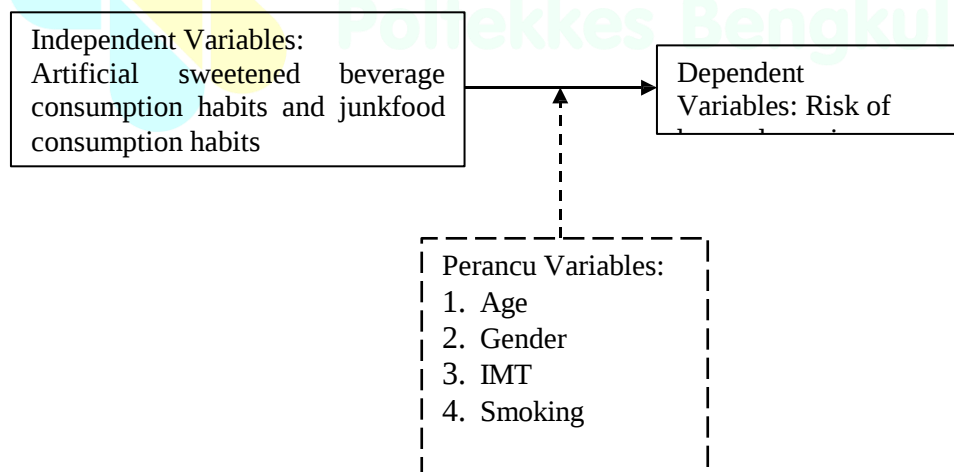


CHAPTER III

CONCEPTUAL FRAMEWORK, RESEARCH VARIABLES AND OPERATIONAL DEFINITION

A. Concept Framework

Conceptual frameworks are abstractions from a reality so that they can be communicated and form theories that explain the relationships between variables. The conceptual framework in this study was developed based on a theoretical review of risk factors for hyperglycemia in adolescents. The independent variables in this study were Consumption Habits of Artificially Sweetened Beverages and *Junk Food Consumption Habits*. The dependent variable is the Risk of Hyperglycemia. This study used questionnaires and blood sugar measurements to find out the results of the relationship between the above variables. Based on the description of these concepts, the conceptual framework in this study is:



Description :



: Yang area of teillites



: Yang area of teillites

Chart 3. 1 Concept Framework

B. Operational Definition

The operational definition describes how to measure research variables in a specific, measurable, and objective way.

Table 3. 1 Operational Definition

Variabel	Operational Definition	How to Measure	Measuring Instruments	Measurement Results	Scale
Independent: Consumption Habits of Artificially Sweetened Beverages	The frequency of respondents consuming drinks that contain added sugar or artificial sweeteners (such as soda, packaged tea, boba/coffee drinks).	Filling out the questionnaire	<i>Beverage Intake Questionnaire for Adults</i> (BEVQ)	0 = High, if the consumption of sugar from sweetened beverages >20x/month 1 = Low, if the consumption of sugar from sweetened beverages ≤20x/month (Rahayu et al., 2024)	Ordinal
Junk Food Consumption Habits	The frequency of respondents consuming fast food that is high in calories, saturated fat, and salt (such as burgers, pizza, flour fried chicken, instant noodles) in the past month.	Filling out the questionnaire	<i>Kuesioner Food Frequency Questionnaire</i> (FFQ)	0 = Frequent (Risky) Consumption Score = 18 >Median (Score) 1 = Rare (Not at Risk) Consumption Score $18 \leq$ Median Angeline & Wartiningsih, (2023)	Ordinal

Dependent: Risk of Hyperglycemia	The condition of the respondents' current blood glucose level (GDS) measured using a capillary blood test device, depicting a metabolic status glucose at that time.	Physiological Observation Measurement	Easy Touch /Digital Glucometer and Blood Sugar Strip	- 0 = Hyperglycemia (at risk) if GDS ≥ 140 mg/dL. 1 = Normal, if GDS < 140 mg/dL. (Dwi Yuliana Silvia, 2024)	Ordinal
Variables Perancu: Age	The length of life of the respondents calculated from the date of birth to the time the study was conducted (in years).	Filling out the questionnaire	Characteristics Questionnaire (Biodata)	0 = Late Teens (17-25 years old) 1 = Early Adolescence (12-16 years)	Ordinal
Gender	The biological identity of the respondent was carried from birth.	Filling out the questionnaire	Characteristic Questionnaire	- 0 = Women - 1 = Male	Nominal
Body Mass Index (BMI)	The nutritional status of the respondents was based on the comparison of body weight (kg) and height (m squared).	Anthropometer Measurements	Body Scales & Microtoise	0 = Obesitas/ Overweight ($\geq 25,0$) 1 = normal / which ($< 25,0$)	Ordinal

Smoking	Respondents' behavior in actively consuming or smoking tobacco products (conventional cigarettes) or e-cigarettes (vapes) in the last 30 days.	Interview / Filling out the questionnaire	Characteristic Questionnaire	0 = Smoker, If the Nomina 1 respondent smokes daily or occasionally. 1 = Non-Smoker, If the respondent does not merokok. ((Pito et al., n.d.)
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C. Research Hypothesis

Ha: There is a relationship between the consumption of artificial sweetened drinks and *junkfood* with the risk of hyperglycemia in adolescents at SMA Negeri 1 Bengkulu City.

H0: There was no relationship between the consumption of artificial sweetened drinks and *junkfood* with the risk of hyperglycemia in adolescents at SMA Negeri 1 Bengkulu City.