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FAST FOODS CONSUMPTION AMONG PUBLIC HEALTH STUDENTS IN DKI JAKARTA PROVINCE DURING COVID-19 PANDEMIC

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ABSTRACT

Since WHO declared COVID-19 as a pandemic, there have been many changes in people's lives. Food delivery services makes it easier for people to consume fast food. The high consumption of fast food can lead to obesity, which in several studies is known to have a relationship with the incidence of COVID-19, its severity, and death from COVID-19 even among young people. This study aims to determine the fast foods consumption among Public Health students in DKI Jakarta during COVID-19 pandemic. It used a cross-sectional study design, involved 413 students from 14 institutions in DKI Jakarta. Data collection in November-December 2020 through filling out an online questionnaire. Food with the highest percentage were instant noodles (90.6%), fried chicken (90.6%), fritters (85.2%), chips and ice cream (82.3%), also chicken noodle and meatballs (81.8%). Based on the frequency of eating >3 times a week, the highest were chips (21.3%), instant noodles (19.9%) and fritters (19.4%). Based on the frequency of eating 1-3 times a week, fried chicken (75.8%), instant noodles (70.7%), and meatballs (69%) were the highest. Those foods are high calories, sodium and fat. Education and socialization regarding balanced diet need to be improved to prevent obesity problems during COVID-19 pandemic.

Keywords: Fast food, COVID-19 Pandemic, Student

1.INTRODUCTION

WHO (World Health Organization) officially declared COVID-19 Pandemic in March 2020 (WHO, 2020). Since then, there have been many changes in various areas of human life such as economy, education, the food industry which have forced to change their strategies online. These changes certainly lead to changes in human behaviour. Online delivery food service is now a business strategy during a pandemic, which causes changes in people's consumption behaviour. In Europe, online shopping food has increased by 45%, and home delivery by 41% (EIT-Food, 2020). Various foods can be easily accessed with food delivery services, including fast food.

People's diets are now changing from traditional foods to modern foods where they tend to consume processed foods that are high in saturated fat, sugar and sodium and low in essential nutrients and fibre. This pattern increases overweight and obesity as well as degenerative diseases such as type 2 diabetes mellitus and coronary heart disease (UNICEF, 2019). Based on the results of National Health Research (Riskesmas) in 2018, the prevalence of obesity in adults in Indonesia increased from 14.8% in 2013 to 21.8%. The prevalence of overweight and obesity in Indonesia in the age group > 18 years is 27% (Balitbangkes Kemenkes RI, 2018a).

A study who respondents aged >18 years in Jeddah reported 86.5% of respondents have a habit of eating fast food (Mandoura *et al.*, 2017). In Indonesia, fast food is the main food for urban people (Sari and *et al.*, 2008). Priwahyuni's research (2016) found that 59.5% of health students at an institution have the habit of eating fast food (Priwahyuni, 2016). In 2019, Hidayati *et al.*'s research found that the proportion of fast-food eating habits in high school adolescents was above 80% (Hidayati *et al.*, 2019). These studies show that consumption of fast food is now a lifestyle inherent in the younger age group.

Based on study in Bangladesh, students who consume fast food ≥ 2 days per week have a 2.2 times risk of being obese (Goon, 2014). In Iran, a study of 300 students from two major universities in Qom, the central city of Iran, showed a high prevalence of fast-food consumption and obesity among Iranian students. Female students, unmarried and studying at non-government universities are associated with up to three times the consumption of fast food (Mohammadbeigi *et al.*, 2018).

In DKI Jakarta Province, the prevalence of obesity in people aged > 18 years is 29.8%. This figure exceeds the national figure. Based on their diet, as many as 60.27% of the population aged ≥ 3 years in DKI Jakarta consume instant food 1-6 times per week and 6.32% consume ≥ 1 time per day, 39.41% consume fatty foods ≥ 1 time per day, 36.43% consume sweet foods ≥ 1 time per day and 25.49% consume salty foods (Balitbangkes Kemenkes RI, 2018b).

In several studies, obesity is known to have a relationship with the incidence of COVID-19, its severity, and death due to COVID-19 among young people (Wang, Sato and Sakuraba, 2021). The fast foods can lead to chronic activation of the intrinsic immune system and an inhibition of the adaptive immune system (Bohlouli *et al.*, 2021). Public Health students as potential health promoters should learn to apply healthy behaviours during a pandemic, one of which is eating behaviour. The purpose of this study was to describe the consumption of fast food among public health students in DKI Jakarta during the COVID-19 pandemic.

2. Material and Methods

This study used a cross-sectional study design, involved 413 students from 14 institutions in DKI Jakarta. Data collection in November-December 2020 through filling out an online questionnaire (google form). Samples were taken proportionally and were selected incidentally. There were 18 types of fast food that were asked in the questionnaire. The data were analysed univariately to obtain an overview of fast-food consumption during the last 1 month during the pandemic.

3.RESULT

Table 1. Respondent Characteristics Frequency Distribution

Variable	N	%
Gender		
Male	83	20,1
Female	330	79,9
Age		
≥ 20	324	78,5
< 20	89	21,5
Total	413	100,0

According to table 1, most of the respondents in this study were women (79.9%) and aged ≥ 20 years (78.5%).

Table 2. Fast Food ² Consumption among Public Health Students in Jakarta during Pandemic COVID-19

Fast Foods	Consume (%)		Frequency (%)	
	Yes	No	1-3 times/ week	>3 times/ week
Fried Chicken	90,6	9,4	75,8	14,8
Hamburger	52,8	47,2	44,1	8,7

Fritter	85,2	14,8	65,9	19,4
Chocolate	67,6	32,4	54,5	13,1
Pizza	53,5	46,5	43,8	9,7
Spaghetti	54,5	45,5	44,8	9,7
Sausage	77,7	22,3	60,0	17,7
Chicken Nugget	77,5	22,5	61,3	16,2
French Fries	78,2	21,8	61,5	16,7
Chicken Noodle	81,8	18,2	68,3	13,6
Meatball	81,8	18,2	69	12,8
Instant porridge	41,6	58,4	33,9	7,7
Instant noodle	90,6	9,4	70,7	19,9
Ice Cream	82,3	17,7	67,1	15,3
Siomay/Batagor	75,8	24,2	66,8	9
Chips	82,3	17,1	61	21,3

Otak-otak	62,2	37,8	51,3	10,9
Salty snacks	71,9	28,1	54,5	17,4

According to table 2, of the 18 types of fast food contained in the questionnaire, it is known that all types of food have been consumed by the respondent in the last 1 month. Food with the highest percentage were instant noodles (90.6%), fried chicken (90.6%), fritters (85.2%), chips and ice cream (82.3%), also chicken noodle and meatballs (81.8%). Based on the frequency of eating >3 times a week, the highest were chips (21.3%), instant noodles (19.9%) and fritters (19.4%). Based on the frequency of eating 1-3 times a week, fried chicken (75.8%), instant noodles (70.7%), and meatballs (69%) were the highest.

Furthermore, among respondents who consumed instant noodles, 70.7% consumed them 1-3 times a week, and 19.9% consumed them > 3 times a week. Among respondents who consumed fried chicken, 75.8% consumed it 1-3 times a week, and 14.8% consumed it > 3 times a week. Respondents who consume fried foods, 65.9% consume it 1-3 times a week, and 19.4% consume it > 3 times a week. Respondents who consumed ice cream, 67.1% consumed it 1-3 times a week, and 15.3% consumed it > 3 times a week. Respondents who consume chips, 61% consume 1-3 times a week, and 21.3% consume > 3 times a week. Respondents who consume chicken noodles, 68.3% consume 1-3 times a week, and 13.6% consume it > 3 times a week. Respondents who consume meatballs, 69% consume it 1-3 times a week, and 12.8% consume it > 3 times a week

4.DISCUSSION

In this study, fast food is food that is served quickly, has high calorie, sugar, salt and fat content, and is low in fibre, including street food. Based on table 2, all types of fast food in the questionnaire have been consumed by respondents in the last 1 month. This study found that fast food consumption during COVID-19 Pandemic were still high. The food with the highest percentage were instant noodles, fried chicken, fritters, chips, ice cream, chicken noodle and meatballs. An Italian study concluded that people (52.9%) were eating more during the lockdown, the study also stated that there had been an increase in comfort food consumption, including chocolate, ice-cream, desserts, and salty snacks (Scarmozzino and Visioli, 2020). Study in Kuwait also said that compare to before COVID-19 pandemic, people were much more likely have a late-night snack or meal (Husain and Ashkanani, 2020). Moreover, a study found that adolescents increased intake of fried food, sweets, and legumes during COVID-19 (Ruíz-Roso *et al.*, 2020). Snack consumption increased most likely because people were working from home more (Chenarides *et al.*, 2021). An enhanced appetite and after dinner hunger were both associated with an increased risk of junk food intake (OR=4.044, $p<0.001$) (Di Renzo *et al.*, 2020). For Adolescent who were in favour of fast-food consumption, they said that fast foods provide them with a favourable feeling, because they are delicious, quick to prepare, convenient to access, and easy to digest. Another reasons are the variety of tastes, smells, and colours of fast foods (Majabadi *et al.*, 2016).

Furthermore, as we know, fast foods have high calories, fat, sugar, and salt. Binary logistic regression analysis showed that an higher BMI, were associated to an increase of junk food consumption (packaged sweets and baked products, sweet beverages, savoury snacks and dressing sauces) (Di Renzo *et al.*, 2020). Based on research in Bangladesh, students who consume fast food ≥ 2 days per week have a 2.2 times risk of being obese (Goon, 2014). In Iran, research on 300 students from two major universities in Qom, the centre of Iran, showed a high prevalence of fast-food consumption and obesity among Iranian students (Mohammadbeigi *et al.*, 2018).

In several studies, obesity is known to have a relationship with the severity and death from COVID-19 even among young people (Wang, Sato and Sakuraba, 2021). The fast foods can lead to chronic activation of the intrinsic immune system and an inhibition of the adaptive immune system (Bohlouli *et al.*, 2021). Therefore, high intake of fast foods practically impairs adaptive resistance whereas shifting into chronic inflammation and severely weaken host protection against viral morbidity (Bohlouli *et al.*, 2021).

Some studies stated that during pandemic, people ate healthier. Study in Italy said that during the COVID-19 pandemic, 37.4% and 35.8% of people declares to eat more or less healthy food (fruit, vegetables, nuts and legumes). People who decrease the junk food consumption (29.8%) were significantly more representative than those who increase it (25.6%) (Di Renzo *et al.*, 2020). In Kuwait, there was a drastic decrease in the frequency of fast-food consumption during COVID-19, up to 82% reported not consuming fast food (Husain and Ashkanani, 2020). A recent review underlines that a balanced nutrition, which can help in maintaining immunity, is essential for prevention and management of viral infections (Di Renzo *et al.*, 2020).

Ministry of Health already had a balanced diet guide book during COVID-19 pandemic. The book explains the guidelines for good dietary intake in maintaining immunity during the COVID-19 epidemic as one of the prevention efforts. A good intake must be balanced consisting of staple foods, side dishes, vegetables, fruit and limiting intake of sugar, salt and fat. It is advisable to increase the ² consumption of vegetables and fruits which are rich in vitamin, minerals and fibre. These nutrients function as antioxidants for the body that can fight free radicals and maintain and increase immunity (Ministry of Health, 2020). These guidelines apply well to everyday life during a pandemic. For this reason, it is necessary to socialize not only in educational institutions but in community by the COVID Task Force in each region (RT / RW).

5.CONCLUSION

² Fast foods consumption during Public Health students in DKI Jakarta were still high. Socialization regarding balanced diet need to be improved to prevent obesity problems during pandemic COVID-19. It is necessary to campaign effect of fast-food consumption not only in educational institutions but in community by the COVID Task Force in each region.

6.ACKNOWLEDGEMENT

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