

**EXPLORING CONSUMER KNOWLEDGE, UNDERSTANDING AND USE OF
FOOD AND NUTRITION LABEL INFORMATION IN THE TAMALE
METROPOLIS OF GHANA**

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ABSTRACT

The perception that consumers in low Income Countries have poor knowledge and understanding of food or nutrition labels and, therefore, do not rely on them at the point of purchase is rife. This study was aimed at assessing consumer knowledge and understanding and its influence on food label usage in the Tamale Metropolis of Ghana. An analytical cross-sectional study design was employed and mainly literate adults aged 15 to 60 years were conveniently selected and interviewed at various points-of-purchase including supermarkets, provision shops and other trading outlets. Data were analysed using the Statistical Package for Social Sciences (SPSS) for windows (version 19.0). Percentages were calculated and reported for descriptive statistics whilst chi-square tests of significance and regression analysis were employed to measure relationships between variables. Statistically significant differences were accepted at $p < 0.05$. Out of the 384 consumers interviewed, 98.4% ($n=378$) were aware of food labels, yet, only 66.7 % ($n=256$) claimed they understood the labels. A large proportion (95.8%) also claimed they checked but just about 51.9% said they did so “always”. Most (89.3%) claimed they are influenced by key factors on the labels with the level of influence being highest with nutrition content, followed by expiry date, health-claim, price and advertisement respectively. However, at the point-of-purchase most (79.4) revealed they looked out for expiry date. Socio-demographic characteristics including gender ($p=0.009$), age ($p=0.017$), occupation ($p=0.042$), educational level ($p=0.022$) and income ($p=0.051$) were significantly associated with consumers’ understanding of the labels, with gender remaining the only significant predictor. Furthermore, age ($p=0.054$), occupation ($p=0.007$) and educational level ($p < 0.001$) showed significant associations with food label usage. Education level (Tertiary) emerged the only significant predictor of food label usage. The level of knowledge and use of nutrition information on food packages among predominantly literate consumers in the Tamale Metropolis of Ghana can be compared to that of consumers in other parts of the world. These results may inform the need for developing an approach towards future information and education strategies for health professionals and other stakeholders interested in consumer awareness activities.

Key words: Nutrition label, food Label, Consumer, Point-of-purchase, Nutrition information, Tamale



INTRODUCTION

Worldwide, the consumption of labeled pre-packaged foods most of which are laden with high levels of sugar, fat (saturated fat, trans-fat) and sodium has increased [1]. In many countries including low income ones eating habits have changed in favor of an increased consumption of such pre-packaged foods [1] and together with inadequate knowledge about nutrition labels have been strongly associated with diet-related chronic diseases such as high blood pressure, stroke, and coronary artery disease [2, 3].

The food or nutrition label has emerged as a prominent policy tool for promoting healthy eating in some countries [4]. In US and Canada nutrition labeling is mandatory largely because of their population drift toward healthy and wellness foods and also reflect a response to consumers' right to know the content and nutrition of a food product [5]. In recent times consumer interests in health and diet-related concerns have also increased, giving food and nutrition labeling considerable attention [6]. Internationally, food labeling has been shown to effectively achieve healthier consumer consumption behaviour and product development which transcends into improved health outcomes [7]. As a matter of fact, food labels are a useful way to conduct point-of-purchase nutrition education, and so understanding why and how consumers utilize food labels is an essential criterion to designing food labels, regulations and improving public health [8].

Consumers' ability to make healthy diet choices depend partly on the quantity and quality of information available through a variety of sources, including the nutrition panel of food labels [9]. The ability to make healthy food choices also depend on a number of other factors including exposure, perception and understanding of the information, which have been shown to be affected by nutritional labeling content [10], nutrition knowledge [6] as well as socio-demographic features [11, 12]. Socio-demographic factors such as gender, age, ethnicity, area of residence, urbanization, education, employment and income status, marital status, household size, household composition have all been associated with awareness and use of the nutrition label [13-18]. The utilization of food labels and nutrition information on food packages by consumers has been the focus of a number of studies [6, 12, 19]. Gender differences have been reported in the use of nutrition labels, with majority of the studies showing that women in general are more likely to use nutrition labels than men [20]. Due to their primary gender role in the selection and production of food, women tend to be better informed about health knowledge than men. More so, women are naturally interested in providing safe and wholesome food for their families [10]. However, women's roles have been redefined over the years and males have been shown to report greater usage and importance of nutrition label compared to females [21], probably because they tended to have a higher perception of disease risk than females. Earlier studies recognizing the relationship between age and nutrition label usage concluded that middle aged or younger adults were more likely to use nutrition labels than older individuals [13, 22]. In contrast, some studies suggest that as age increases the likelihood of using nutrition labels also increases [23-25]. Drichoutis *et al.* [12] postulate that older respondents engaged in nutritional information search because they may have more restricted diets recommended by their medical advisers due to health problems such as hypertension and high cholesterol; and



more to the point older people may be more informed about nutrition due to past experience. Nutrition information on food labels is most of the time confusing and difficult to interpret [4, 12] yet, nutrition labeling is a standard of health promotion that aids people to make healthy food choices through the provision of information about the nutrient content of a food. In several countries, studies have shown that only a small fraction of consumers really have the needed knowledge and understanding of food labels [6, 19, 26]. For example, in a Canadian study, only 18% out of a sampled population used food label information to choose cheese and yoghurt [26]. In addition, food label claims such as “cholesterol free”, “no trans-fat” and “low in saturated fats” were often misunderstood [26]. Another study showed that only a few consumers actually check for nutritional information when they purchased soft drinks, confectionaries and salty snacks [6]. It has also been shown further that consumers’ purchasing behaviour does not always reflect their stated preferences [27]. However, there is virtually no insight into how labeling information will affect consumers' dietary patterns.

These worrying trends raise a lot of concerns, especially, at a time when there is a growing double burden of disease in many developing countries with an ever-increasing consumption of pre-packaged foods [28]. The utilization of food labels and nutrition information on food packages by consumers has been the focus of a number of studies [6, 12, 19]. In Ghana, as in many other developing nations, the incidence of overweight and obesity is on the increase and changing food consumption patterns, lifestyle and eating behavior have been suggested to contribute to these increases [28]. However, there is an inherent difficulty to identify the influence that use of food labels and nutrition information have on consumers’ diet quality [19]. There has always been a rising concern on the lackadaisical attitude of Ghanaians towards label reading [29]. Furthermore, most urban consumers have remained rather date conscious in their use of food labels [30]. Notwithstanding, there exists a paucity of data on knowledge and understanding of consumers on food labeling in Ghana [19], particularly so, in the fast emerging metropolis of Tamale. This, therefore, provided the impetus for our study, which was aimed at evaluating consumers’ awareness and understanding of food labels, and factors that could influence their use of nutrition information to make healthy food choices.

MATERIALS AND METHODS

Research setting

Tamale Metropolis is the capital of the Northern Region of Ghana. The metropolis has a 2013 projected population of 562,919 [31] making it the third largest settlement in Ghana. The main economic activities of the populace is farming and trading though other services exist. The research focused on consumers who mostly bought from supermarkets, provision shops and many other trading outlets spread across the city. This is because most food items in such outlets have food labels and/or nutrition information on them.

Study Design and sampling

This analytical cross-sectional study design was purposed to measure the exposure of consumers to food/nutrition labels on pre-packaged foods and their understanding and



use as outcomes. A total of 384 consumers aged between 15 to 60 years, were interviewed closely after they had finished purchasing their groceries.

Sampling was mainly convenient and participation voluntary. As this study involved an appreciable level of literacy, selection was biased towards individuals who could essentially read. Consumers or participants, who were drawn from different socio-demographic backgrounds (age, gender, ethnic groups, and so on), were asked predetermined questions on their awareness, understanding and use of food labels and nutrition information on food packages they purchased.

Data collection

A semi-structured questionnaire, which was pre-tested among a group of university students, was used to elicit information on consumers' knowledge and use of food and nutrition information. The questionnaire was administered through face-to-face meetings with the consumers at the sales outlets or point-of-purchase. The questionnaire comprised of both open and closed-ended questions, which gave consumers the opportunity to explain or express their views on the food and nutrition information. All Interviews were conducted by enumerators, who were trained on the rigors of interviewing and data collection. Consumers consented to participate and were interviewed after receiving relevant information about the survey including its objectives and significance.

Data analysis

Quantitative data were analysed using the Statistical Package for Social Science (SPSS) software (version 19.0). Qualitative data on the other hand were analyzed thematically according to the content. The level of consumers' knowledge and understanding and how these could influence the use of food and nutrition labeling was assessed using a goodness of fit test (Chi square and regression analysis) at a critical value of $p < 0.05$.

RESULTS AND DISCUSSION

The findings in this study provide information on consumers' levels of awareness or knowledge and how it influences their understanding and use of food and nutrition labels, including making choices and decisions to purchase pre-packaged foods.

Socio-demographic characteristics of consumers

Table 1 indicates that there were more male consumers (59.1%) than female. The age range of a large number of consumers (81%) was 15-30 years whilst consumers aged 47 years and older were in the minority. Most (71.9%) of the consumers had or were at the tertiary level of education while only a few (0.8%) had primary school level education. More than half (58.1%) of the respondents were students while the foremost working group of consumers (civil/public servants) were 9.9%, and the least represented workforce was farmers (1%). Furthermore, a large number of consumers (92.9%) earned monthly incomes less than a 1000 GHS. The predominance of students in this study is a reflection of the large number of tertiary students residing in the metropolis around this period and who mostly shop at these outlets. The large number of students may also explain the low earnings of most consumers.



Importantly, this study is perhaps the first of its kind in the northern part of Ghana and is biased towards the selection of predominantly literate consumers (96% plus). The basis for using mainly literates is supported by the observation that people with higher education (graduate and postgraduate degrees) are more likely to be aware of and would pay significantly greater attention to food label information including nutrition information while purchasing processed or packaged food items as compared to respondents who have lower education [6] or less literate. This is probably because consumers with higher education are more likely to read scientific, academic articles or prints and are therefore more exposed to health and nutrition related news sources, thus increasing their awareness of diet-health relationship [32]. This is further supported by Wiles *et al.* [33] who found that respondents with tertiary education were more likely to use nutrition information than those with secondary education, which may suggest that nutrition knowledge is higher among those with tertiary education. By inference, being highly educated means an individual is more likely to receive nutritional knowledge from any source, and has a greater tendency to be influenced by and use labels during purchasing. This may be corroborated to a large extent by the findings in this study, which show a very high level of awareness (98.4%) on food and nutrition labels in a predominantly highly educated population (Table 2). In addition, 94.8% also claim to have some understanding of these labels. Of these, two-thirds (66.7%) claim they understand quite well the information on food labels whilst 28.1% said they only partly understand with a few (3.6%) admitting they did not. However, beyond their assertions of understanding the labels, this study did not go further to ascertain the depth of their understanding, regarding the meaning of every information on the labels such as ingredients used, nutritional value, allergens, and so on.

Clearly, there is a disparity between awareness and understanding among consumers in this study (98.4% versus 66.7%), which leaves room to speculate that awareness or knowledge on food or nutrition label does not necessarily translate into understanding even among “highly educated” individuals. This may pre-suppose either a lack of or inadequacy in nutrition knowledge or perhaps the way information is packaged that makes it difficult to comprehend. Nevertheless, it is not clear whether nutrition knowledge *per se* plays a role between awareness or knowledge and understanding of food and nutrition labels, and whether this is likely to influence usage of labels. However, Nayga Jr, [32], found a weak link between nutrition knowledge and consumer behavior, which suggests that nutrition knowledge may not necessarily have an effect on label use.

The use of labels on food packages also means consumers are checking as and when they purchase these foods. From Table 3, a large majority of consumers (95.8%) claim they check or use food labels during purchasing, whereas the rest admitted they do not check at the point of purchase. Also pertaining to how often consumers check food labels; 51.9% said they check most of the time whilst about a third (32.4%) check occasionally and 11.5% rarely. An overwhelming majority (99.2%) agreed that it is important to label packaged or processed foods and the reasons given varied from ‘it helps them know the date of expiry of the product’ (20.3%) to ‘it helps them know the nutrients in the food’ (31.8%). Other reasons given were that ‘it helps to obtain general information about the

food to make an informed choice' (13.3) and 'to know the manufacturer or the origin of the product as well as checking for FDA certification' (4.9%).

Despite the high number of consumers claiming to check or use the labels of food packages they buy, only about half of them said they do so very often or "always", which should put them in the "label-minded" category [34]. On the average, 20% of consumers in Asia Pacific, Europe and North America "always" check the nutritional labels on packaging, with Latin Americans the most label-minded, where a third of consumers claim to "always" check labels on packaged food [34]. Clearly, the findings in this current study should place the 'elite' consumers in the Tamale metropolis high on the list of those considered as label-minded.

However, many studies have shown that while consumers are claiming to check or use the food labels, they do not necessarily understand what they are reading. Half of the world's consumers have been shown to only "partly" understand the nutritional labels on food packages, with 60% of Asia Pacific's citizens leading the world in this lack of understanding, followed by Europeans (50%) and Latin Americans (45%). The literature suggests that the people most conversant with food labeling were the North Americans, with 64% claiming to "mostly" understand food panels [34]. Similar reports from populations around the globe show the United States of America (65%), Portugal (64%), Canada (61%), New Zealand (61%) and Spain (60%) as consumers that most understand nutrition labels [34]. With consumers in developing markets, it is a generally held view that they have less than optimal understanding of nutrition labeling for products [34]. Nevertheless, the proportion of consumers in this study who claim to understand the labels undoubtedly should put them among the most understanding. This finding could be attributed to the bias introduced by conveniently selecting predominantly literate subjects with mostly tertiary education. In a similar finding, 54.8% out of 93.3% of food label users in the Kumasi metropolis of Ghana, who were mostly educated, said they mostly understood the labels while 6.7% did not understand what they read [19]. The outcome for this present study could have been different with a random selection of participants, as this would have resulted in an increase in the number of less literate participants following the current educational status distribution in the general population of the Tamale metropolis.

From Table 3 it is also evident that a large majority (89.3%) of consumers claim they are influenced by food labels at point of purchase. Of those influenced; 70.8%, 66.4%, 60.7%, 42.4%, 20.8%, 6.8% respectively claim to be influenced by nutrition content, expiry date, health reasons, price, advertisement and other information (such as FDA certification) as illustrated in Figure 1.

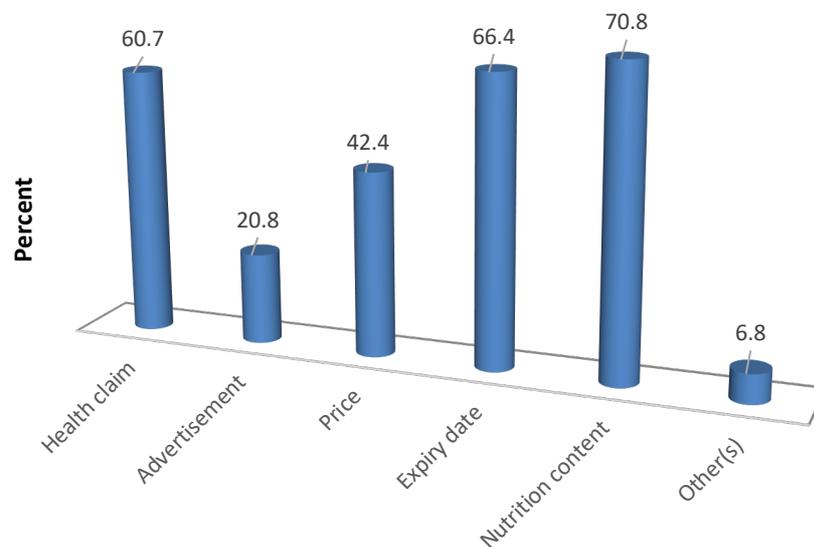


Figure 1: Factors influencing consumers' choice of prepackaged and labeled foods

However, during the purchasing process, the study revealed that 35.9% of the consumers interviewed look for the expiry date, 43.5% of them for both expiry date and nutrition information, 10.6% pay attention to only nutrient composition and 1% check for FDA certification, manufacturer and or country of origin (Table 3). It is obvious that consumers in this study pay more attention to expiry date at the point-of-purchase than what they claim to check from the labels. In contrast, a study in Malawi reported that price was rather the major determinant of purchase [35], whilst another from Lesotho [34] indicated that nutrition information rather than price or other characteristics was the major factor that influenced consumer's decision to purchase the types of food they bought. Another study similarly showed that about 63.8% were influenced in their purchasing choices by nutrition information on food labels [18]. However, the importance placed on nutrition information and content as a major influencer among our study respondents may perhaps stem from ongoing expositions and cautioning by the Ghanaian Food and Drugs Authority (FDA) with regards to dangerous additives found in some processed and packaged food products on the market and the need for consumers to be mindful of the content of such foods during purchase. When price rather than nutrition content becomes a major influence, it is that consumers who earn low salaries or perhaps cannot read and understand nutrition information or labels would pay attention [36]. This cannot be said of consumers in this study, perhaps because they can mostly read and understand nutrition information. On the other hand, some of them could be categorized as meal planners of higher-income households; who are often highly educated, and are more likely to use nutritional information regarding calories, sodium, fibre, fat, and cholesterol content than meal planners of lower-income households [18].

Paying attention to expiry dates on labels as depicted in this study is not only common but also an influential aspect of food label use among most consumers in developing markets [30]. It may serve as an assurance for their safety, which together with checking

for nutrition information constitute behaviors that could ensure the health of consumers [37]. On the other hand, checking for expiry dates is easier for consumers who may not necessarily understand the nutrition information. However, in this study it is not clear to what extent nutrition content, expiry date or price overlap to exert their influence or determine the use of labels.

Determinants of use of food and nutrition labels among consumers

The claim by consumers to understand food labels is significantly ($\chi^2=27.05$, df, 1, $p<0.001$) more likely to influence their use of labels during purchasing. Nevertheless, many socio-demographic factors have also been shown to relate to or, influence understanding and these in turn could determine use of food and nutrition labels among this study population (Table 4).

In Table 4, socio-demographic characteristics that were shown to be significantly associated with understanding of food labels included gender ($p=0.009$), age ($p<0.025$), occupation ($p<0.001$), educational level ($p<0.020$) and income ($p=0.049$), respectively. By logistic regression modeling, a test of the full model against a constant only model was statistically significant (chi square = 211.688, $p<0.001$ with df = 4), indicating the predictors as a set reliably distinguished between those who claim to understand the labels and those who do not. A Nagelkerke's R^2 of 0.599 indicated a moderately strong relationship between prediction and grouping with overall prediction success as 79.9% (94.1% for "yes" and 50.0% for "no"). The Wald criterion demonstrated that gender made a significant contribution to prediction ($p<0.001$), with males significantly more likely to understand nutrition labels than females, while age, occupation, educational level or income were not significant predictors.

In relating consumer's socio-demographics with the use of food labels, gender ($p=0.919$) and income ($p=0.219$) did not emerge significant, but age ($p=0.054$), occupation ($p=0.007$) and educational level ($p<0.001$) yielded quite significant associations with food label usage. The test of a full regression model against a constant only model was also statistically significant (chi square = 43.237, $p<0.001$ with df=4), indicating that the predictors as a set reliably distinguished between those who used the food labels and those that did not, but with a Nagelkerke's R^2 of 0.235 a weak relationship was indicated between prediction and grouping. Nevertheless, education (being highly educated) emerged as a significant socio-demographic predictor ($p=0.001$) of use of the labels in the study population.

With respect to socio-demographic determinants of consumer behavior, a study in Belgium has shown similarly that the responsiveness of Belgian consumers to information about food traceability was significantly associated with education, but not with gender and age [38]. A contrasting finding in a UK study [39] established that the educational level of UK consumers did not affect their interpretation and responses to the information provided on labels, which may be attributed to the generally high level of nutrition label information awareness among that population.

Grossman and colleagues have estimated that the rate of appreciation for good health increases with age [40]. This means that older individuals are likely to be more cautious

about what they eat for health reasons. Thus, a consumer's desire to know more about the nutritional aspects of the food they eat may be increased with aging. In a study in Lesotho, where majority (71.2%) of the consumers claimed that they use a shopping list, a positive relationship was established between food label usage and age as well as income, family size and education [34]. Data in this current study revealed a significant association between label understanding and age ($p < 0.001$), which seems to suggest that older consumers in the Tamale Metropolis are more likely to understand food label information which could influence their use of the labels. Some studies however have shown to the contrary that middle aged or younger adults were more likely to use nutrition labels than older individuals [13, 22]. Nevertheless, other studies, which resonates with the findings of this study, have shown that as age increased the likelihood of using nutritional labels also increased [23, 25]. To explain this age-related influence, Drichoutis *et al.* [23] have opined that older respondents have a tendency to engage in nutritional information search because they may have restricted diets recommended by their medical advisers as a result of health problems such as hypertension and high cholesterol. They further explained that older people may be more informed about nutrition due to past experience. The appreciable number of consumers in this study who claimed to be influenced by health claims may indicate that age is not a critical factor in this study population and, therefore, does not lend support to the age related influence on label use.

In terms of gender, majority of studies have found that women in general are more likely to use nutrition labels than men [20, 37]. This may be attributed to the primary gender roles of women in the selection and production of food which tends to make them better informed about health knowledge than men [10]. Furthermore, women are known to have a natural interest in providing safe and wholesome food for their families. Additionally, some studies report that men have less interest in checking food labels while women who earn high income and attain high levels of education were most likely to check food labels [4]. However, a contrasting study that corroborates this current one observed that males reported greater usage and importance of the nutrition label compared to females, probably because disease risk perceptions was higher among males than females [21]. That males in this study have a greater tendency to understand food and nutrition labels presupposes they would have more interest in checking or using the food labels than females. This tendency may be attributable to the socio-cultural dynamics of the people of Tamale where men are generally more educated, key decision makers of the household with full authority to enter the dignified stores and supermarkets while the women trade and shop more in the local markets where fewer foods are labeled.

With regard to occupation, studies are varied in their conclusions. While some have concluded that use of nutrition label is negatively associated with employment status [16, 18], others have shown the relationship to be positive [23]. Employed consumers may use food labels for many reasons, but in the case of consumers in the Tamale metropolis it is quite likely that this 'highly educated' group is influenced more by their status and perhaps their inclination to be health conscious. Most consumers who are employed may be main meal planners who tend to have ample time to grocery shop and to look at nutritional information compared to unemployed counterparts. Clearly, education is a primary determinant of knowledge of food and nutrition labels and where highly



educated consumers are concerned as demonstrated in this study, their understanding of labels and for that matter their use of it would most likely be influenced by this particular socio-demographic characteristic. In fact, predominantly literate consumers in the Tamale metropolis of Ghana have demonstrated a level of knowledge, understanding and by extension use of nutrition information on food packages comparable to that of most consumers worldwide. However, it has not been possible to show whether their understanding of nutrition information on food labels is related to their nutrition knowledge or their perceptions about diet and health, which have been demonstrated in some studies to have significant impact on label usage [23].

CONCLUSION

Undoubtedly, this study conducted in a predominantly literate population has highlighted the usefulness and importance of nutrition information and label consciousness in a developing market. Hopefully, this would add to the call for a nationwide approach towards future information and education strategies for consumers, health professionals and other stakeholders interested in consumer awareness activities.

The predominance of students as participants stemming from the inherent design of the study is a limitation. Thus, further studies on a much larger scale need to be conducted in the metropolis to explore the behaviours and other aspects of food and nutrition labeling in both literate and less literate populations.

Table 1: Socio-demographic characteristics of consumers (n=384)

Variable	Frequency	Percent
Age		
15 - 30	311	81.0
31 - 46	64	16.7
47 - 62	4	1.0
63 and above	5	1.3
Gender		
Male	227	59.1
Female	157	40.9
Educational level		
Primary	3	0.8
JHS	13	3.4
SHS	92	24.0
Tertiary	276	71.9
Monthly Income (GHS)		
0 - 499	247	64.3
500 - 999	110	28.6
1000 – 1499	15	3.9
1500 – 1999	6	1.6
2000 and above	6	1.6
Occupation		
farmer	39	10.1
trader	13	3.4
teacher	37	9.6
student	223	58.1
health worker	34	8.9
civil/public servant	38	9.9

Table 2: Consumer’s self-reported awareness and understanding of food labels

Variable	Frequency	Percent
<i>Food label awareness</i>		
Yes	378	98.4
No	6	1.6
<i>Understanding</i>		
Yes	256	66.7
No	14	3.6
Partial	108	28.1
Not applicable	6	1.6

Table 3: Consumers’ practice on food and nutrition label information

Variable	Frequency	Percent
<i>Ever Used food labels</i>		
Yes	368	95.8
No	16	4.2
<i>Frequency of using food labels</i>		
Most of the time	199	51.9
Occasionally	125	32.4
Rarely	44	11.5
Not applicable	16	4.2
<i>Is food labeling important</i>		
Yes	381	99.2
No	3	0.8
<i>What you look for on food label</i>		
Expiry date	138	35.9
Both expiry date and nutrition information/nutrient content	167	43.5
Nutrition information/nutrient content	41	10.6
Manufacturer, the origin and FDA certification	4	1.0
Nothing/no response	34	9.0
<i>Label influence at purchasing point</i>		
Yes	343	89.3
No	41	10.7

Table 4: Socio-demographic determinants of understanding of food labels

Socio-demography	Do you understand the labels			χ^2	df	P-value
	Yes	No	Total			
Gender						
Male	164	61	225	10.782	1	0.009**
Female	92	61	153			
Age						
15 – 40years	224	122	346	7.660	1	0.025*
>40years	27	5	32			
Occupation						
employed	152	6	158	16.374	1	<0.001***
unemployed	98	125	220			
Educational level						
Pre-tertiary	65	37	102	8.375	1	0.020*
tertiary	209	67	276			
Income (GHS)						
=<1000	209	142	351	6.429	1	0.049*
>1000	21	6	27			

*significant at p<0.05, **significant at p<0.01, ***significant at p<0.001

Table 5: Socio-demographic determinants of food label use

Variable	Influence use of labels			χ^2	df	P-value
	Yes	No	Total			
Gender						
Male	174	51	225	0.004	1	0.919
Female	119	34	153			
Age						
15 – 40years	259	85	344	5.660	1	0.054*
>40years	29	5	34			
Occupation						
employed	192	28	220	12.701	1	0.007**
unemployed	121	37	158			
Educational level						
Pre-tertiary	66	38	104	14.640	1	<0.001***
tertiary	249	25	274			
Income (monthly)						
=<1000 GHS	189	152	341	2.490	1	0.219
>1000 GHS	18	9	27			

*significant at p<0.05, **significant at p<0.01, ***significant at p<0.001



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