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Analysis of Fish Consumption Level among High School Students in Koto Tangah District, Padang City, Indonesia

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Abstract. **The low level of interest in fish consumption is reported to impact the nutritional conditions of students. In this context, the average level of consumption is 48.31 kg/capita/year, which is lower than the national standard of 55.27 kg/capita/year. Therefore, this research aimed to analyze the factors influencing level of fish consumption in high school students in Koto Tangah District, Padang City. A total of 2,690 respondents from Senior High Schools 7, 8, and 13 in Koto Tangah District, Padang City were used. Students who became respondents were registered and active in grades 1 and 2 of high school. Meanwhile, data were analyzed through the application of multiple regression models. The variables utilized in the investigation of fish consumption level included Student Age (X1), Student Taste/Attitude (X2), Parental Income (X3), Total of Family Members (X4), Parental Knowledge of Nutrition (X5), Parental Education Level (X6), Fish Price (X7) towards consumption level (Y). The results showed that children's taste or attitude, parents' income, knowledge of nutrition, and prices influenced level of fish consumption in high school students. Level of fish consumption in children was mostly influenced by taste or attitude factors with a t-value of 4.481> 1.650713 and a importance level of less than 0.05.**

Keywords: **Fish consumption, High school students, Padang city.**

1. Introduction

Adolescent children are developing preferences and tastes concerning the selection of food. In this context, fish is reported as a food source with good nutritional content for growth. Additionally, 6 fatty acids, omega 3, vitamins, and various minerals are beneficial for maternal health and fetal brain growth (Nurjanah et al. 2010). Fish is a distinctive source of protein and long-chain unsaturated fatty acids. Devadawson et al (2015) reported that fish was predominantly consumed at lunch (64%), with 25% of individuals including the protein source in breakfast, lunch, and dinner, while 11% consumed during breakfast or dinner only. According to Sousa et al (2016), environmental factors are interconnected with sociocultural aspects shaped by the society's economic and social context. Richter et al (2017) stated that sustainable seafood consumption behavior was largely determined by the strength of intention, social norms, beliefs, awareness, as well as pro-environmental attitudes. Price is the most important factor influencing the decision to purchase fishery products, while product strategy has less influence (Ratcliffe et al 2011). Consumer targets differ between the upper middle class in urban areas such as office workers, and graduates. The focus is on food safety such as product and market cleanliness, as well as no contamination. High-income consumers expect a higher level of convenience in the market, such as easy accessibility, service, and availability of parking space, as reported by Kessuvan et al, (2015).

According to (Talab et al., 2014), cooking methods must have access to technology to reduce heavy metals in fish. Modern cooking techniques like microwaving and halogen cooking help to reduce heavy metal levels significantly. Several research on fisheries consumption behavior in Asia and developing countries have been conducted by (Foltz et al, 1999, Houston and Li, 2000, Li et al, 2000, Tuu et al, 2008, Pethiyagoda and Olsen, 2012). The findings indicated that demographic and socio-economic factors influenced purchasing decisions. The low interest of students in consuming fish has an impact on students' nutritional conditions. There are 3 State Senior High Schools 7, 8, and 13 located in sub-districts adjacent to the coast of Padang City. The knowledge about the factors influencing students' interest in consuming fish increases the number of consumers in West Sumatra. Waysima et al., (2010) and (Houston & Li, 2000) found that children preferred to consume processed chicken or beef compared to processed fish.

School-age children are a vulnerable group experiencing nutritional problems during development (Anzarkusuma, et al., 2014). Fish is a food ingredient containing omega-3 for increasing intelligence. Consuming fish three and five times daily and weekly leads to the effective development of children's brains, memory, and learning ability (Pati et al, 2015). Health Benefits of Fish Consumption in School Children and Adolescents include improved cognitive performance and academic achievement and prevention of chronic diseases (Rahmawaty, 2013). Adolescents are not passive consumers, meaning that children no longer only receive food from what their mothers provide (Nurjanah et al. 2010). Nutritional status indicators can cause underweight, stunting, and wasting in children. According to Food and Agriculture Organization (FAO, 2015), the average money spent on fish consumption by households is $24.48. Adeniyi et al (2012) stated that monthly expenditure on fish, food, and animal protein was related. Richter et al., 2017 suggested that targeting consumer behavior was an important component in maintaining marine resources. The industry is expected to supply sustainable seafood products by increasing the demand for sustainable seafood. The behavior of fish consumption is driven by intention, trust, and awareness of seafood product label guideline.

Ajzen, (2001) stated that attitude was a summary evaluation of psychological objects obtained from attribute dimensions such as good-bad, harmful-beneficial, pleasant-unpleasant, or like-dislike. Positive or negative beliefs can also influence consumption pattern of the product. Attitude is formed through beliefs about taste, dislike, nutritional value, ease of preparation, familiarity, and freshness of fish as reported by Olsen (2003). The concept is determined by the experience of Ratcliffe et al (2011). Therefore, positive experiences in consuming seafood are assumed to create positive beliefs and reduce negative beliefs. Skepticism regarding new seafood products can be alleviated (Altintzoglou et al., 2010). According to Maciel et al., 2016, the behavior of consuming fish in Brazil showed that consumers are unsatisfied with the diversity and quality of fish products in the market. The desire to consume fish played a key role in mediating the connection between attitude and consumption behavior (Junaidi et al, 2019), (Junaidi, et al, 2020). The average money spent on fish consumption by households is $24.48. Seafood consumption varies widely across countries, households, and individuals (Olsen 2004). At the country level, European countries consume 20 kg of fish per capita and 39 kg in Indonesia (Tran et al. 2017). The research streams on individual fish consumption behavior identified were socioeconomic, demographic, and psychological perspectives (Olsen 2003). From a psychological perspective, food consumption behavior and choices are explained by social norms, beliefs, attitudes, motivations, knowledge, as well as other variables (Shepherd and Raats 1995). Fish is consumed for diet and nutrition (Carlucci et al. 2015). Consuming fresh fish at least twice a week has a positive effect on health (Sioen et al. 2008).

The average money spent on fish consumption by households is $24.48. Adeniyi et al (2012) stated that monthly expenditure on fish, food, and animal protein was related. Richter et al. (2017) proposed that influencing consumer behavior plays a crucial role in preserving marine resources. Through promoting greater demand for sustainable seafood, the industry is allowed to supply more products, and consumption behavior of fish is driven by the intention, trust, and awareness of the labeling guidelines. The nutritional composition of fish varies and is influenced by species, gender, maturity level (age), season, spawning cycle, and geographic location. The protein content of fish is influenced by water and fat content. Finfish contains 16-24% protein but can reach 35% in processed fish. The proportion of collective protein in fish is lower than in livestock meat, which is 3-5% of the total. This causes fish meat to be more tender (Khomsan, 2004), Kesuvan et al, 2015). The average money spent on fish consumption by the average household is $24.48.

According to Nurulhaq et al. (2022), there was no significant correlation between the contribution of fish protein and the adequacy level. Nutritional status showed no correlation with the level of fish consumption or socioeconomic factor, such as father's education, parental income, and family size. The low interest of students in consuming fish has an impact on nutritional condition. State Senior High Schools 7, 8, and 13 are schools located in sub-districts adjacent to the coast of Padang City. The knowledge about the factors influencing students' interest increases fish consumption rates in West Sumatra. Waysima et al., (2010) found that children prefer to consume processed chicken or beef compared to fish.

Fish is an animal food source containing various substances needed by the human body. The absorption rate of fish contains more protein than other animal products like beef and chicken. This is because fish meat has protein with essential and nonessential amino acids. The variety of fish types is also very diverse with several advantages, containing omega 3 and 6, as well as amino acids (Pandit, 2008). In children, food acceptance patterns are influenced by parents through permitted foods, and social context (Birch, 2002), specifically mothers in increasing healthy food intake (Brown and Ogden, 2004).

Fish consumption is significantly associated with maternal education. However, no significant relationship has been reported between nutritional status and socioeconomic characteristics (Nurulhaq, et al, 2022). Sokib, et al (2012) reported that increasing consumer education led to a shift from fresh fish consumption to processed products. According to Suryawati, et al (2016), the choice of fish consumption in fresh form has shifted with the increasing education of consumers. This is considered important because fish supplies are the first activity towards consumption. Berg and Muscat (1985) in Nurjannah (2010) stated that increasing the food supply was the best method to meet nutritional needs (Rahfiludin et al., 2004) The results showed a significant increase in various aspects such as knowledge, skills, and attitudes in consuming fish.

According to Gilbert (2000), the obstacles estimated to affect mothers as the family menu determinants in providing sea fish are the perceptions about the difficulty of buying, cleaning, and processing as well as high price of fish. Fish is recommended for consumption compared to animal meat, specifically for people suffering from cholesterol and blood pressure or heart disorders (Suhartini and Hidayat, 2005). However, understanding the physical characteristics that differentiate fresh fish from rotten is essential to avoid spoilage. Rotten fish is not good for consumption since bacteria are harmful to health. Pseudomonas and Achromobacter bacteria are psychrophilic and often cause fish to rot. This is because fish is relatively faster to rot than mammalian and poultry meat (Nurjannah, 2010). Community preferences for fish show a homogeneous preference pattern. In addition, community preferences for fish show a homogeneous pattern. Indriana and Widayanti (2006) reported that the higher the income and knowledge of a mother's nutrition, the greater the availability of fish in urban households.

2. Research Methods

The implementation method uses a survey, meaning an in-depth investigation or critical assessment to obtain relevant information on a given problem.. The population was all Senior High School Students 7, 8, and 13 in Koto Tangah District, Padang City with a total of 2,690 students.

Table 1. Research Sample

No School	Population (students)	Sample (students)
Senior High School 7	980	90
Senior High School 8	877	89
Senior High School 13	833	89
Total	2,690	268

Sampling of each group is carried out using a simple random method to select samples. The members of the population are selected randomly hence members of the population have an equal opportunity to be selected.

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a. Primary Data

Primary data is taken directly from respondents through a questionnaire (Appendix 1). The operational definition of the variables used is provided in Table 2.

Table 2. Primary Data and Operational Definitions during the Analysis of Factors Affecting

Fish Consumption Research

No	Primary Data	Operational definition
1	Fish Consumption Rate (Y)	Level of fish consumption consumed by students during the last week.
2	Student Age (X1)	The age of students who were respondents, and the unit used is years.
3	Student Taste / Attitude (X2)	Students' attitudes and tastes in consuming fish in processed form. The unit used is a score of 1 - 5.
4	Parental Income (X3)	Household income earned by student's parents. The unit used is rupiah, which will then be used as a score on a scale of 1 - 4.
5	Number of Family Members (X4)	Many family members are living under one roof. The unit used is the number of people which will be changed to a score on a scale of 1-4.
6	Parental Knowledge of Nutrition (X5)	Level of parental knowledge about fish nutrition. The questionnaire is submitted to the parents of students. The unit used is the assessment of parental ability which will be changed into a score with a scale of 1-4.
7	Parental Education Level (X6)	This is the formal education taken by student's parents. The units used are elementary school, junior high school, high school, and college.
8	Fish Price (X7)	This is the price of fish and the unit used is the assessment of the questionnaire changed into a score with a scale of 1-4.

b. Secondary Data

Secondary data is obtained by citing reports or documents from institutions or agencies related to the research. There are various sources of secondary data, including other people's research, journals, literature, and official documents from various government agencies. Furthermore, secondary data refers to information arranged in tables by primary data collectors or other parties, diagrams, newspapers, and the Internet. These data are obtained from related agencies as supporting data for the objectives of the problem and the benefits of the research and hypothesis.

c. Data Collection Methods

Data collection must be conducted to achieve the purpose of writing. In this research, several data collection methods were used, namely.

(1). Interview

Interviews involve gathering information for research by asking questions and recording responses. The method used is a structured interview through a list of questions (questionnaires) to determine the factors influencing high school students in consuming fish (Senior High School 7, 8, and 13) (Wirartha and Made 2016). The preparation of the questionnaire refers to the 2007 Socio-Economic Survey (Susenas) Book and the 2011 Susenas Consumption Module Enumeration Guidelines.

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(2). Observation

Observation is a deliberate and systematic research of social and natural phenomena using observation and recording. The purpose is to understand the characteristics and extent of human behavioral elements in complex social phenomena (Wirartha and Made 2016).

(3). Documentation

Documentation is derived from the term "word document," which refers to written materials. In research activities, the concept includes the examination of sources such as books, official records, regulations, and other written materials relevant to the problem.

d. Data Analysis

Data analysis was conducted qualitatively and quantitatively to determine the description of the factors influencing level of fish consumption of high school students in Koto Tangah District, Padang City. Quantitative analysis was carried out to determine the effect of factors influencing level of consumption in high school students.

e. Analysis of Consumption Level Factors

Consumption level factor can be analyzed using a multiple-regression model. Fish consumption level factors have an influence on Student Age (X1), Student Taste/Attitude (X2), Parental Income (X3), Total of Family Members (X4), Parental Knowledge of Nutrition (X5), Parental Education Level (X6), Fish Price (X7), and consumption level (Y). The multiple regression analysis equation refers to the Cobb-Douglass production function as follows.

$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \ldots\ldots\ldots\ldots e$

Description:

Y = Level of fish consumption

a = Constant,

b = Multiple regression coefficient

X1 = Student age

X2 = Student taste/attitude

X3 = Parental income

X4 = Total of family members

X5 = Parental knowledge of nutrition

X6 = Parental education level

7 = Fish Price

b1, b2, b3, ...bn = regression coefficients.

e = Error

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3. Results and Discussions

Figure 1: Research Location Image

Analysis of Fish Consumption Levels among High School Students in Koto Tangah District, Padang City.

Level of fish consumption was conducted at High Schools 7, 8, and 13 Padang. The schools are expected to represent all high schools in Koto Tangah District, Padang City.

Classical Assumption Analysis

Classical regression assumptions are upheld, with no evidence of multicollinearity or heteroscedasticity

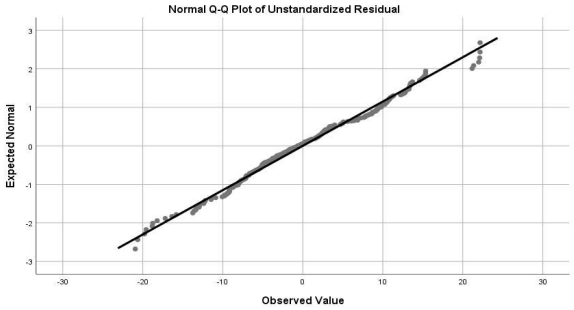

Figure: 2. Result Normality test

The purpose of this test is to evaluate intercorrelations between independent variables. A good regression model should not exhibit multicollinearity among independent variables. The presence or absence of correlation can be detected by analyzing the tolerance value and Variance Inflation Factor (VIF). A regression model free from multicollinearity symptoms has a tolerance and VIF values of more than 0.1 and less than 10, respectively.

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Table 3. Multicollinearity Test Results

Coefficients[a]		
	Collinearity Statistics	
Model	Tolerance	VIF
Student Age	.953	1.050
Student Taste/Attitude	.313	3.194
Parents' Income	.368	2.715
Number of Family Members	.956	1.046
Parents' Knowledge of Nutrition	.348	2.870
Parents' Education	.947	1.056
Price of Fish	.380	2.631

Based on Table 3, the multicollinearity test shows that the independent variable has the lowest and highest tolerance values of 0.313 and 0.953 in Taste/Attitude and student's age variable. The lowest and highest VIF scores of 1.046 and 3.194 are related to the number of family members and attitude/taste. Therefore, the model shows no signs of multicollinearity, indicating that the independent variables are not correlated.

The heteroscedasticity test aims to determine the variance disparity in the residuals between observations. An important method for detecting the presence or absence is by analyzing the pattern on the graph. The basis of the graphical analysis showed a wavy, widening, and narrowing pattern, indicating a heteroscedasticity problem. In contrast, the points are spread out in the absence of a clear pattern and heteroscedasticity problem.

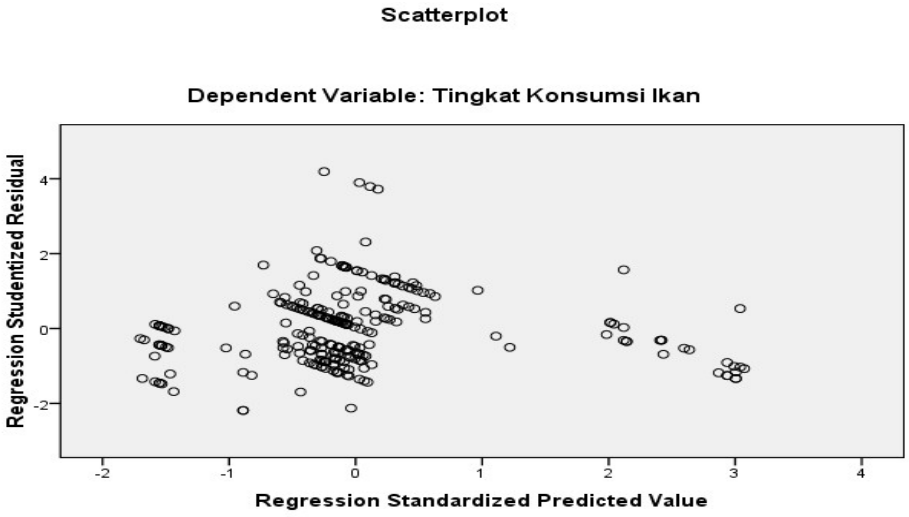

Figure 3. Scatterplot graph

From Figure 3, the points have spread out without forming a certain pattern. The regression model appears to be free from heteroscedasticity concerns. Therefore, residual variance varies from one observation to the next.

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Table 4. Results of Multiple Regression Analysis.

Coefficients[a]				
				Standardized
		Unstandardized	Coefficients	Coefficients
Model		B	Std. Error	Beta
1	(Constant)	24.859	6.744	
	Student Age	-.449	.393	-.048
	Student Taste/Attitude	.328	.073	.330
	Parents' Income	.198	.081	.166
	Number of Family Members	-.007	.277	-.001
	Parents' Knowledge of Nutrition	.097	.035	.192
	Parents' Education	-.114	.104	-.047
	Price of Fish	.104	.045	.155
Dependent Variable: Fish Consumption Level				

The regression equation formed is:

$$\mathbf{Y = 24{,}859 - 0{,}449X_1 + 0{,}328X_2 + 0{,}198X_3 - 0{,}007X_4 + 0{,}097X_5 - 0{,}114X_6 + 0{,}104X_7.}$$

The F statistical test shows the joint influence of independent variables on the dependent variables. Table 4 illustrates the results of the F test.

Table 5. F Test Results.

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11687.447	7	1669.635	47.155	.000[a]
	Residual	9205.956	260	35.408		
	Total	20893.403	267			
Predictors: (Constant), Fish Price, Student Age, Number of Family Members, Parental Education, Parental Income, Parental Knowledge of Nutrition, Student Taste/Attitude						
Dependent Variable: Fish Consumption Level						

T-test

The t-statistic test demonstrates how each independent variable contributes to explaining the variation in the dependent variable. The percentage point of the t distribution (df = 0.05: 108) is 1.650713.

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Table 6. Results of t-test calculations.

Coefficients[a]				
			Standardized Coefficients	t	Sig
1	(Constant)		3.686	.000
	Student Age	-.048	-1.143	.254
	Student Taste/Attitude	.330	4.481	.000
	Parents' Income	.166	2.444	.015
	Total of Family Members	-.001	-.024	.981
	Parents' Understanding of Nutrition	.192	2.757	.006
	Parents' Education	-.047	-1.102	.272
	Price of Fish	.155	2.321	.021
	Dependent Variable: Fish Consumption Level			

The children who are the objects of this research are aged 14-20 years. The average age of children is 16-17 years or equivalent to class XI of high school, which is 201 people (75%).

1. Student Education Level

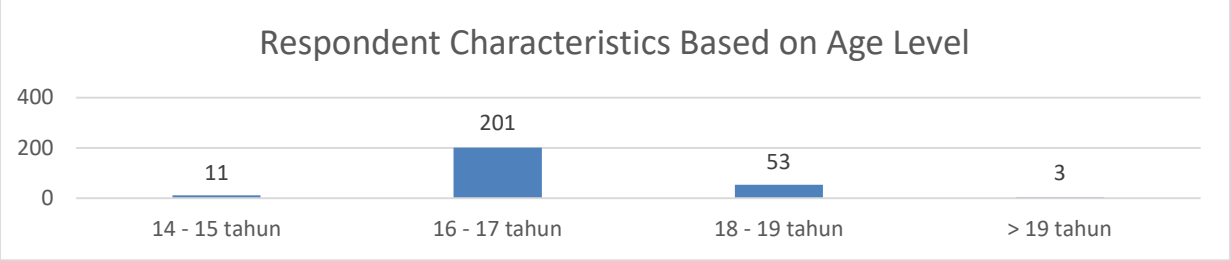

Figure 4. Respondent Characteristics Based on Age Level

2. Students' tastes/attitudes

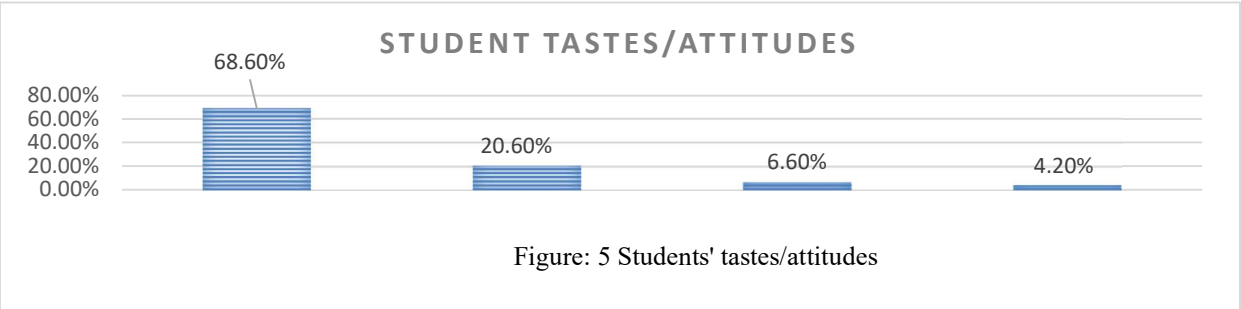

Figure: 5 Students' tastes/attitudes

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Based on Figure 5, high school students in Koto Tangah District prefer eating fish. The type of fish preferred by children is seafish (68.60%) following the analysis of fish consumption levels in the first research objective. In Koto Tangah District, Senior High School students show a preference for seafish over freshwater fish (20.60%).

Children prefer consuming fish with various cooking variations compared to fried fish. Therefore, the creativity of parents in cooking and attracting children's interest greatly influences level of consumption (Sijtsema, 2003), (Roininen, 2001). Children's awareness of the nutritional benefits of fish is insufficient, as reported in research. Birch, (2002) suggested that the patterns of acceptance of food were influenced by various experiences. Rahmayanti et al., (2016) reported that children could have appetites developed from eating habits. In this context, eating habits are influenced by pleasure, religious culture, economic level, and the natural environment.

3. Parents' Income (X3)

The regression coefficient of parent's income (X3) has a positive sign and the value is 0.166. The calculated t-value for the variable is 2.444 with a significance level of 0.015. Therefore, the calculated t is greater than the t table of 2.444> 1.650713, as well as the significance level is smaller than 0.05. Parent's income has a positive and significant influence on level of fish consumption.

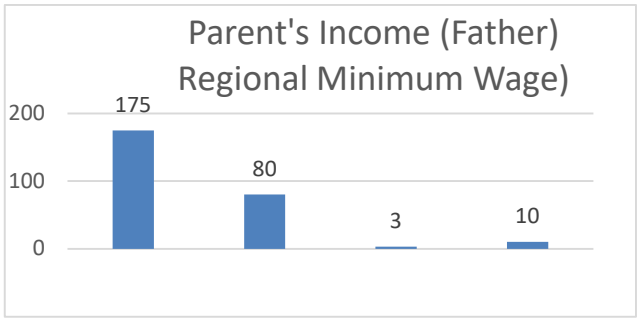

Figure: 6

0-RMW RMW – 5 M 5 M-

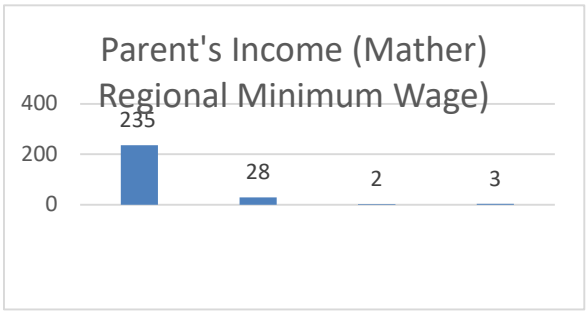

Figure: 7

0-RMW RMW – 5 M 5 M- 7M

4. Number of Family Members (X4)

Based on the table of t-test calculation, the estimated coefficient for the total of family members (X4) has a negative sign and the value is -0.001. The calculated t-value for age is -0.024 with a significance level of 0.981. Therefore, the calculated t is smaller than the t table of -0.024 <1.650713 and the significance level is 0.981 greater than 0.05. The number of family members does not influence the amount of fish senior high school students consume. In Figure 8, the average number of family members of high school students is 3-6 with a frequency of 229 (85.45%), while those with more than 9 are 1.87%.

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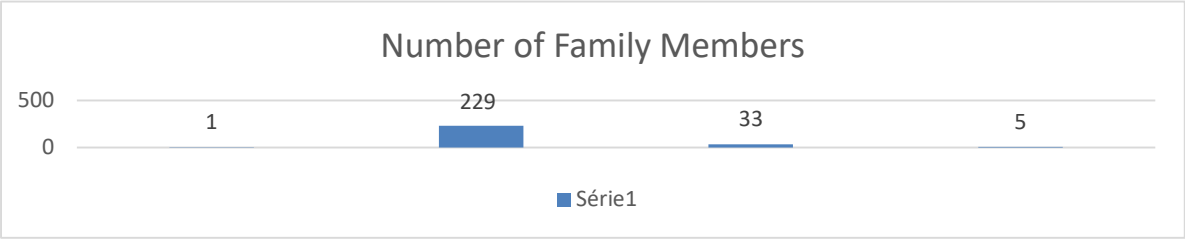

Figure: 8

5. Parents' Knowledge of Nutrition (X5)

The regression coefficient of parent's knowledge of nutrition (X5) has a positive sign and the value is 0.192. The calculated t value of the variable is 2.757 with a significance level of 0.006. This shows that the calculated t is greater than the t table of 2.757> 1.650713, as well as the significance level is smaller than 0.05. The parent's knowledge of nutrition has a positive and significant effect on level of fish consumption.

Most parents, specifically mothers, play a role in increasing healthy food intake in children (Brown and Ogden, 2004), (Skinner et al, 2002), (Choo and Williams, 2003), (Khomsan, 2002), (Al-Alberg et al, 2009). Consumption of fish is very good for children's brain growth and development.

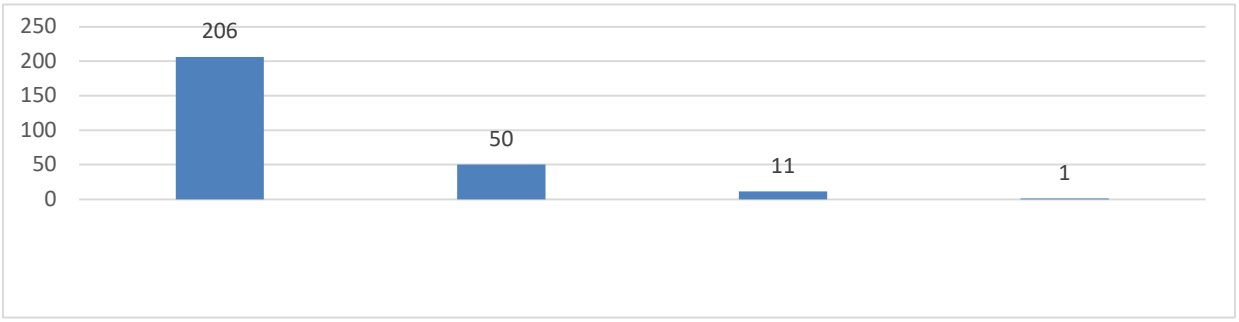

Figure: 9

6. Parental Education Level (X6)

The regression coefficient of parental education level (X6) has a negative sign and the value is -0.047. The obtained t value for the variable is -1.102 with a significance level of 0.272. This shows that the computed t is greater than the t table of -1.102> 1.650713 and has a significance level greater than 0.05. Parental education level does not have a significant effect on level of fish consumption. In Figure 10, the father and the mother are junior high and elementary school graduates. Parental education does not affect level of consumption. Even though the majority of parents' education is high school graduates, parental knowledge about fish nutrition is obtained from counseling activities, reading materials, social media, and other sources of information.

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Healthy eating patterns have been promoted for the past ten years (Gilbert, 2000), and obstacles for mothers to consume sea fish are caused by bones and fishy odor (Leek et al, 2000), (Suparman, 2003), (Nurdianty, 2004). Based on parents' income, most mothers spend more time at home and open stalls in front of houses.

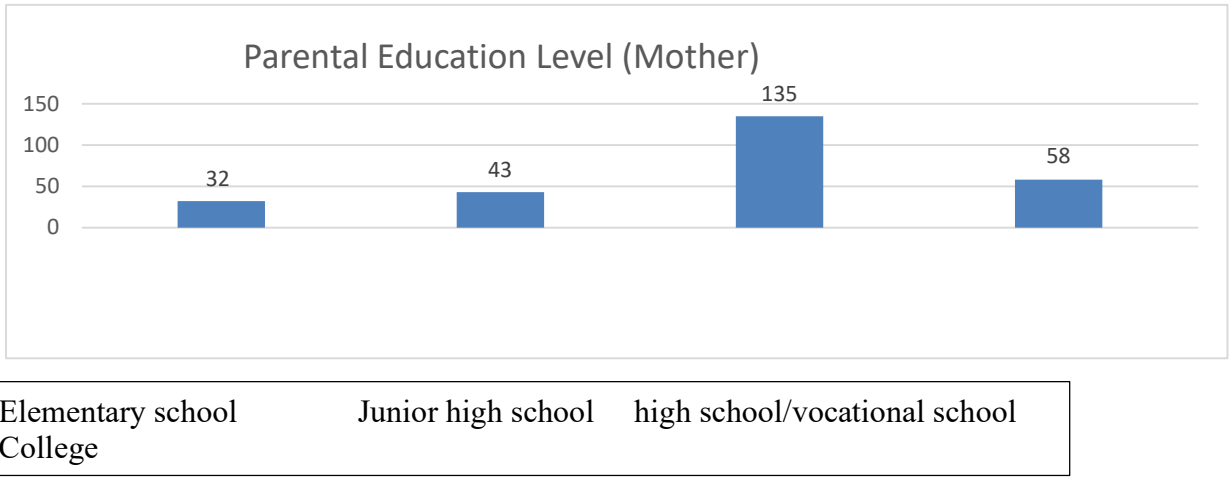

Figure: 10

Housewives have more time to interact with the children, hence food consumption may be controlled. According to (Maciel, et al, 2016), mothers who do not work can regulate children's diet. Lazzeri et al., (2006); Rina, (2008) also reported that the mother factor plays an crucial role in providing and serving nutritious food in the family. Parental education and employment contribute to the nutritional status of children. Furthermore, parents working outside the home have less time to interact with children compared to mothers. In terms of meal assistance, eating patterns may be disrupted since preschool children are very dependent on the parents.

Glick (2002) stated that the time to interact and accompany children might be less with working mothers. This has an impact on the mental development and personality of children. Growth and development become suboptimal when eating patterns are disturbed (Proverawati, 2009).

7. Fish Price (X7)

Based on the t-test table (table 16), the regression coefficient of fish price (X7) has a positive sign and the value is 0.155. The computed t-value for the age variable is 2.321 with a significance level of 0.021. Therefore, the calculated t is greater than the t table of 2.321> 1.650713 and the importance level is 0.021 smaller than 0.05. In Pasia Nan Tigo Village Koto Tangah District, fish prices play a role in determining the consumption habits of elementary school children. Most parents, specifically students' mothers, switched to buying other side dishes when the price was expensive. In this context, the price affects the interest of mothers in buying fish for consumption at home. Oktari (2008) explained that fish from the group of non-prosperous fishermen families was an expensive consumer item. This condition indicates that price is a major factor in fish purchases.

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Figure: 11

The determinant of purchase was supported by Trondsen et al. (2003) where the barrier to consuming fish was the perception of relatively high prices. Brich et al. (2012) reported that 2/3 of Australian respondents who did not plan to buy fish would purchase when on sale.

These results were consistent with Hendrawati and Zddni (2017) nutrition plays a crucial role in shaping children's development. Food consumption is a factor directly affecting nutritional status. Lack of consumption of foods containing nutrients causes malnutrition and inhibits cognitive development. Furthermore, fish provides relatively high animal protein and essential unsaturated fatty acids needed by the human body. This well-known source of vitamin A also contains different minerals. Fish is rich in benefits and increases the growth and development of children's intelligence.

Nutritional status is influenced by food consumption and the use of nutrients. Optimal nutritional status is achieved, allowing physical growth, brain development, workability, and general health at the highest when the body obtains sufficient nutrients and is used efficiently (Almatsir, 2009). In addition, the mother's level of knowledge affects the nutritional status of the baby. Mistakes in feeding babies are interpreted in terms of type, quantity, and time of administration. In these circumstances, sufficient knowledge is needed to guarantee the nutritional needs of children (Burhanudin, 2006). Hartati (2008) in Palembang stated that level of protein (fish) adequacy was less of a risk factor for lack of nutrition in children aged 1-2 years. Protein is needed by humans as a replacement for damaged cells, growth, and development materials specifically in infants and toddlers. The body cannot grow and develop properly, affecting nutritional status when the body lacks protein.

In addition, the results of the study show that even though the student's school is close to the sea, the level of fish consumption is still low (Junaidi, 2019). Other factors such as socio-cultural and economic (Sousa et al, 2016). High fish prices during off-season also affect fish consumption (Kesuvan, 2015). Monthly expenses also affect the purchase of protein sources from fish (Adeneyi, 2008). Cooking methods will also affect fish consumption in high school students (Maciel et al, 2016).

4. Conclusions

In conclusion, children's tastes or attitudes, parents' income, knowledge of nutrition, and fish prices influenced level of fish consumption in high school students in Koto Tangah District, Padang City. The children's taste or attitude factor had the highest influence on level of fish consumption with a t-value of 4.481>1.650713 as well as a significance level of less than 0.05.

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