sinusitis, and thyroid, respectively. Besides, all FOO had no self-care in the productive phase, except the Director, and no nursing system, neither wholly nor partly compensatory. The most frequent reasons why FOO had not done any exercise were no time to do an exercise, unfavorable health such as body's injury and congenital diseases, and because they think exercise is not important. The most frequent activities when each FOO had free time were running, shopping, watching TV, cooking, cycling, dharma practice, reading, and sleeping, respectively. Also, the frequencies of eating clean food of most FOO were sometimes, often, usually, and never, respectively. Lastly, the frequencies of physical examination of most FOO were once a year and every 3 months per year, respectively.

Keywords: Health care, Flight operation offices, Full-service airline

1. Introduction

From Thailand logistic development plan No.3 (NESDC, 2017), the first strategy is to develop transport infrastructure and logistic networks along the strategic route to reduce transportation costs and optimize transit and logistics networks that link the origin and destination of logistics routes such as rail, sea, and air. Concerning the air transport part, the Thai Government promotes the development plans of Suvarnabhumi Airport, Don Mueang International Airport, and U-Tapao Rayong-Pattaya International Airport. Besides, the Thai Government also aims to expand the capacity of regional airports to prepare for the increasing demand for freight transport, improve the airport management process for maintaining the quality of safety and availability of equipment, facilitate passengers and cargo, and immediately respond to meet international standard and comply with the memorandum of international cooperation.

At present, Suvarnabhumi Airport (BKK) is a hub of Thailand not only for more than 64,700,000 passengers but also for more than 378,000 flights of airlines from around the world to visit BKK in 2019 (Airport of Thailand, 2019). It means that airlines' staff not only pilots, cabin crews, ground service operators, and aircraft maintenance technicians but also flight operation officers (FOO) need to deal with the passengers and aircraft 24 hours a day and 7 days a week. For effectiveness and smoothness in operation airlines' staff have to work as a shift, and because of working as a shift they need to take care of their health. Working can affect the staff's health such as the pressure they receive when working, the stress in dealing with the problems, overload works when lacking staff, fatigue when working in night shifts, and office syndrome when sitting for a long time without standing up (Aviationlearning, n.d.). Also, the authors had a chance to discuss informatively with a director of one airline and knew that their staff had congenital diseases such as allergy, migraine, high blood pressure, sinusitis, and thyroid disease, which affect while they are working. (Airline's director interview, 2019)

The authors feel the need to emphasize the flight operation officers who are facing all problems mentioned above. For this reason, this research has the objective to study congenital diseases in the flight



operation officers and analyze how they take care of their health. The authors expect that this study will provide a suggestion of healthy life to the flight operation officers, letting them have a healthy life and work without congenital diseases.

2. Objective

- 1) To study congenital diseases in the flight operation officers
- 2) To analyze the healthcare behavior of the flight operation officers

2.1 Expected benefit

- 1) To provide a suggestion of healthy life to the flight operation officers

2.2 Research limitation

- 1) Time: Due to the time constraint, the authors used purposive sampling to one of the full-service airlines at Suvarnabhumi Airport.
- 2) Population: 18 flight operation officers (FOO) in one of the full-service airlines at Suvarnabhumi Airport. However, the authors could interview only 13 FOO since the others 5 FOO were on duty.
- 3) Data: Study and analyze the healthcare behavior of the flight operation officers at Suvarnabhumi Airport.

3. Materials and Methods

3.1 Materials

This research consisted of semi-structured interviews that were conducted based on literature reviews and theories related to healthcare. After the interview script was created, the authors had three experts to validate it. If any modification should be made, the authors would make a correction and return the whole script to the experts. This process was repeated until no modification was needed. Finally, the structured interview was completed and had 3 parts as described below.

First part: Interview about personal information of all flight operation officers with five questions;

- 1) What is your position?
- 2) How many years of working experience do you have?
- 3) Type of working (office time/shift work)
- 4) Do you have any congenital diseases?
- 5) What is your congenital disease and frequency of physical examination?

Second part: Interview about the healthcare behavior of each staff based on Orem's self-care theory with four main questions;

- 1) What do you do for self-care?
- 2) Do you have a self-care deficit?
- 3) Do you need a nursing system?
- 4) Why you have not done an exercise (Demand not equal to Ability)?

Third part: Interview about their lifestyle;

- 1) What do you do when you have free time?
- 2) How often do you eat clean food?
- 3) How frequently do you have a physical examination?

3.2 Methods

This qualitative research had 2 categories of data collection; the first one was primary data from in-depth interviews using a semi-structured interview (Newcomer et al, 2015) with 13 flight operation officers (1 Director, 1 Manager, 3 Supervisors, and 8 Officers) and the second one was secondary data from both online and offline databases such as the detail of Suvarnabhumi Airport, literature reviews, and theories related to the research such as Orem's self-care theory (Nurseslabs, 2019). The authors implemented a data triangulation technique (Williamson & Johanson, 2017) by interviewing 13 FOO with the same questions



twice to ensure the consistency of the data. Finally, before an interview, the authors had to make an appointment via telephone with the airline's director to confirm the date and time. Then, the authors asked the director of our institute to issue an official letter to the airline's director.

After finishing the interview with all flight operation officers, the data were analyzed using content analysis (Parveen & Showkat, 2017) and were presented as tables and graphs, which were divided into three parts as follows.

First part: General information of the interviewee such as position, working experience, working hours/day, and related healthcare behavior.

Second part: Analysis of the semi-structured interview that answers two research objectives by explaining details in a table or graph with descriptive statistics.

Third part: Interview about their lifestyle.

4. Results and Discussion

First part: General information of the interviewees (flight operation officers (FOO))

Table 1 General information of all 13 FOO

No.	Position	Working experience	Type of working	Congenital disease
1.	Director	22 years	Office time	✓
2.	Manager	21 years	Office time	-
3.	Supervisor	14 years	Shift time	✓
4.	Supervisor	18 years	Office time	✓
5.	Supervisor	15 years	Shift time	✓
6.	Officer	5 years	Shift time	✓
7.	Officer	3 years	Shift time	✓
8.	Officer	9 years	Shift time	✓
9.	Officer	5 years	Shift time	✓
10.	Officer	10 years	Shift time	✓
11.	Officer	10 years	Shift time	-
12.	Officer	12 years	Shift time	✓
13.	Officer	11 years	Shift time	✓

Office time = working in the daytime (0801 – 1700 hrs.)

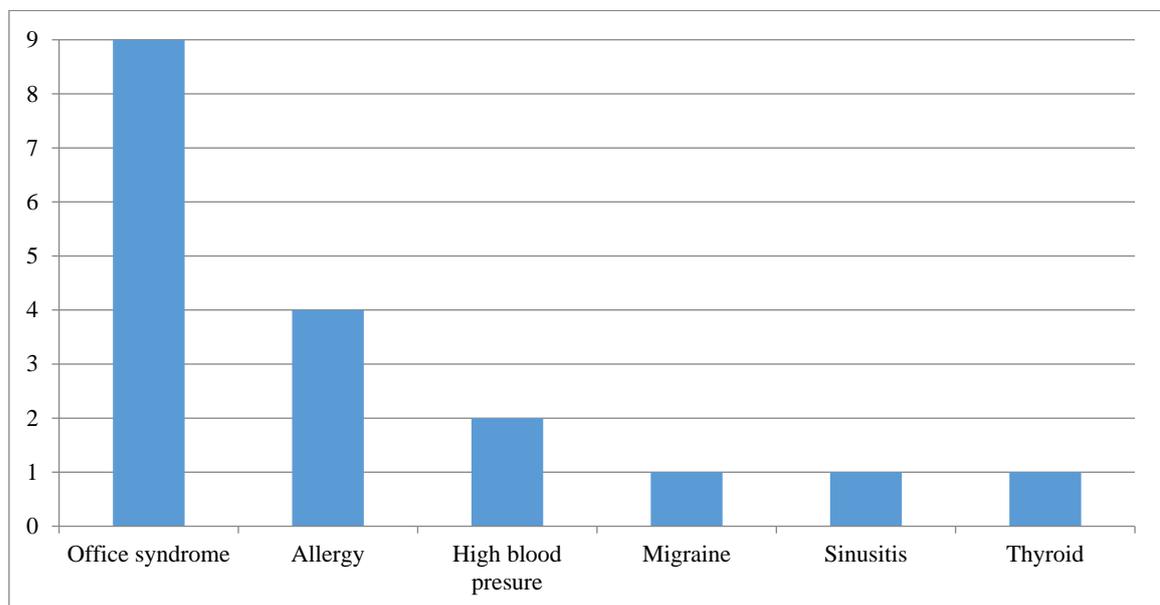
Shift time = working in the nighttime (1701 – 0800 hrs.)

From Table 1, there is 1 director (7.69%), 1 manager (7.69%), 3 supervisors (23.08%), and 8 officers (61.54%). The longest working experience is 22 years of the Director whereas the shortest working experience is 3 years of one of the officers. Three interviewees are working in the office time (23.08%) while ten interviewees are working in shifts (76.92%). Besides, 11 interviewees have congenital diseases but another 2 have none.

**Table 2** In-depth interviews about the congenital diseases in each FOO

No.	Position	Congenital disease
1.	Director	Allergy
2.	Manager	-
3.	Supervisor	Migraine, High blood pressure, Office syndrome
4.	Supervisor	High blood pressure
5.	Supervisor	Office syndrome
6.	Officer	Allergy, Office syndrome
7.	Officer	Allergy, Sinusitis, Office syndrome
8.	Officer	Office syndrome
9.	Officer	Office syndrome
10.	Officer	Thyroid disease, Office syndrome
11.	Officer	-
12.	Officer	Office syndrome
13.	Officer	Allergy, Office syndrome

From Table 2, FOO no. 2 and 11 have no congenital disease (15.38%), however, the rest of them (84.62%) have congenital diseases namely allergy, migraine, high blood pressure, office syndrome, sinusitis, and thyroid disease. Among them, both FOO no. 3 and 7 have three symptoms while FOO no. 6, 10, and 13 have two symptoms each. FOO no 1, 4, 5, 8, 9, and 12 have only one symptom each. This information was concluded in Figure 1 below.

**Figure 1** frequencies of congenital diseases in the FOO

From Figure 1, the most frequent congenital diseases are office syndrome, allergy, high blood pressure, migraine, sinusitis, and thyroid, respectively.

Second part: Analysis of the semi-structured interview that answers two research objectives by explaining details in a table or graph with descriptive statistics



Table 3 Analysis of 13 FOO concerning the healthcare behavior based on Orem’s self-care theory

No.	Position	Self - care		*Self - care deficit	*Nursing system		
		Intention phase	Productive phase		Wholly	Partly	Supportive
1.	Director	-	Cycling	$D = A$	-	-	✓
2.	Manager	-	-	$D < A$	-	-	-
3.	Supervisor	Do exercise	-	$D > A$	-	-	✓
4.	Supervisor	Do exercise	-	$D > A$	-	-	-
5.	Supervisor	-	-	$D < A$	-	-	-
6.	Officer	-	-	$D > A$	-	-	-
7.	Officer	Do exercise	-	$D > A$	-	-	✓
8.	Officer	-	-	$D < A$	-	-	-
9.	Officer	Do exercise	-	$D > A$	-	-	✓
10.	Officer	Do exercise	-	$D > A$	-	-	✓
11.	Officer	Do exercise	-	$D > A$	-	-	-
12.	Officer	Do exercise	-	$D > A$	-	-	✓
13.	Officer	Do exercise	-	$D > A$	-	-	✓

*D = Demand, A = Ability, Wholly = Wholly compensatory, Partly = Partly compensatory, and Supportive = Supportive compensatory

From Table 3, the director has a productive phase of cycling and the ability to self-care equal to the demand in self-care as he always does cycling and meditation, and he also needs a supportive nursing system. The manager has no self-care behavior and the ability to self-care less than the demand in self-care but he doesn’t need a nursing system. Supervisors no. 3 and 4 have the intention to do exercise and the ability to self-care more than the demand in self-care; however, supervisor no. 3 needs a supportive nursing system while no. 4 needs none. Supervisor no. 5 has no self-care behavior and the ability to self-care less than the demand in self-care but she doesn’t need a nursing system. Officers no. 6 and 8 have no self-care behavior, which officer no. 6 has the ability to self-care more than the demand in self-care but no. 8 has the ability in self-care less than the demand in self-care. Both officers no. 6 and 8 need no nursing system. Officers no. 7, 9, 10, 11, 12, and 13 have the intention to do exercise, which officer no. 7 has the ability to self-care less than the demand in self-care but the rest have the ability to self-care more than demand. However, they all need a supportive nursing system except no. 11. All FOO have no self-care in the productive phase except the director and have no nursing system, neither wholly nor partly. The authors have concluded the reasons why they had not done any exercise (Demand not equal to Ability) in Figure 2 below.

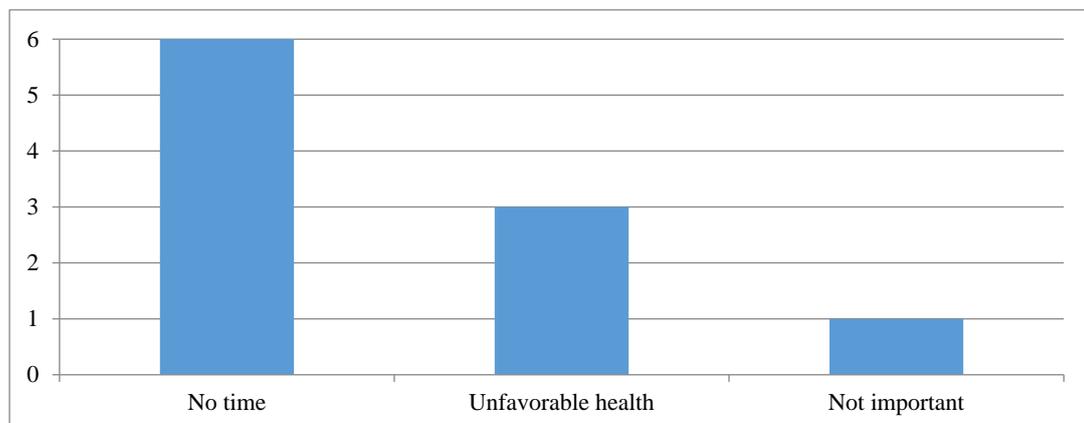


Figure 2 Reasons why the FOO had not done any exercise (Demand not equal to Ability).



From Figure 2, the most frequent reasons why the FOO had not done any exercise are (1) no time to do an exercise, (2) unfavorable health such as body's injury and congenital diseases, and (4) they think exercise is not important, respectively.

Third part: Interview about their lifestyle

Table 4 FOO's lifestyle

No.	What do you do when you have free time?	How often do you eat clean food?	How frequently do you have a physical examination?
1.	Cycling	Often	Once a year
2.	Dharma practice	Usually	Every 3 months per year
3.	Running	Sometimes	Every 3 months per year
4.	Watch Television	Sometimes	Once a year
5.	Reading	Sometimes	Once a year
6.	Shopping	Sometimes	Once a year
7.	Sleep	Never	Once a year
8.	Running	Sometimes	Once a year
9.	Cooking	Sometimes	Once a year
10.	Shopping	Often	Once a year
11.	Watch Television	Often	Once a year
12.	Running	Sometimes	Once a year
13.	Shopping	Sometimes	Once a year

From Table 4, every FOO has activities when they have free time, everyone eats clean food except FOO no. 7, and they all go for a physical examination at least once a year.

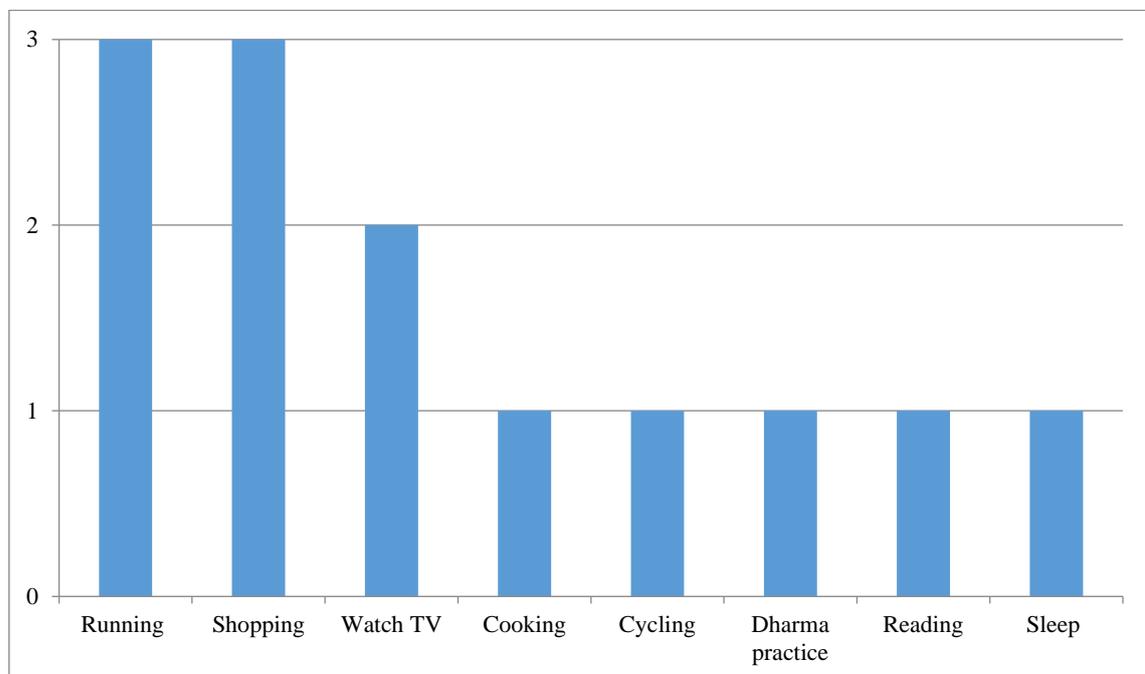


Figure 3 Frequencies of activities when FOO have a free time



From Figure 3, the most frequent activities when each FOO have free time are running (23.08%), shopping (23.08%), watching TV (15.39%), cooking (7.69%), cycling (7.69%), dharma practice (7.69%), reading (7.69%), and sleeping (7.69%), respectively.

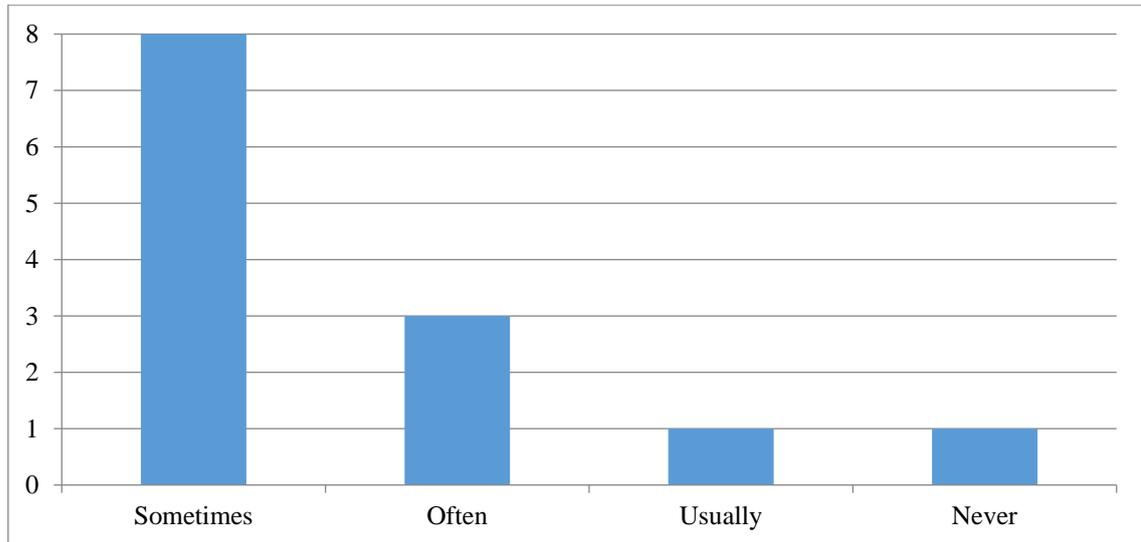


Figure 4 Frequencies of eating clean food of the FOO

From Figure 4, the frequencies of eating clean food of the FOO are sometimes (61.54%), often (23.08%), usually (7.69%), and never (7.69%), respectively.

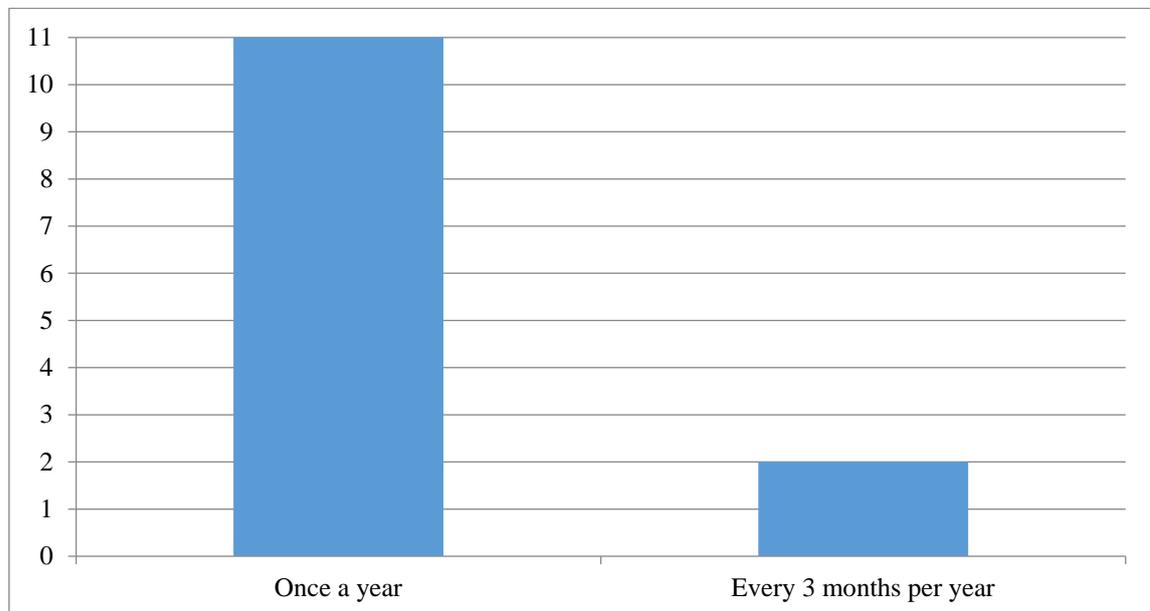


Figure 5 Frequencies of the physical examination of the FOO

From Figure 5, the frequencies of having a physical examination of the FOO are once a year (84.62%) and every 3 months per year (15.38%), respectively.



5. Conclusion

From the first objective to study congenital diseases in the flight operation officers, it was found that the FOO's congenital diseases are office syndrome, allergy, high blood pressure, migraine, sinusitis, and thyroid. The most frequent congenital disease found is office syndrome, which is consistent with the nature of their job as they always sit for a long time working on the computer without moving (Pundee, 2015). The second most frequent congenital disease found is an allergy, which is also consistent with their job because they always stay in the air-conditioned room and lack exercise (Healthline, 2019). The authors also found out that congenital diseases are independent of their career position, working experience (number of years they have been worked), and types of their work style (in the office time or shifts). It means that all FOO have a chance to have congenital diseases, especially office syndrome and allergy.

Regarding the second objective to analyze healthcare behavior in the flight operation officers, the authors found that almost every FOO only has the intention phase to do an exercise but only one of the total samples had done an exercise by cycling (Productive phase), which is because most FOO work in shifts. When asked why they are not doing any exercise, the FOO said that they do not have time. This finding is consistent with that of Namwilai, & Srijumpa (2015) who studied the healthcare behavior of flight attendants of Thai Airways International Public Company Limited. The second reason is due to unfavorable health because some officers have a body's injury and congenital diseases that affect their health when they do exercise. The last reason is that some of them think exercise is not important for them.

When asking about their lifestyle using the question "What do you do when free time?," the authors received a variety of answers such as running, shopping, watching TV, cooking, cycling, dharma practice, reading, and sleeping. The authors looked at the frequencies and found that the most frequent activities are running and shopping because these activities have nothing much to do, they just buy sports shoes and go running. Similarly, shopping is their favorite activity because they just walk to see or buy interesting things around the department store, which is consistent with the article 'walk for health' (Mahidol University, 2019). Some of the FOO also watch TV in their free time, both offline and online TV. What is interesting is that some FOO do a dharma practice and have no congenital disease, which is consistent with the research that compared stress and quality of sleep between praying and listening to the pray in breast cancer patients (Khumtaveeporn et al., 2014). For the question "How often do you eat clean food?," most FOO eat clean food sometimes because, by nature of their job, they have limited time for eating and preparing their foods, they have to eat only food available in the cafeteria, and they have to eat sufficiently for working all night. Finally, the last question concerning their lifestyle is "How frequently do you have a physical examination?." Almost all FOO go to see a doctor once per year because it is an airline's minimum physical checkup policy.

Suggestions for a healthy life for the flight operation officer are that firstly all FOO have to prevent themselves from the office syndrome by always changing their sitting posture every 20-30 minutes and getting up from their chair every 1 hour to take a walk (depend on the duty) (Pundee, 2015). Besides, their computer screen should be a little over the eyes and there should be enough space for moving a mouse and their arms to reduce error and stress (Aviationknowledge, 2019). Secondly, each FOO should find free time to do exercise such as running, shopping, and especially dharma practicing. The company should provide clean food not only for the FOO but for all staff or encourage them to eat clean food. Lastly, the company should provide welfare for physical examination and encourage all staff who have congenital diseases to see a doctor at least twice a year (Bumrungrad International Hospital, 2018).

Future works should study congenital diseases and analyze the healthcare behavior of flight operation officers in low-cost airlines.

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