

NKT	Nutritional Knowledge Test
PGS	<i>Pedoman Gizi Seimbang</i>
RDA	Recommended Daily Allowances
SD	Standard Deviation
WHO	World Health Organization

INTRODUCTION

1.1 Background

The coronavirus disease 2019 (COVID-19) was first identified in Wuhan, China in December 2019 causing people around the world to be infected. To prevent the spread of this disease, social isolation was held by the health authorities and this isolation caused new lifestyle and trends to be formed. One of the social isolations done was the activities regulated from home especially work and school. This impacted majorly to the lifestyle of workers and students.

The Covid-19 social isolation has been associated with more direct lifestyle behavior changes such as increase of smoking frequency by 45% among smokers (Sidor and Rzymiski, 2020), increase and decrease of alcohol consumption (Anne *et al.*, 2020; Kim *et al.*, 2020), weight gain due to snacking in response to food cues, stress or lack of sleep (Zachary *et al.*, 2020), increased consumption of unhealthy food, uncontrolled eating frequencies and portions such as snacking in irrelevant time (Ammar *et al.*, 2020; Sidor and Rzymiski, 2020) due to changes in lifestyle (more sedentary). With these lifestyle changes, Killerby *et al.*, (2020), Li *et al.*,(2020) and Yadav *et al.*,2020 mentioned that early in the pandemic, it was recognized that diet-related chronic conditioned patients are found to be the major risk factors for being hospitalized for Covid-19 showing severe complications and mortality. Diet-related chronic conditions mentioned in the studies include cardiovascular disease, diabetes type 2 and obesity. These diet-related chronic conditions can only be prevented by projecting balanced nutrition protocols and therefore, the need to focus on nutritional relevancies should be noted well especially in adolescents.

Nutritional problems especially malnutrition in Indonesian showed presence of based on the statistics provided by the Basic Health Research of Indonesia (RI, 2014), 9.4% of teenagers are considered to be underweight while 7.3% are considered to be overweight. Adolescence is a transition between childhood and adulthood, usually aged between 15-19 years old and high school students are considered to be in the same age pool as the teenager phase. This phase is critical as biological growth (especially weight and height), psychological and sexual maturity is known to be at their peak in this phase (Brown, 2013), thus, proper nutrition is required to prevent malnutrition.

Adolescents are known to be vulnerable to nutritional problems and may be caused by a number of factors. First is that this phase of life is where growth is at its peak biologically, psychologically, and sexually. Knowing that it is at its peak, intake following the recommended nutrient requirements should be fulfilled to prevent imbalanced nutrition but it is typically harder for them to be able to fulfill this requirement as they have changes in lifestyle due to external pressures. External pressures that may cause changes in lifestyle are such as social media and trends that create

beauty standards. These factors create higher pressures on teenagers and thus, alteration of dietary patterns to achieve a specific body image were followed through (Toral *et al.*, 2016). Other than the factors mentioned above, specific conditions such as pregnancy, alcohol and drug addiction, genetics, and food accessibility also cause teenagers to be more prone to nutritional imbalance. These factors too, contribute to the nutritional status imbalance in adolescents (Damayanti, 2016).

Malnutrition in adolescents may cause adolescents to experience several problems such as diet-related disorders, prevention of growth from various aspects and also nutritional disorders (ex. Kwashiorkor, obesity, stunting), especially for female adolescents due to the metabolism and the menarche factors (Nazemi *et al.*, 2015). As mentioned in Killerby *et al.*, (2020), Li *et al.*,(2020) and Yadav *et al.*,2020 earlier, adolescents and children with a diet-related chronic disorder is a major and high-risked patients of Covid-19, also, as adolescents are the future of Indonesia's development, thus a healthier generation should be created.

Study by Harper *et al.*, (1985) mentioned that proper nutritional knowledge allows appropriate food intake and eating behavior to be followed, such as food type wise, food portion wise and also eating pattern wise. Nutritional knowledge is known to be the knowledge of concepts and processes related to nutrition and health. For adolescents, not only the number of calories consumed are highlighted but also the type of nutrition is consumed to prevent malnutrition. It is important for teenagers to be able to achieve their ideal body image with appropriate nutritional guidance. Thus, it is important to address nutritional knowledge's importance towards the attitude and practice of adolescent's food choice, food intake, eating behavior and eventually concluded in the nutritional status adequacy. Without the right food choice and behavior, the right nutritional status cannot be fulfilled, and to grand the right food choice and behavior. Currently, studies mentioned that food choice and eating behavior of Indonesian adolescents is still inappropriate especially pre-pandemic with 78% of the population showing inappropriate food choice and eating behavior (Pujiati *et al.*, 2016)

One of the ways to achieve appropriate nutritional adequacy, is by knowing the level of nutritional knowledge mastered by the adolescents. A study by Nurcahya and Indrawati (2014) projected the inadequacy of Indonesian adolescent's nutritional knowledge with 37.2% correct portion of knowledge. As one of the most crucial phase of life, nutritional knowledge adequacy is important to help with the development of nutritious and balanced diet. Without the allotted nutritional knowledge, it is not easy for adolescents to create a nutritious food choice and eating behavior, hence, leading to insufficient intake of nutrients. Furthermore, in this pandemic situation, a lot of institutions and organizations shared nutritional knowledge to enhance body immune system to the public, but due to some restrains of limitations (ex. lack of social media accessibility) the information were not equally spread. Looking at this issue, hence, the assessment of nutritional knowledge towards eating behavior and food choice of female high school students in Jakarta should be analyzed.

1.2 Objective

- To assess the nutritional knowledge in relation to eating behavior and food choice among high school female students in Jakarta during Covid-19 pandemic.

1.3 Research Significance

- Socialize the importance of nutritional knowledge and exposure to healthy lifestyle towards the nutritional status of female high school students.
- The findings could be used as a supplementary literature for future researches.
- To stimulate other researches to create an intervention program to achieve appropriate nutrition and eating behavior towards high school female students.