

## CHAPTER 1

### INTRODUCTION

#### 1.1 Research Background

Sugar consumption among adolescents has increased. According to the World Population Review, there was a global increase in the intake of high-sugar foods, reaching 154.83 kg in 2019 and rising to 165.31 kg by 2022 in Luxembourg, with similar increases observed in various countries.<sup>1</sup> According to the 2018 Basic Health Research (RISKESDAS) data, the consumption of sweet foods in Indonesia was very high at 87.9%, while the consumption of sweet beverages reached 91.94%.<sup>2</sup> In Central Java, the prevalence of consuming high-sugar foods more than once a day among adolescents was 41.26%, while the consumption of sweet beverages more than once a day was 63.51%. In Batang Regency, the intake of high-sugar foods was 53.18%, while the intake of high-sugar beverages reached 85.15%.<sup>3</sup> In Zubaidah's 2020 study, the 13-18 age group tended to consume excessive amounts of sugar, accounting for 53.1%.<sup>4</sup> Female adolescents, in particular, frequently consume excessive amounts of sweet foods containing high sugar.<sup>5</sup> The excessive sugar consumption contributes to the risk of various health problems. One of the factors influencing sugar intake was food labeling.<sup>6</sup>

Food labels provided nutritional information, one of which was related to the amount of sugar in a product.<sup>7</sup> According to the Ministry of Health (KemenKes) in 2018, the recommended daily sugar intake is grams per person.<sup>8</sup> Food labels influence the

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<sup>1</sup> <https://worldpopulationreview.com/country-rankings/sugar-consumption-by-country>

<sup>2</sup> Kementrian Kesehatan RI. (2022). Gula Si Manis Yang Menyebabkan Ketergantungan Available from: [https://yankes.kemkes.go.id/view\\_artikel/1222/gula-si-manis-yang-menyebabkanketergantungan](https://yankes.kemkes.go.id/view_artikel/1222/gula-si-manis-yang-menyebabkanketergantungan)

<sup>3</sup> Riset Kesehatan Dasar Jawa Tengah (2018).

<sup>4</sup> Zubaidah, R. S. A. N. (2020). Pengembangan Preventive E-Education Berbasis Aplikasi Play Store untuk Membatasi Dependensi pada Asupan Gula, Garam, dan Lemak. Jurnal Penelitian Dan Pengembangan Pendidikan, 4(1)

<sup>5</sup> Mohamed, B. A., Mahfouz, M. S. and Badr, M. F. (2020) 'Food selection under stress among undergraduate students in riyadh, saudi arabia', Psychology Research and Behavior Management, 13, pp. 211–221. doi: 10.2147/PRBM.S236953.

<sup>6</sup> Roberto C, Wong D, Musicus A, Hammond D. 2016. *Pengaruh label peringatan kesehatan pada minuman manis yang mengandung gula terhadap pilihan orang tua*. Pediatrics. 2016;137(2):e20153185.

<sup>7</sup> Kemenkes RI. 2019. Penting, Ini yang Perlu Anda Ketahui Mengenai Konsumsi Gula, Garam dan Lemak.

<sup>8</sup> Kementrian Kesehatan, 2018

attitude toward choosing safe foods that matched consumer needs.<sup>9</sup> In addition, food labels impact snack habits and eating patterns among female adolescents and helping consumers understand the content of products, which affected their purchasing intentions.<sup>10,11</sup> However, many people nowadays do not pay attention to food labels. According to data from the National Consumer Protection Agency (BPKN), only 7.9% of people in Indonesia read and consider the nutritional information on packaged food products.<sup>12</sup>

Food labels influenced food selection attitudes, as research by Haidar et al. (2017) indicated that a factor influencing the food selection attitude among female adolescents was the habit of reading food labels.<sup>13</sup> With the presence of food labels, respondents were very concerned about the sugar content in the foods or beverages they consumed.<sup>14,15</sup> According to the research by Sajdakowska (2022), respondents stated that they tended to read food labels, paid attention to low sugar content when choosing a product.<sup>16</sup>

Food labels impacted on eating patterns, particularly snack consumption, leading to the selection of foods with better nutritional content.<sup>17</sup> Food labels play an important role as a guideline for better eating habits. Consumers who do not read food labels tend to consume food products with higher sugar content compared to those who read food

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<sup>9</sup> Firdayanti, Fannia Dwi (2024) *Menentukan Perilaku Membaca Label Gizi Produk Pangan Kemasan pada Mahasiswa di Kabupaten Jember*. Tesis Sarjana, Politeknik Negeri Jember.

<sup>10</sup> Margarini Dita, 2021, *Pengaruh Edukasi Nutrition Facts Terhadap Pemilihan Makanan Kemasan Remaja di Kota Yogyakarta*, Ilmu Kesehatan Masyarakat, Universitas Gajah Mada

<sup>11</sup> Priscillia Angela Gunawan., Yohanes Sondang Kunto. 2022. *Pengaruh Brand Image Dan Nutrition Label Terhadap Keputusan Pembelian Mie Instan Lemonilo: Efek Moderasi Orientasi Makanan Sehat*. Jurnal Manajemen Pemasaran, Vol. 16, No. 1, April 2022, 48–56 doi: 10.9744

<sup>12</sup> Badan Perlindungan Konsumen Nasional. 2013.

<sup>13</sup> Haidar, A., Felicia R Carey, Nalini Ranjit, Natalie Archer, Deanna Hoelscher (2017). Self-reported use of nutrition labels to make food choice is associated with healthier dietary behaviours in adolescents. *Public Health Nutrition*, 20 (13), pp. 2329-2339. doi: 10.1017/S1368980017001252

<sup>14</sup> Azizah, F. 2019. *Pengetahuan Dan Perilaku Terkait Label Gizi Dan Keputusan Pembelian Makanan Ringan Siap Santap*.”

<sup>15</sup> Shafiah Dhanisa Minati, Arindah Nur Sartika. 2022. *Hubungan Tingkat Pengetahuan Terkait Label Gizi Terhadap Sikap Konsumsi Produk Minuman Kemasan Mahasiswa Program Studi Perencanaan Wilayah Dan Kota Universitas Pasundan Bandung*. Jurnal Ilmu Gizi Indonesia (JIGZI). Vol. 3, No. 2, September 2022

<sup>16</sup> Sajdakowska, Marta., Gebiski, Jerzy., et al., (2022) “Evaluation of Food Labelling the Products with Information Regarding the Level of Sugar: A Preliminary Study”, *Nutrients*, 14(2697).

<sup>17</sup> Chairunisa Nur Rarastiti. 2023. *Hubungan Membaca Label Pangan terhadap Pemilihan Makanan Kemasan pada Mahasiswa Gizi Universitas IVET*. Termometer: Jurnal Ilmiah Ilmu Kesehatan dan Kedokteran. Vol.1, No.4 Oktober 2023. DOI: <https://doi.org/10.55606/termometer.v1i4.2344>



labels.<sup>18</sup> Labeling activities helped consumers avoid or reduce excessive nutrient intake that could lead to health issues related to eating patterns.<sup>19</sup>

Food labels influence purchasing intentions in attractive products with low sugar content.<sup>20</sup> According to Tata Yuliza's research (2019), purchasing intentions was part of consumer behavior factors.<sup>21</sup> Purchasing intentions occurred because the information provided on food labels created consumer confidence in the product and satisfaction when the information met their needs.<sup>22</sup> The ability to read food labels is one factor that influenced consumers' decisions before purchasing or consuming a processed food product.<sup>23</sup>

Students of SMP 1 Reban spent much of their time engaging in school activities. Most students consumed food available at school, with limited choices from what was provided in the canteen. However, the school canteen is dominated by packaged food and beverage products. The students' choices in consuming food and drinks influence their health status. The ability to read food labels is essential because it helped teenagers control their sugar intake.<sup>24</sup> Unique food labels could attract consumers to choose the right foods.<sup>25</sup> Therefore, creating unique food labels is crucial to increasing consumer purchasing intentions and encouraging attention to food labels.<sup>26</sup>

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<sup>18</sup> Fitri, N. F. N., Metty, M., & Yuliati, E. (2020). Hubungan Pengetahuan Dan Kebiasaan Membaca Label Informasi Nilai Gizi Makanan Kemasan Dengan Status Gizi Pada Mahasiswa Asrama Kutai Kartanegara Di Yogyakarta. *Jurnal GIZIDO*, 12(1), 45–54. <https://doi.org/10.47718/gizi.v12i1.1120>

<sup>19</sup> Ika Ratna Palupi., Novita Dhian Naomi., Joko Susilo. 2017. Penggunaan Label Gizi dan Konsumsi Makanan Kemasan pada Anggota Persatuan Diabetisi Indonesia. *Kes Mas: Jurnal Kesehatan Masyarakat*, Vol. 11, No. 1, March 2017, pp. 1 ~ 8

<sup>20</sup> Rut Mila Sari., Sudrajah Warajati Kisnawaty., Siti Nurokhmah., Pramudya Kurnia., Fitriana Mustikaningrum. 2023. Hubungan Antara Pengetahuan Mengenai Label Informasi Nilai Gizi dengan Pembelian Makanan Instan dan Snack Tinggi Kalori pada Mahasiswa Program Studi Teknik Kimia Universitas Muhammadiyah Surakarta. *Nutrire Diaita* Vol.15, No.02, Oktober 2023,p. 46-53.

<sup>21</sup> Tata Yuliza. 2020. *Pengaruh Produk Halal Terhadap Minat Beli Konsumen Dengan Sertifikasi Halal Sebagai Variabel Intervening Pada Toko Zulaikha Medan*. Skripsi. Universitas Medan Area

<sup>22</sup> Pratihara. P.H.K., Ariyawardana. A.A 2017. Impact of Nutrition Labeling on Consumer Buying Behavior

<sup>23</sup> BPOM RI. 2020

<sup>24</sup> Dewi Prabawati, Dely Rostiana, Oktaviani Wiwiek Subekti. (2023). Waspada! Prediabetes dan Cegah Gaya Hidup Sedentary pada Usia Remaja. *Prosiding SENAPAS* Vol. 1, No. 1, Juni 2023

<sup>25</sup> Cindita Ginting & Febriana Andini Hartat. 2023. Analisis Minat Beli Konsumen Berdasarkan Kemasan Produk Makanan dan Minuman. *Akademi Kuliner Monas Pasific*. Volume 7 Nomor 3 Tahun 2023

<sup>26</sup> Gusti Ayu Sinta Jelantik. 2024. Pengaruh Brand image dan Nutrition label terhadap Keputusan Pembelian dengan Gaya Hidup Sehat Sebagai Variabel Moderasi (Studi Pada Konsumen Fitbar Di Kota Denpasar). *Jurnal MIMBAR ADMINISTRASI*. Vol.21, No.1 April 2024. e-ISSN: 2581-1010; p-ISSN: 0854-3542, Hal 77-102

Food labels indicating high sugar content served as a warning to consumers that the product contained excessive amounts of sugar. Foods high in sugar can increase the risk of various diseases, such as diabetes, obesity, and other metabolic disorders. The impact of consuming carbohydrates and sugar was also mentioned in the teachings of Allah SWT in the Qur'an,<sup>27</sup> Specifically in Surah Al-Maidah, verse 87, which states:

Meaning: *O you who have believed, do not prohibit the good things which Allah has made lawful to you and do not transgress. Indeed, Allah does not like transgressors.*

Tafsir As-Sa'di on Surah Al-Maidah verse 87, Sheikh Abdurrahman bin Nashir As-Sa'di explains that this verse contains two main prohibitions in terms of food. First, the prohibition of forbidding something that is lawful. Allah admonishes the believers not to forbid the food that He has forbidden. Secondly, this verse prohibits exceeding limits in food consumption, known as israf (exaggeration). As-Sa'di interprets (do not exceed the limits) as a warning to Muslims not to go overboard in anything, including eating and drinking.<sup>28</sup>

This study focused on female adolescent to evaluate the impact of high-sugar food labels on their food selection attitudes by providing education to raise awareness about the effects of excessive sugar consumption and support healthy decision-making.<sup>29</sup> Unhealthy snacking patterns, such as excessive consumption of high-sugar foods, become one of the factors contributing to the increased risk of obesity, diabetes, and other health problems among female adolescents. High-sugar food labels could influence their snacking patterns toward healthier choices.<sup>30</sup> The purchasing intentions in high-sugar foods among adolescent females is often influenced by product packaging and visual appeal without considering the nutritional content. Warning labels on high-

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<sup>27</sup> Maulana Setiawan., Ichsan Wiratama., Alif Sulaeman. 2022. Peranan Karbohidrat Dalam Perspektif Al-Qur'an. Educatoria: Jurnal Ilmiah Ilmu Pendidikan. E-ISSN 2808-2699; P-ISSN 2808-361X. *Volume 2, Issue 4, October 2022; Page, 257-266*

<sup>28</sup> Abdur-Rahman Nasir as-Sa'di. 2018. Tafseer as-Sa'di V ol. 1 (juz 1-3). Samo Press Group, Beirut

<sup>29</sup> Chairunisa Nur Rarastiti. 2023. Hubungan Membaca Label Pangan terhadap Pemilihan Makanan Kemasan pada Mahasiswa Gizi Universitas IVET Semarang. Jurnal Ilmiah Ilmu Kesehatan dan Kedokteran. Vol.1, No.4 Oktober, Hal 12-21

<sup>30</sup> Dzakiyya Sabriani Maziyah, Teddy Wahyu Nugroho, A. Fahmy Arif Tsani, Fillah Fithra Dieny. Konsumsi Jajanan Kaitannya Dengan Asupan Gula, Garam, Lemak Pada Remaja Jepara Selama Pandemi Covid-19. Journal of Nutrition College. Volume 12, Nomor 2, Tahun 2023, Halaman 113-120



sugar foods are expected to encourage the consumption of more nutritious foods.<sup>31</sup> Based on this study, it is hoped that interventions involving high-sugar food labels will be implemented to observe their impact on food selection attitudes, snacking patterns, and purchasing intentions among female adolescents.

## **1.2 Research Problems**

Is there an influence of high-sugar food labels on food selection attitudes, snacking patterns, and purchasing intentions among female adolescents?

## **1.3 Research Objectives**

### **1. General Objective**

The objective of this research was to analyze the influence of high-sugar food labels on food selection attitudes, snacking patterns, and purchasing intentions in female adolescents.

### **2. Specific Objectives**

- a. To describe the characteristics of the respondents.
- b. To analyze the influence of high-sugar food labels on food selection attitudes among female adolescents.
- c. To analyze the influence of high-sugar food labels on snacking patterns among female adolescents.
- d. To analyze the influence of high-sugar food labels on purchasing intentions among female adolescents.

## **1.4 Research Benefits**

### **1. Theoretical Benefits**

The theoretical benefits included the implementation or application of learning, as well as the expansion of insights into the influence of high-sugar food labels on food selection attitudes, snacking patterns, and purchasing intentions among female adolescents.

### **2. Theoretical Benefits**

The practical benefits involve providing interventions on high-sugar food labels to influence attitudes toward food choices, snacking patterns, and purchase

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<sup>31</sup> Desta Chandra Safitri. 2023. Pengaruh Edukasi Label Informasi Nilai Gizi Terhadap Pengetahuan Dan Sikap Pemilihan Makanan Kemasan Pada Remaja Usia 16-18 Tahun Di Kota Palembang. Universitas Sriwijaya

intentions. Additionally, it aims to improve the quality of labels on consumed food products.

### 1.5 Authenticity Research

Table 1. Authenticity Research

No	Research Title	Research Design	Variables	Results	Differences with the Research
1.	Predicting obesity reduction after implementing warning labels in Mexico: A modeling study. <sup>32</sup>	Experimental desain simulation modeling study	Dependent: Warning label Independent: Obesity	The calorie reduction was 36.8 kcal/day/person (23.2 kcal/day from beverages and 13.6 kcal/day from snacks). Five years after the implementation, this calorie reduction was able to decrease weight by 1.68 kg and reduce obesity by 4.98 percentage points (pp) (14.7% compared to the baseline), which translated to a reduction of 1.3 million obesity cases and a direct cost reduction of US\$1.8 billion as well as indirect costs.	Dependent: Food selection attitudes, eating patterns, and food purchase intentions. Independent: Food labels. Research Method: Quasi-experimental
2.	The impact of front-of-package traffic lights (FoPTL) in the senior School students' Nutrition Labels Comprehension <sup>33</sup>	Quasi-Experimental design with pre-test study	Dependent: Nutrition labels comprehension Independent: The impact of front package traffic light (FoPTL)	There was significant difference in nutrition label comprehension between the intervention and control groups ( $p < 0.05$ ), with the intervention group scoring higher (39.17 points) compared to the control group (20.63 points).	Dependent: Food selection attitudes, eating patterns, and food purchase intentions. Independent: Food labels.
3.	Alasan memilih makanan dan kebiasaan mengonsumsi makanan sehat pada mahasiswa	Cross sectional design with an observational study	Dependent: Habit of consuming healthy food Independent: Reasons for choosing food	As much as 48% of female students had the habit of consuming healthy food, while the remaining 52% had the habit of consuming less healthy food. Meanwhile, 55% of male students had the habit of consuming healthy food, and the remaining 45% had the	Dependent: Food selection attitudes, eating patterns, and food purchase intentions. Independent: Food labels. Research

<sup>32</sup> Ana Basto-Abreu, Rossana Torres-Alvarez, Francisco Reyes-Sánchez, Romina González Morales, Francisco Canto-Osorio, M Arantxa Colchero, Simón Barquera, Juan A Rivera, Tonatihu Barrientos Gutierrez. 2020. *Memprediksi penurunan obesitas setelah penerapan label peringatan di Meksiko: Sebuah studi pemodelan*. Jurnal Medis PLoS. 10.1371/journal.pmed.1003221.

<sup>33</sup> D Retno dan Fatmah. 2019. *Dampak Lampu Lalu Lintas Depan Kemasan (FoPTL) terhadap Pemahaman Label Gizi Siswa Sekolah Menengah Atas*. Current Research in Nutrition and Food Science. Vol. 07, No. (3) 2019, Pg. 918-926

No	Research Title	Research Design	Variables	Results	Differences with the Research
	UNESA Ketintang. <sup>34</sup>			habit of consuming less healthy food.	Method: Quasi-experimental
4.	Gambaran Kebiasaan Membaca Label Makanan Pangan Berdasarkan Status Gizi Mahasiswa Gizi Poltekkes Kemenkes Bengkulu. <sup>35</sup>	Cross-sectional design with pre-test study	Dependent: Nutritional status Independent: Overview of the habit of reading food labels	The habit of reading food labels on average is not good. The habit of students reading food labels based on nutritional status is that adolescents with obese nutritional status have more consumption patterns that are not good. The characteristics of students of the Nutrition Department of the Poltekkes Kemenkes Bengkulu show an average age of 19 years and the majority are female. Most students have the habit of reading food labels in the poor category.	Dependent: Food labels. Independent: Food selection attitudes, eating patterns, and food purchase intentions Research Method: Quasi-experimental
5.	Hubungan pengetahuan, keterampilan, kebiasaan membaca label gizi pada makanan kemasan dengan status gizi siswa SMA Negeri 2 Playen Kabupaten Gunung Kidul. <sup>36</sup>	Cross sectional design with an observational study	Dependent: Nutritional status Independent: The relationship between knowledge, skills, and the habit of reading nutritional labels on packaging	The study showed that the majority of respondents had good knowledge of nutrition labels (43.3%), the majority had good skills in reading nutrition labels (41.1%), the majority had moderate habits of reading nutrition labels (35.6%), and the majority had good nutritional status (58.9%).	Dependent: Food selection attitudes, eating patterns, and food purchase intentions. Independent: Food labels. Research Method: Quasi-experimenta

<sup>34</sup> Dilla Ratih, Amalia Ruhana, Nugrahani Astuti, Asrul Bahar. 2022. *Alasan Pemilihan Makanan Dan Kebiasaan Mengonsumsi Makanan Sehat Pada Mahasiswa Unesa Ketintang*. Jurnal Tata Boga. Vol. 11 No. 1 (2022) 22-32

<sup>35</sup> Treza Juniasari, Meriwati, dan Ahmad Rizal. 2023. *Gambaran Kebiasaan Membaca Label Pangan Berdasarkan Status Gizi Mahasiswa Gizi Poltekkes Kemenkes Bengkulu*. Svasta Harena Raflesia. Vol. 2, Nomor 2 (2023), Desember 2023

<sup>36</sup> Alfira Bkti Nur Isnaini. 2022. *Hubungan Pengetahuan, Keterampilan, Kebiasaan Membaca Label Gizi Pada Makanan Kemasan Dengan Status Gizi Siswa Sma Negeri 2 Playen Kabupaten Gunungkidul*. Universitas Islam Negeri Walisongo