

CHAPTER I

INTRODUCTION

1.1. Background

Diabetes is a global health problem. The International Diabetes Federation has acknowledged diabetes as the primary health problem because of its increasing prevalence every year (International Diabetes Federation, 2019). The Diabetes epidemic has undoubtedly taken the world population as a victim. The worst of it all, diabetes prevalence is predicted to rapidly increase worldwide, especially in low - and - middle-income countries. Globally there are 422 million people who live with diabetes. Annually, 1,6 million people have reported die because of diabetes and its complications, and an estimated 193 million people are undiagnosed (World Health Organization, 2018). Cho et al., (2019) predicted that in 2017, 451 million people aged range between 18 to 99 years old worldwide living with diabetes and is expected to rise by 693 million people by 2045. It caused significant death of 5 million people (age 20-99 years) worldwide, including in Indonesia and Switzerland, which are the locus of this research.

In 2019, Indonesia's total population was 264 million people, and the number of people living with diabetes has become a significant problem since the year 1983 (Waspadji, 1983). In South-East Asia Region, the World Health Organization stipulated the prevalence of diabetes in Indonesia is placed second after India among the top 10 countries with the highest majority of 8,3 million people in 2000 and projected to increase by 21,2 million people in 2030 (World Health Organization, 2020). Meanwhile, the total diabetes cases in adults are 10,6 million people per May 2020, among whom 7,3 million are undiagnosed (International Diabetes Federation, 2020). The cases of diabetes are not only found in adults, but the new cases are also found in younger age groups starting at 15 years old (Arifin, et al., 2019). As diabetes number in Indonesia continuously increases, Indonesia's diabetes epidemic has contributed to the increasing number of diabetes pandemic globally.

Switzerland is experiencing a situation where the prevalence of people with diabetes always fluctuates annually. It was recorded that in the last ten years (2010-2020), the peak of diabetes prevalence (% of population ages 20 to 79) in Switzerland occurred in 2010 with 9 percent of the total population while the lowest is in 2019, below 5.5 percent (Trading Economics, 2020). Presently, with the total population of 8,6 million people, the total diabetes cases in the adult are 496 hundred people or 7,7 percent of the adult population 6,4 million people (International Diabetes Federation, 2020). This fluctuation of diabetes rate might be due to the disease's nature that progresses slowly without any symptoms; thus, people might not be aware of their health condition until the first symptoms appear.

For the past few decades, type II diabetes was mainly found in overweight or obese adults age 40 years and older. However, in the last ten years (2003-2013), there was a significant increased in the number of people having diabetes below 40 years old worldwide, from 20 million to 62 million cases (Lascar, et al., 2018). The newest study revealed that youth age (10-18 years) who have type II diabetes have more severe insulin resistance, given that the disease's progression is much faster in youth compared to type I and adults with type II diabetes (Barrett, Jalaludin, Turan, hafez, & Shehadeh, 2020). Besides obesity as one of the risk factors for developing type II diabetes for adolescents and adults. Other factors such as sociodemographics, ethnicity, socioeconomic status, lifestyle, exposure to diabetes during pregnancy, and parental diabetes were a few risk factors that can promote diabetes (Khunkaew, Fernandez, & Sim, 2019)

An individual's lifestyle is one of the risk factors that cause diabetes because it is a prominent factor influencing consumers' food purchasing behavior. People's lifestyle is a combination of various elements such as demographic, religion, culture, the standard of living, attitudes, mindset, and belief that had influenced consumer buying decisions. A study by Nagarajan et al. (2017) explained that family consumer behavior regarding what type of food they bought and consumed were a significant risk factor that leads adolescents to type II diabetes. Moreover, Kyrou et al., (2020) argued that

unhealthy lifestyle behavior includes: sedentary lifestyle, high consumption of processed red meat, sugary beverages, alcohol, tobacco smoking, and low consumption of fruits, vegetables, and whole-grain were contributed significantly to the increasing incident of type II diabetes.

Yet another issue reminds; consumers in general, especially college students, are not aware that their lifestyle practices and food buying behavior can contribute to type II diabetes (Bellou et al. 2018). Lack of knowledge about the healthy diet, signs and symptoms, risk factors, and medical causes of type II diabetes and unhealthy lifestyle such as low nutritious food consumption were placing an individual's health at risk for developing type II diabetes (Kyroun, et al., 2020)

1.2. Problem Description

College students are also consumers, and they are vulnerable to type II diabetes as they are entering the transition from adolescence to adulthood. Students experience extreme differences between high school lifestyles and their college lifestyles. Live independently, managing a heavier academic workload, which causes stress, lack of family support, and dealing with household duties like laundry, grocery shopping, and cooking by themselves. Students have a degree of freedom to manage their lives, their allowance, and have willpower over food choices rather than being chosen for them for healthiness. As a result, college students tend to complain about time management difficulties, and they fell into academic stress, disturbed sleeping patterns, unhealthy dietary choices, inactivity, and unwanted weight gain (Mongiello, 2016)

Young adults often do not recognize if they are at risk of developing type II diabetes as they are too busy with their campus life. A study by Silva et al., (2015) in 702 college students from Fortaleza- CE, Brazil, verified that 77.6% of female students practiced sedentary behavior, while 31.4% of male students' predominant risk factor was overweight. Another study reported that out of 303 college students, 204 had a regular snacking habit and consumed fried food 3-5 times a week, 71 students ate vegetables daily, and 28 students enjoyed eating fruit every day. This study showed that

students increased their risk of obesity, as they were responsible for their daily eating and lifestyle (Kong, Andrea , & Chan , 2016).

The unnoticeable risk factor in college students' lifestyle is smartphone dependency. Studies have shown that lack of sleep 5-6 hours/night might increase the risk of diabetes. The unhealthy sleeping pattern among college students arises significantly because of a smartphone supported by excessive wifi connection. Students used their time before sleep for social media, playing games, listening to music, and watching movies (Wang, Cheng , yang, & Lin, 2019)

Nowadays, many college students are also workers and even parents at the same time (Budi, Asbari, Purwanto , Mayesti , & Ahmad, 2020). A person can carry out the responsibility of being a student, becoming part- or full-time job employee, and being a mother/father or single parent at the same time (Amor, 2019). In 2018, the Centre of Education and the Workforce at Georgetown University reported that 70 percent of college students are working 15 to 35 hours per week, and the majority had low income (Smith, 2018). Balancing work, learning, and taking care of the household is extremely difficult and could affects students' well-being. Consequently, students' higher working life conflicts were linked to mental and more vigorously physical problems (Hammig, Gutzwiler, & Bauer, 2009)

Therefore, one's might say that college students' knowledge of type II diabetes and their lifestyle have shown to contribute to the onset of type II diabetes. This situation potentially increases the future prevalence of type 2 diabetes and other chronic diseases. Consequently, it is essential to understand what factor influence the individual consumer behavior concerning the food and beverages they consumed related to the increasing incidence of type II diabetes and another metabolic syndrome. In addition to that, the overall consumer knowledge about type II diabetes and lifestyle practice is worth to examine alongside with the perceived barrier they encountered on daily routines and factors influencing their buying behavior toward food.

1.3. Research Purposes

This study has two purposes: (1) To determine the overall score of knowledge about type II diabetes and healthy lifestyle practices among college students in Indonesia and Switzerland. (2) To determine what factor influence college students (as a consumer) food buying behavior, and their perceived barrier engaging in positive lifestyle.

1.4. Research Questions

The following descriptive research questions will illustrate the researcher's idea to investigate college students' overall knowledge towards type II diabetes and its influence on their lifestyle, including their perceived barrier engaging in healthy lifestyle daily and factors influencing consumer food buying behavior in Indonesia and Switzerland. Following the proposed model, the descriptive research questions might be written as follows:

1. What is the overall score of college student's Knowledge About type II Diabetes (KAD), Perceived Barrier (PB), Food Purchasing Behavior (FPB), and Healthy Lifestyles Practice (HLP) in Indonesia and Switzerland?
2. Which variables: Knowledge About type II Diabetes (KAD) score, Perceived Barrier (PB) score, Food Purchasing Behavior (FPB) score), has a significant correlation toward college student's Healthy Lifestyle Practice (HLP)?
3. What is the difference in college students' Knowledge About type II Diabetes (KAD) across gender, age, and study field?
4. What is the difference between college students' Healthy Lifestyles Practices (HLP) across gender, age, and study field?
5. Which independent personal variables: family history, Body Mass Index (BMI), marital status, current status & occupation, and income, is the best predictor for HLP among college students in Indonesia and Switzerland?

1.5. Research Signification

Even though type II diabetes was traditionally considered the middle age or elderly disease, researchers have shown that diabetes could start in early life. A book written by Bonora & Defronzo, (2018) stated:

“Insulin resistance in muscle and liver and beta-cell failure represent the core pathophysiologic defects in type 2 diabetes. It now is recognized that beta-cell failure occurs much earlier and is more severe than previously thought”.

A research conducted among college students at the University of New York in 2015 depicted students had little knowledge about diabetes risk factors and this might put all races at higher risk of developing type II diabetes (Mongiello, 2016; leony, 2011). A college student must first understand that he or she is the one who purchases goods and services for personal use. When the student has enough knowledge about diabetes, it helps them consider healthier options especially when buying food and beverages to improving their health, and at the same time practicing positive lifestyles.

To reduce the type II diabetes burden in our society, the students need to have adequate knowledge about the disease risk factors to prevent the onset of the disease. As type II diabetes risk factors are closely related to lifestyles (Rudijanto, et al., 2015) further study of college students' knowledge about type II diabetes risk factor and their lifestyle practices will provide needed information for more effective programs and interventions among the college population in general.

Early prevention of diabetes can be done by educating the consumer about the disease. This action could ultimately reduce diabetes prevalence, morbidity, mortality, health care costs, and diabetes-related complications in the future. Therefore, targeting college students as a small part of a large consumer group segment may provide many insights for intervention programs among this population. These might be beneficial for the students, the healthcare sector, the food industry, the higher education institution as an education service provider, and the government institutions to create an environment that targets prevention education as equal and important as diabetes treatment.

1.6. Research Gap

Even though there are numerous studies about type II diabetes knowledge among college students, it remains unclear whether type II diabetes knowledge among this population has improved in the year 2020 since the majority of previous studies around this area had confirmed otherwise. This is true not only for Indonesia but also for Switzerland. The majority of the studies either focus on one country, focus only on disease treatment, and how diabetes is perceived without incorporate much of lifestyle practice on a daily basis, which also the risk factors of diabetes in the long run.

This research will be focus on Indonesia and Switzerland. These are two entirely different countries in terms of the health care system, culture, religion, living condition, and population (Countryeconomy, 2020; The World Bank Group, 2020). Generally, most studies focus solely on only one country, which does not allow any comparison in terms of diabetes knowledge, daily lifestyles, perceived barrier, and food buying behavior. Furthermore, English literature with Switzerland as the locus of research, with the topic about diabetes is somewhat limited, and this research is one way to add to that situation. Additionally, English is not the official language in Indonesia or Switzerland, and thus this study might be valuable for future researchers, higher education institutions, government, and food and health care sector.