Original Research Article

Consumer Knowledge and Attitudes about Information on Food Labels for Packaged Foods in Rural and Urban Areas in Timor Tengah Selatan (TTS) District

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Abstract: *Background:* Access to packaged foods is improving, but attitude and knowledge about the labels on packaged food are still low. *Research Objective:* Research Objective was to determine the correlation between consumer knowledge and attitudes about information on food labels for packaged foods in rural and urban areas in Timor Tengah Selatan (TTS) District. *Method:* Method is cross sectional. This research conducted from June - October 2021. Subjects were taken using the quota sampling. Total subjects 200 people. The inclusion criteria used; men or women who often buy packaged food at the kios selected as the research site, male or female (age 15–55 years), physically and mentally healthy, domiciled in the research area, and want to become Subjects. The Research Locations were in urban and rural. Data Collection used was a questionnaire.The questionnaire used has been tested for validity and reliability. *Data Analysis:* Frequency distribution is used in univariate to analysis subjects' demography, knowledge, and attitudes. Chi square test to analysis determine the correlation between consumer knowledge and attitudes about information on food labels. *Results:* 45.5% of consumers have less knowledge. Depending on live area, 33.5% in rural and 27.5% of urban have less knowledge. Attitudes about information on food labels for packaged foods of consumers 36% have enough attitude. Depending on live area, 54% in rural and 53% of urban have enough attitude. Chi square test there is acorelation between knowledge and attitude about information on food labels for packaged foods p = 0.00 <0.05. *Conclusion:* There is acorelation between knowledge and attitude about information on food labels for packaged foods.

Keyword: Food labels, Food Packaging Attitudes and Knowledge.

INTRODUCTION

Packaged food is a product of technology [1]. The number and variety of products registered with the Food and Drug Monitoring Agency (BPOM) have surpassed 142,110 over the previous five years. Based on a study results by Palupi [2], packaged food consumption is significant at 80% of the population. Similarly, a study by Kantar Worldpanel Indonesia found that in urban areas, packaged food consumption increased in 2015 (63%), 2016 (61%), and 2017 (59%) [3].

Regulation of the Drug and Food Control Agency (BPOM), Number 31 of 2018, requires that every packaged food producer include a food label, aiming to provide correct and clear information to consumers regarding the product to be purchased for consumption. Food labels that must be included are a list of ingredients or substances contained in the packaging, nutritional value, allergen information, and time of use [3].

According to the National Consumer Protection Agency (BPKN), just 6.7% of Indonesian consumers read food labels carefully before making a purchase in 2007. In addition, BPKN discovered that in 2013, 36.5% of Indonesians showed a greater interest in reading labels for halal products, 34.9% paid more attention to expiration dates, 20.6% paid particular

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attention to the inclusion of food names and food composition, and 7.9% ING. According to these statistics, the Indonesian populace is still unaware of the importance of carefully reading the information on the labels of packaged foods (BPKN, 2013).

The results of Nurul Fitri's research found a comparison of women's reading of food labels at 53.1% and men's reading at 19.2%. Above-junior-high school education is 52.4% higher than below-junior-high school education (28.9% higher). working 49.5% and not working 23.8% [4]. Based on the results of an initial survey conducted on 10 teenagers aged 15–19 in the Timor Tengah Selatan District, it showed that seven children had never received information about food labels, while three children had received information about food labels. One child obtained information through electronic media, and two children obtained it through massa media.

It is feared that consumers' and distributors' ignorance about food labeling poses risks that lead to illnesses like obesity and hypertension. In contrast to obese students, who made up only 21.2% of the study's sample, 51.5% of students with normal nutritional status had a fair amount of knowledge about how to interpret nutritional information labels. Another study by Zhang (2017) found that women in their 20s to 60s only examine nutrition labels since they are more likely to suffer cardiovascular disease than women who are menopausal. Food illness from packaged goods is another potential risk.

Risks that lead to health issues like obesity and hypertension are thought to be caused by consumer' and distributors' ignorance of food labels.Shinta Anggraini's (2018) study revealed that compared to obese students, who made up just 21.2% of the sample, 51.5% of students with normal nutritional status had a fair amount of knowledge about how to interpret nutritional information labels. Menopausal women are more likely to experience cardiovascular illness than younger women [5]. According to Zhang's (2020) most recent research, which found that women in this age range only read nutrition labels. Food poisoning from packaged food is another risk that could develop [6].

The rate of packaged food outbreaks was 4.36 percent in 2017, according to the Food and Drug Monitoring Agency's (BPOM) data on food poisoning abnormal activities (both processed and packaged food, catering services, household processed food, and snack food) (BPOM, 2019) [7]. According to Infokemas (2018), the five provinces with the highest number of poisoning incidents in 2017 were Nusa Tenggaran Timur (NTT), especially the Central Timor district, Bali (13 cases); Central Java (17 cases); and West Java (25 cases). Five individuals were poisoned by packaged drinks on December 12 in Timor Tengah Selatan (TTS)

in 2019 (BPOM Kupang, 2019), and 12 people were poisoned by packaged meals on January 30 in 2021 [8].

Due to a paucity of information on food labels, consumers' and distributors' knowledge of food labels on packaged foods is still quite low. The research problem has been formulated as follows in light of the background information:was to determine the correlation between consumer knowledge and attitudes about information on food labels for packaged foods in rural and urban areas in Timor Tengah Selatan (TTS) District.

METHODOLOGY

Design, Location, and Time

This cross-sectional study was conducted in June - October - 2021. in urban Kota Soe District and rural Amanuban Tengah, Amanuban Selatan, Amanatun Selatan, Molloh Selatan, and Mollo Tengah districts.

Sampling

The research subjects were taken using the quota sampling method. The total subjects used were 200 people. The inclusion criteria used for this study were men or women who often buy packaged food at the kiosk selected as the research site, male or female (age 15–55 years), physically and mentally healthy, domiciled in the research area, and willing to become Subjects.

Data Collection

Data were collected using questionnaire. There were four parts in the questionnaire, namely characteristics of subject (sex, age, occupation, education level). The questionnaire used has been tested for validity and reliability. This questionnaire has undergone an ethical review at the Faculty of Medicine Undana.

Data Analysis

Techniques data analysis are used is univariate and bivariate. Frequency distribution is used in univariate to analysis characteristics of subjects, knowledge, and attitudes. The chi square test is used in bivariate analysis to determine the correlation between consumer knowledge and attitudes about information on food labels for packaged foods .Analyses were conducted using IBM SPSS Statistics Version 22

RESULTS AND DISCUSSION

Univariate Analysis

Characteristics of Subjects

In table 1, the highest number of Subjects is female (52.5%), the most common age is 25–34 years (33.5%), the most common education is high school (43.5%), and the most jobs are self-employed (37.0%). If seen based on the area of residence in rural areas, the highest number of sexes are males (51%), aged 15–34 years (27%), high school education (43%), and

housework (27%). Whereas in urban areas, the highest number of sexes are women (56%), ages 25–34 years (40%), high school education (44%), and self-employed work (49%).

Table 1: Frequency distribution *Characteristics of Subjects*

Consumer	Rural		Urban		Total	
	N	%	N	%	N	%
Sex						
Male	51	51%	44	44.0%	95	47.5%
Female	49	49%	56	56.0%	105	52.5%
Total	**(N =100)**	**100%**	**(N =100)**	**100%**	**(N =100)**	**100%**
Age						
15-24 Years	27	27%	25	25%	52	26.5%
25-34 Years	27	27%	40	40%	67	33.5%
35-44 Years	24	24%	23	23%	47	23.5%
< 55 Years	22	22%	12	12%	34	17. %
Total	**(N=100)**	**100%**	**(N=100)**	**100%**	**(N=200)**	**100%**
Education Level						
Elementary school	19	19%	2	2%	21	10.5%
Junior high school	27	27%	5	5%	32	16. %
Senior high school	43	43%	44	44%	87	43.5%
Diploma	2	2%	15	15%	17	8.5%
Bachelor	9	9%	34	34%	43	21.5%
Masters	-	-	-	-	-	-
Total	**(N=100)**	**100%**	**(N=100)**	**100%**	**N=200**	**100%**
Profession						
Self-Employed	25	25%	49	49%	74	37%
Farmer	16	16%	1	1%	17	8.5%
Housewife	27	27%	7	7%	34	17%
Consumer	**Rural**	**Urban**	**Total**		**Consumer**	**Rural**
	N	%	N	%		N
Government Employees	6	6%	22	22%	28	14%
Doesn't work	26	26%	21	21%	47	23.%
Total	**(N=100)**	**100%**	**(N=100)**	**100%**	**N=200**	**100%**

Consumer Knowledge about Information on Food Labels for Packaged Foods

Description of consumer knowledge about information on food labels for packaged foods, viewed by category.The categories used are: good (76–100%), Enough (57–75%), less (<55%).

Table 2 shows that, 45.5% of consumers have less knowledge. When viewed based on the area of residence, in rural areas, 33.5% of consumers less knowledge, and in urban areas, 27.5% of consumers have a less level of knowledge.

Tabel 2: Frequency distribution Consumer Knowledge About Information on Food Labels for Packaged Foods in Rural and Urban Areas in Timor Tengah Selatan (TTS) District

Subject Knowledge	Rural (N=100)	Urban (N=100)	Total (N=200)
	Persentase (%)	Persentase (%)	Persentase (%)
76-100 % Good	2%	10.5%	12.5%
56- 75 % Enough	14.5%	27.5%	42%
< 55 % I less	33.5%	12%	45.5%

Consumer Attitudes about Information on Food Labels for Packaged Foods

Tabel 3: Frequency distribution Consumer Attitudes about Information on Food Labels for Packaged Foods in Rural and Urban Areas in Timor Tengah Selatan (TTS) District

Consumer Attitudes	Rural (N=100)	Urban (N=100)	Total (N=200)
	Persentase (%)	Persentase (%)	Persentase (%)
76 - 100 % Very Good	1%	20,0%	12.5%
51 - 75 % Good	13%	33,0%	32.5%
26 - 50 % Enough	54%	40,0%	36%
0 - 25 % Less	32%	7,0%	19%

Description of consumer attitudes about information on food labels for packaged foods, viewed by category.The categories used are: very good (76–100%), good (57–75%), Enough (26–50%), and less (0–25%).Table 3 shows that, 36% of consumers have enough attitude. When viewed based on the area of residence, in rural areas, 54% of consumers enough attitude, and in urban areas, 40% of consumers have enough attitude.

Bivariate Analysis
Corelation Consumer Knowledge and Attitudes about Information on Food Labels for Packaged Foods in Rural and Urban Areas in Timor Tengah Selatan (TTS) District

The corelation between knowledge and attitudes of consumer about packaged food labels was analyzed using the Chi-Square Tests.

The analysis results are shown in Table 4 with such a p-value of 0.00 < 0.05, indicating a Corelation Consumer Knowledge and Attitudes About Information on Food Labels for Packaged Foods

Tabel 4: Corelation of Consumer Knowledge and Attitudes about Information on Food Labels for Packaged Foods in Rural and Urban Areas in Timor Tengah Selatan (TTS) District

Knowledge	Attitudes				Total	%	P Value
	Good	%	Enough	%			
Good	29	32,20%	61	67,80%	90	100,00%	0 ,000
Enough	9	8,20%	101	91,80%	110	100,00%	
Insufficient	38	19,00%	162	81,00%	200	100,00%	

DISCUSSION

Consumer Knowledge and Attitudes About Information on Food Labels for Packaged Foods in Rural and Urban Areas in Timor Tengah Selatan (TTS) District research objective: was to determine the correlation between consumer knowledge and attitudes about information on food labels for packaged foods in rural and urban areas in Timor Tengah Selatan (TTS) District.

Corelation of Consumer Knowledge and Attitudes About Information on Food Labels for Packaged Foods

Based on the chi square test's p value of 0.05, the study's findings show a correlation between distributors' knowledge of and attitudes toward packaged food labels. According to the findings of the Spearman rank statistical test ($p = 0.041$, $r = 0.107$), there was significant association between knowledge and attitudes in the study by Sega, J. S., Lada, C. O., and Manafe (2022) in students at Undana. Additionally, this study demonstrates that there is a connection between consumer attitudes about packaged food labels and awareness of those labels (p 0.05) for consumers [9]. This is consistent with study results by Anshu, *et al.,* (2020), which show a significant.

As according Fatmaningtyas Hanifa dan Andrias Ririn Dini. (2016),, there is a significant correlation between knowledge and conformity with reading nutritional labels on food packages, as well as between proficiency with reading nutritional labels and compliance [9]. 45.5% of consumers have less expertise than average. Based on where people live, 33.5% of customers in rural areas lack sufficient knowledge, and 27.5% of consumers in urban areas.

50% of consumer exposure to the most common information sources comes through electronic media, while 40% comes from their own responses. 66.7% of consumer s and 90% of electronic media are viewed in rural areas, according to residency. Reading proficiency as a percentage falls into the good range. Consumers' ability to read nutritional value information falls into the low group with a percentage of 62% in rural areas and the good category with a percentage of 87% in urban areas, according to a study that looked at consumer aptitude based on place of residence.

Novita Dhian Naomi (2015) found that attitudes toward nutrition labels and consumption of packaged foods had a p value of 0.286 ($p > 0.05$) and that knowledge of nutrition labels and consumption of packaged foods had a p value of 0.498 ($p > 0.05$). This indicates that there is no meaningful association between knowledge of nutrition labels and consumption of packaged foods, and no meaningful association between attitudes toward nutrition labels and consumption of packaged foods [2]. According to research by Nurul, F., Metty, & Yulianti (2020), students at the Kutai Kartanegara dormitory in Yogyakarta do not have a habit of reading the nutritional value information labels on packaged foods [4].

The findings of Qurrota A'yunil Huda and Dini Ririn Andrias' (2016) study on attitudes and behavior regarding attitudes and behavior regarding attitudes and behavior regarding reading nutritional information on food labels and selecting packaged food revealed that there was no relationship between attitudes, behavior regarding reading nutritional information, and food selection ($p > 0.05$). Up to 81.7% of students believe that reading nutrition labels is critical to purchasing wholesome food. 30% of students questioned the

validity of nutrition or health claims made on food labels, and as many as 34.7% were unsure whether to believe the information on food labels [10]. Following this report's results, 36% of customer views fell into the category of being sufficient. According to the location, the good attitude category contains 54% in rural areas and 53% in urban areas; both have a population that is positive overall.

According to Fatimah's (2017), class VI female students had a very positive attitude toward halal product labels (84.1%) and statistical tests showed that this attitude was significantly correlated with the practice of reading halal food package labels ($p = 0.000$, OR = 7.162) [10]. According to a study by Sega, J. S., Lada, and Manafe (2022), of the 80.8% of persons who always read food labels, expiration dates are the first information to be read (42.5%), then the trade name. When product prices are cheap, consumers are encouraged to read the information on the label [10]. Reading food labels often 53% of consumers said they read the product names on food labels, and 40% said they read the expiration dates on food labels. The packaged food that consumers buy is packaged food that is regularly consumed if they read the food labels. In addition, when they shop, the name on the food label on packaged foods takes precedence.

In a study of consumer knowledge, attitudes, and awareness of food labeling information in Tripoli, Libya, Alshukri, A., Elramli, & Albkoush (2020) discovered that consumers didn't read food labels because they were in a hurry (time constraints) [10], This study also highlights some of the challenges that consumers experience when attempting to read and understand the information on food labels, such as small print and the usage of foreign languages.

The advantage of this research is that consumers the selected to be subject were taken from urban and rural areas. Limitations First, the small sample size required further studies with larger sample sizes to make the results more conclusive. Second, the findings of this study indicate low levels of reading with limited understanding of packaged food label information, so efforts are needed from health workers to carry out an intervention in the community.

CONCLUSION
In this study, respondents had sufficient knowledge and a good attitude about food label information. Furthermore, there is a significant relationship between consumer knowledge and consumer attitudes. Although most of the consumers in this study are aware of the importance of food labels, there are some consumers who buy and consume local food products that are not labeled due to price differences and the prevailing economic situation in the study area. Therefore, there is a need for outreach to consumers, especially in rural areas, to increase awareness about the importance of food labels.

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