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Tea Consumption in Ogun State, Nigeria: Prevalence and Characteristics of Consumers

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Abstract: The study examines the prevalence of tea consumption as well as the characteristics of its consumers in Abeokuta, Ogun state. Discriminant and descriptive analyses were applied to cross sectional data obtained from the study area. The study showed that educational status, age, income per month, average consumption, marital status are the strong discriminating factors on tea consumption status ($p < 0.05$). The result established that the prevalence of tea consumption (73.4%) was high (male 73.1%, female 73.7%). The overall highest prevalence of tea consumption (100%) was observed among the respondents in the age bracket of 38-47 years (male 100%, female 100%). Intensive media advertisement, improved packaging and consumers' education are suggested recommendation for increase in tea consumption in the study area.

Key Words: Tea, infusion time, discriminant analysis, caffeine, canonical correlation

INTRODUCTION

Tea (*Camellia sinensis*) is an evergreen tree plant belonging to camellia genus in *Theacea* family. Camellia species spread in more than 90 species from Nepal to Taiwan and Japan in the East Asia. Among these species, Tea is the most widely distributed.

A lot of tea is consumed in European countries as well as the countries where it is produced. In USA and European countries, the consumption of tea is lower than that of coffee. In Nigeria, the consumption of tea as beverage is common among different categories of people and households. Consumption of tea in Nigeria is not only restricted to drinkers' households, tea is purchased and drank at bus-stops, motor garages and it is hawked by different classes of people who earn their living through this means. Tea is drunk during cold weather as hot beverages or as iced tea when the weather is hot. Tea is a widely consumed beverage throughout the world (Deng *et al.,* 1998). Tea is the second most consumed beverage in the world (Nutraingredients, 2004).

Study by Deng *et al.* (1998) has shown that average consumption of tea is 6.0 kg for 60 kg body weight. In the far East (particularly in china and Japan), tea is consumed mainly as a hot infusion of 'unfermented' fresh green shoots (green tea), whereas in most other countries beverage is prepared from predominantly "fermented" black tea (Conrad, 2001). In addition, worldwide consumer observations and questionnaire studies on tea preparations habits have shown wide variations among countries in the way tea is prepared. For example, the weight of tea taken, the length of time the leaf is left in contact with water and the use of additional ingredients are sources of variation in tea preparation.

Tea leaves is an important source of caffeine. Pharmacologists class caffeine as a mild stimulant of the central nervous system. Like other stimulants, it increases alertness. It also speeds up heartbeat and breathing rate and affects some other organs as it moves through the body. However, caffeine has been inconclusively implicated in many health disorders; such as heart and reproductive problems, mental disorder and cancer (Thomas, 1991). The health effects of tea consumption have, for example been the subject of a number of epidemiological and intervention studies and evidence is emerging of a relationship between tea consumption and a reduced risk of cardiovascular diseases and cancer (Hollman *et al.,* 1996; Hartog *et al.,* 1995; Tijburg *et al.,* 1997). Poulter *et al.* (2003) in a study on tea drinking impact on cardiovascular health in UK revealed that tea is a good source of dietary antioxidant flavonoids and their actions on endothelial function may help explain the cardioprotective effects of tea drinking that is observed in some countries.

The sociocultural and economic patterns of the Nigerian population do not typically correspond to the Asia or the European countries where tea consumption is higher. This is why data on tea consumption would be valuable and therefore why we conducted our study. The aim of the study was to estimate the prevalence and characteristics of tea consumption among the residents of Abeokuta. Attempt is also made to examine key socio-economic variables explaining the differences between tea consuming individuals and the non-tea consuming individuals. The significance of this study is fundamental, considering the importance of tea as a food drink. The finding of the study is expected to provide the tea

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consuming persons with scientific facts on tea and assist stakeholders in the tea industry in the production and marketing of branded tea. Furthermore, most studies on tea have been experimental, while in the few socioeconomic studies none is concerned with discriminating the tea consuming and non-tea consuming persons using the key human and social factors. This study tends to fill this lacuna in literature.

MATERIALS AND METHODS

The data for this study were obtained through structured questionnaire and interview. Purposive random sampling procedure was employed in the field survey. The questionnaire was structured to reflect the objective of the study. Three local government areas namely Abeokuta south, Abeokuta north and part of Obafemi – Owode Local Government Areas of Ogun state were covered. The minimum age of the respondents considered for the study was seventeen years old. The respondents were defined as tea drinkers if they consume tea as at the time of survey and must have been consuming tea consistently/sparingly for the past six months. The non drinking respondents were defined as respondents who drank tea last at least two months before the survey. The choice of the LGAs was as a result of their metropolitan nature. They are made up of people of diverse socioeconomic background. One hundred and twenty questionnaires were administered in six major towns of the LGAs. The questionnaires were distributed as follows: Ibara/Panseke (25), Itoku (20), Ake (22), Ita-Oshin (22), Onikolobo (25), Elega/Akomoje (20) and Lafenwa (20). A total of 109 questionnaires were returned. The interview centered on why some respondents prefer cocoa food drinks to tea.

Descriptive, chi-square and discriminant analyses were employed in the study. The descriptive analysis was used to describe the socioeconomic and demographic characteristics of the residents in the study area. Specifically, sex, age, educational attainment, average income, preferred brand of tea, average number of cups consumed and frequency of consumption of residents were analysed in the study.

Chi-square analysis was used to test the following hypotheses:

(1) H_o: The place (home/eateries/kiosk) of tea consumption is not influenced by marital status of respondent.

- H_1: The place (home/eateries/kiosk) (home or eateries) of tea consumption is influenced by marital status of respondent.

(2) H_o: Average cup (saucer) of tea consumed is independent of respondent's age.

- H_1: Average cup (saucer) of tea consumed is dependent of respondent's age.

Discriminant analysis is a multivariate statistical method used to estimate the linear relationship between a dependent non-metrical variable having two or more categories and linear combinations of more independent metric variables. Generally, Discriminant analysis is used to distinguish the between/among groups of persons, in this case between the consumers and non-consumers of tea. Each respondent consumers and non-consumers of tea were measured on eight variables. We want to know whether the measurement we obtain on the nine variables can be used as a means of discriminating between consumers and non-consumers of tea. Smith (1979) identified two procedures for conducting discriminant analysis:

- Discriminant predictive analysis whose objective is to develop an equation that maximally discriminates between groups (dependent variables) using independent variables.
- Discriminant classification analysis, uses the predictive functions derived in the first procedure to either classify fresh sets of data of known group membership, thereby validating the predictive function; or if the function has previously been validated, to classify new sets of observations of unknown group membership.

The implicit discriminant function used for this study is shown below:

$$D = \omega_o + \omega_1\lambda_1 + \omega_2\lambda_2 + \omega_3\lambda_3 + \omega_4\lambda_4 + \omega_5\lambda_5 + \omega_6\lambda_6 + \omega_7\lambda_7 + \omega_8\lambda_8 + \omega_9\lambda_9$$

Where:

D represents the consumers of tea / non-consumer of tea:

λ_1 represents educational status of respondents
λ_2 represents the age (year) of respondents
λ_3 represents the sex (male = 1, female = 0) of respondents
λ_4 represents the choice of brand of tea (1, 2, 3,.....) of respondents
λ_5 represents the season of consumption (wet/cold = 1, hot = 0) by respondents
λ_6 represents the average number of cups consumed by respondents
λ_7 represents the marital status (single = 1, married/separated = 0) of respondent
λ_8 represents the average monthly income (N) of respondent

The significance test for each of these socio-economic variables was carried out using Wilks' lambda test. Also classification accuracy is obtained to assess the utility of the discriminant model. This is achieved by comparing the cross – validated accuracy rate produced by Statistical Package for Social Science (SPSS) to 25% more than the proportional by chance accuracy (same test

can be carried out using Chi-square test on classification table result). Moreover, significance tests were performed on the two primary assumptions of discriminant analysis (multivariate normality and equality of covariances) using the hypothesis below:

$H_{O:}\Psi_1 = \Psi_2$ (Covariance matrices do not differ between groups formed by dependent variables)

$H_{1:}\Psi_1 \neq \Psi_2$ (Covariance matrices differ between groups formed by dependent variables)

Acceptance of null hypothesis means that this assumption is not violated.

The choice of this technique is informed by the principal difference between the discriminant function and regression analysis. The former contains a qualitative dependent variable whereas the later has a quantitative variable (Singh and Pandey, 1981). These two authors further noted that Fisher (1950) has shown that the two methods virtually merge, if the qualitative dependent variable is quantified by assigning the dummy values. However, with the help of discriminant function analysis two social groups can be separated which is not possible in regression analysis. Here, the discriminant function, also known as a classification criterion was determined by a measure of generalized squared distance (Rao, 1973).

RESULTS AND DISCUSSION

The study showed that 48.6% of the respondents were male while 52.3% were female (see Appendix 4.0). The respondent's educational status revealed that 60.4% had at most National Diploma/National Certificate of Education while 39.6% had at least Higher National Diploma. Furthermore, 66.7% of the respondents are single while 33.3% are either married/separated/widow or widower (see appendices 3.0 and 3.1). Also the average age of respondents is 29.1years (31.2years for male and 27.3years for female). The average income per month of male (N25, 220) respondents is higher than that of female (N14, 042) respondents (Table 1).

From the Table 2, the prevalence of tea consumption was 73.4% (male 73.1%, female 73.7%) in the study area. The overall highest prevalence of tea consumption (100%) was observed among the respondents in the age bracket of 38–47years (male 100%, female 100%). This is unlike similar studies Gregory *et al.* (1995), Finch *et al.* (1998), Ministry of Agriculture Fisheries and Food (1994) which showed that tea drinking is highest among the respondents in the age bracket of over 65years. Majority of the tea consuming respondents' preferred Lipton Yellow-labeled tea (70.3%), 14.4% opted for Top tea while 1.8% of the respondents' choice of tea was home cup brand of tea (see Appendix 3.3). Tea consumption by respondents showed that 6.7% of tea consuming respondents took one saucer of their preferred tea, 40.4% and 34.6% consumed two and four saucers, respectively

Table 1: Socioeconomic characteristics of respondents

Variable	Parameter Mean	Sample size	Standard deviations	Skewness
Age (year) for all -Respondents	29.1	110	8.4	0.804
Male	31.2	52	9.6	1.03
Female	27.3	58	7.5	1.14
Age (year) for tea -Consuming Respondents	30.1	80	8.1	0.43
Male	28.9	38	7.8	0.51
Female	31.2	42	8.4	0.38
Income (N'000)/Month for all Respondents	19.33	110	19.58	1.27
Male	25.22	52	21.71	0.73
Female	14.04	58	13.88	1.88
Income (N'000)/Month for tea Consuming Respondents	21.57	78	21.05	1.10
Male	28.94	38	22.40	0.54
Female	14.90	40	17.48	1.99
Cup of tea (Saucer) -Consumed	2.52	80	0.96	0.43
Male	2.44	38	1.00	0.49
Female	2.67	42	0.98	0.08

Source: Result of field survey data, 2006.

Table: 2 Prevalence of Tea Consumption in Abeokuta Metropolis

Characteristic	Sample size	Number of Tea Consuming Respondents	Percentage of Number of Tea Consuming Respondents (%)
All respondents	109	80	73.4
Male	52	38	73.1
Female	57	42	73.7
Age (year) group: 16 - 27	54	32	59.3
Male	19	10	52.6
Female	35	22	62.9
Age (year) group: 28 - 37	40	33	82.5
Male	20	17	85
Female	20	16	80
Age (year) group: 38 - 47	14	14	100
Male	10	10	100
Female	4	4	100
Age (year) group: 48 - 57	3	1	33.3
Male	2	0	0
Female	1	1	100

Source: Result of field survey data, 2006.

(see Appendix 3.4). Out of the 80 tea consuming respondents, 21 (26.3%) preferred to buy prepared tea from either eateries or 'mai - tea' while 59 (73.8%) preferred home prepared tea. The breakdown showed that 61.9% of the tea consuming respondents that preferred buying prepared tea believed that it is convenient while 19% claimed that it is cheaper and better prepared (see Appendix 3.5). Also, 48.1% of the tea consuming respondents claimed they consumed tea frequently all seasons (either dry season or rainy/hamattan season) while 51.9% claimed they consumed tea during rainy/hamattan season (see Appendix 3.6).

The chi-square test showed that marital status of respondent did not influence the place (home or eateries) of tea consumption ($p>0.05$). This is contrary to general believe that married (male or female) persons prefer home prepared tea because all that is required for its preparation are available at home. This is unlike most single persons'. Also, the test revealed that average cup (saucer) of tea consumed was not influenced by respondent's age (see Appendices 3.7 and 3.8).

The result of the discriminant analysis revealed that educational status, age, income per month, average consumption, marital status are significant ($p<0.05$) for the tests of equality of group means out of the eight

Appendix: 3.0

Educational Level

		Frequency	(%)	Valid (%)	Cumulative (%)
Valid	Low	67	060.4	060.4	060.4
	High	44	039.6	039.6	100.0
	Total	111	100.0	100.0	

Low (Primary Sch. Certificate - OND/NCE); High (HND - Post Graduate Degree).
Source: Result offield survey data, (2006)

Appendix: 3.1

Marital Status

Valid	Frequency	(%)	Valid (%)	Cumulative (%)
Single	74	66.7	66.7	66.7
Married, (Separated, Divorced, Widow and Widower)	37	33.3	33.3	100.0
Total	111	100.0	100.0	

Source: Result offield survey data, 2006

Appendix: 3.2

	Statistics	
INCOME/MONTH		Cumulative (%)
N	Valid	110
	Missing	115
Mean		19.33
Std. Error of Mean		1.867
Std. Deviation		19.576
Skewness		1.271
Std. Error of Skewness		0.230

Source: Result offield survey data (2006)

Appendix: 3.2a

Statistics

Male Respondents: Income/Month (N'000)		Cumulative (%)
N	Valid	52
	Missing	0
Mean		25.2212
Std. Error of Mean		3.00997
Std. Deviation		2.17052E1
Skewness		0.733
Std. Error of Skewness		0.330
Sum		1311.50

Source: Result offield survey data, 2006

Appendix: 3.2b

Statistics

Female Respondents: Income/Month (N'000)		Cumulative (%)
N	Valid	57
	Missing	1
Mean		14.0421
Std. Error of Mean		2.11830
Std. Deviation		1.59928E1
Skewness		2.052
Std. Error of Skewness		0.316
Sum		800.40

Source: Result offield survey data, 2006

Appendix: 3.3

	Brand	Frequency	(%)	Valid (%)	Cumulative (%)
Valid	Lipton	78	70.3	76.5	76.5
	Top Tea	16	14.4	15.7	92.2
	Prime Tea	2	1.8	2.0	94.1
	Bongo	2	1.8	2.0	96.1
	Home Cup	2	1.8	2.0	98.0
	Others	2	1.8	2.0	100.0
	Total	102	91.9	100.0	
Missing	System	9	8.1		
Total		111	100.0		

Source: Result offield survey data, 2006

Appendix: 3.4

Average Consumption		Frequency	(%)	Valid (%)	Cumulative(%)
Valid	One Saucer	009	06.7	08.3	08.3
	Two Saucers	044	40.4	40.7	49.1
	Three Saucers	019	17.1	17.6	66.7
	Four Saucers	036	34.6	33.3	100.0
	Total	108	97.3	100.0	
Missing	System	003	02.7		
Total		111	100.0		

Source: Result offield survey data, 2006

Appendix: 3.5

Reasons for Buying

-Preparea Tea		Frequency	(%)	Valid (%)	Cumulative(%)
Valid	Better Prepared	4	19.0	19.0	19.0
	Cheaper	4	19.0	19.0	38.1
	Convenient	13	61.9	61.9	100.0
	Total	21	100.0	100.0	

Source: Result offield survey data, 2006

Appendix: 3.6

Season of Tea Consumption		Frequency	(%)	Valid (%)	Cumulative (%)
Valid	Others	64	61.0	61.0	61.0
	Rainy/ Hamattan-Season	41	39.0	39.0	100.0
	Total	105	100.0	100.0	

Others (dry season and all seasons). Source: Result offield survey data, 2006.

Appendix: 3.7a

Place of tea consumption marital status crosstabulation

Place of tea consumption		Marital status Married	Single	Total
Home	count	21	60	81
	Expected count	22.0	59.0	81.0
Tea kiosk	count	7	15	22
	Expected count	6.0	16.0	22.0
Total	Count	28	75	103
	Expected count	28.0	75.0	103.0

Source: Result offield survey data, (2006)

Appendix: 3.7b

Chi-square Tests

	Value	df	Asymp.Sig. (2-sided)	Exact Sig. (2-sided)	exact Sig. (1-sided)
Pearson chi-Square	0.303b	1	.582		
Continuity Correction	0.079	1	.779		
Likelihood Ratio	0.296	1	.586		
Fisher's Exact Tests				0.596	0.381
N of Valid Cases	103				

a. computed only for a 2×2 table; b. 0 cells (.0%) have expected count less than 5. the minimum expected count is 5.98. Source: Result offield survey data, 2006

Appendix: 3.8a

Average Saucer (s) of Tea Consumed * Age (year) Crosstabulation

Average Saucer (s) of Tea Consumed		Age (year) 16-27	28-37	38-47	48-57	Total
Four Saucers						
	Count	5	10	2	1	18
	Expected -Count	8.3	7.0	2.3	.4	18.0
One Saucers						
	Count	2	5	1	0	8
	Expected -Count	3.7	3.1	1.0	.2	8.0
Three Saucers						
	Count	13	6	1	1	21
	Expected -Count	9.7	8.2	2.7	.5	21.0
Two Saucers						
	Count	20	13	7	0	40
	Expected -Count	18.4	15.6	5.1	.9	40.0
Total	Count	40	34	11	2	87
	Expected Count	40.0	34.0	11.0	2.0	87.0

Source: Result offield survey data, (2006)

Appendix: 3.8b

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.071[a]	9	.271
Likelihood Ratio	12.07	9	.209
N of Valid Cases	87		

a. 9 cells (56.3%) have expected count less than 5. The minimum expected count is.18.Source: Result offield survey data, 2006

Appendix: 4.0

	Sex	Frequency	(%)	Valid (%)	Cumulative (%)
Valid		1	.9	.9	.9
	Male	52	46.8	46.8	47.7
	Female	58	52.3	52.3	100.0
	Total	111	100.0	100.0	

Source: Result offield survey data, 2006

Appendix: 4.1

	Consumption Period	Frequency	(%)	Valid (%)	Cumulative (%)
Valid	Afternoon	1	1.0	1.0	1.0
	Anytime of the Day	26	26.0	26.0	27.0
	Evening/Night	6	6.0	6.0	33.0
	Morning	67	67.0	67.0	100.0
	Total	100	100.0	100.0	

Source: Result offield survey data, (2006)

Appendix: 4.2

Structure Matrix	Function
	1
Average Consumption	-.711
Age (year)	0.605
Income per Month	0.399
Educational Status	0.392
Marital Status	0.382
Brand	-.218
Sex	0.120
Season ofConsumption	0.077

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions Variables ordered by absolute size ofcorrelation within function.

Source: Result offield survey data, (2006)

identified independent variables. Each test below displays the results of a one-way ANOVA (F-test) for the independent variable using the grouping variable as the factor. This result is also confirmed by the Wilks' Lambda values. The variables with smaller values are better at discriminating between the consumer of tea and non-consumer of tea respondents in the study areas. The order of significance is as follows: average consumption (0.885), age (0.914), marital status (0.944), educational status (0.952) and income per month (0.964) (Table 3). Other variables such as sex, brand and season of consumption are insignificant or have weak discriminating factors on the dependent variables.

Table 3 also shows that average consumption is the best, followed by age and marital status. The structure matrix table (see appendix shows that predictor variables strongly associated with discriminant function which distinguished between survey respondents ofconsumerof tea and non-consumer of tea are age (r = 0.605), average consumption (r = -0.711), marital status (r = 0.382), income per month (r = 0.399) and educational status (r = 0.392). Theoretically, a loading in the structure matrix is not interpreted unless it is 0.30 or higher.

The squared of canonical correlation (R_c^2) revealed that 75% variation in the dependent variable (consumer of tea and non-consumer of tea) is attributed to the independent variables (educational status, age, income per month, average consumption and marital status). The remaining 25% may be attributed to other predictors that are not reflected in the model (Table 4).

Unlike Wilks' Lambda test in Table 3 which determines the independent variable to be included in discriminant function, the significance of the Wilks' Lambda test above (Table 4) shows that the groups are well separated into consumer of tea and non-consumer of tea by the discriminant function.

Moreover, the significance of this test indicates that the discriminant function does better than chance at separating the groups (consumer of tea and non-consumer of tea respondents). In Box's M test, the null hypothesis

Table 3: The average consumption of age and marital status

Tests of equality of group means

	Wilks' Lambda	F	dfl	df2	Sig.
Educational Status	0.952	5.974	1	96	0.034
Age (year)	0.914	9.056	1	96	0.003
Sex	0.996	0.358	1	96	0.551
Brand	0.988	1.177	1	96	0.281
Income per Month	0.964	4.939	1	96	0.042
Season ofConsumption	0.998	0.148	1	96	0.701
Average Consumption	0.885	12.495	1	96	0.001
Marital Status	0.944	6.320	1	96	0.020

Source: Result offield survey data, 2006

Table 4: Eigenvalue, Wilk's lambda and Box M test results

Parameter	Estimated Value	Degree of Freedom dfl	df2	p
Eigenvalue	0.258			
Canonical correlation	0.753			
Wilk's lambda	0.795	8	8	0.007
Chi-square	21.10			0.007
Box M	54.03			
F Approx	1.02	45	12397	0.443

Source: Result offield survey data, 2006

Table 5: Classification function coefficients

	Consumption Status	
	Non-consumer of Tea	Consumer of Tea
Educational Status	-1.811	-2.154
Age (year)	.694	.824
Sex	2.645	3.527
Brand	1.210	1.079
Income per Month	.059	.067
Season ofConsumption	1.604	2.343
Average Consumption	3.552	2.562
Marital Status	-4.064	-4.872
(Constant)	-16.950	-17.848

Fisher's linear discriminant functions

Source: Result offield survey data, 2006

is accepted ($p>0.05$). This means that there is no significant difference in covariance matrices between the groups formed by the dependent variables.

The acceptance of null hypothesis above means that two important assumptions of discriminant analysis are not violated. This means that:

- Covariance matrices do not differ between groups formed by the dependent variable.
- Each predictor variable has a normal distribution about fixed values of all the other independents (multivariate normality assumption).

According to Garson (2008), the probability value of F should be greater than 0.05 to demonstrate that the assumption of homoscedasticity is upheld. This test is very sensitive to meeting also the assumption of multivariate normality.

The coefficients of the classification function for tea consumption status (consumer of tea and non-consumer of tea respondents) is presented in Table 5. From this able the equations for the classification of predicted group membership (consumer of tea and non-consumer of tea) are obtained.

$$D_{con\,tea} = -17.85 - 2.15\lambda_1 + 0.82\lambda_2 + 3.53\lambda_3 + 1.08\lambda_4 + 2.34\lambda_5 + 2.56\lambda_6 - 4.87\lambda_7 - 0.067\lambda_8 \quad (2)$$

$$D_{non\,con\,tea} = -1695\text{-}1.81\lambda_1 + 0.69\lambda_2 + 2.65\lambda_3 + 1.21\lambda_4 + 1.60\lambda_5 + 3.55\lambda_6 - 4.06\lambda_7 + 0.059\lambda_8 + 0.059\lambda_9 \quad (3)$$

Table 6: The detail percentage of individuals

Classification Results[b,c]		Predicted Group Membership		
	Consumption Status	Non-consumer of Tea	Consumer of Tea	Total
Original				
Count	Non-consumer of Tea	18	2	20
	Consumer of Tea	29	49	78
%	Non-consumer of Tea	90.0	10.0	100.0
	Consumer of Tea	37.2	62.8	100.0
Cross-validated[a]				
Count	Non - consumer of Tea	12	8	20
	Consumer of Tea	31	47	78
%	Non - consumer of Tea	60.0	40.0	100.0
	Consumer of Tea	39.7	60.3	100.0

a: Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.
b: 68.4% of original grouped cases correctly classified.
c: 64.2% of cross-validated grouped cases correctly classified.
Source: Result of field survey data, 2006.

Given the equations and the observed values of λ_i, the discriminant score ($D_{con\,tea}/D_{no\,n\,con\,tea}$) based on the guinea worm disease status can be obtained.

From Table 6, the non-consumer of tea have the better classification. Of the cases used to create the model, 18 of the 20 individuals (90%) who are previously non-consumer of tea are classified correctly while 49 of the 78 individuals (62.8%) who are previously consumer of tea are classified correctly. The percentage of the individuals predicted correctly (whether consumer or non-consumer) gives the original grouped cases correctly classified (68.4%). The cross-validated classification accuracy (64.2%) is significantly greater than the accuracy attainable by chance alone (62.5%). The criterion for classification accuracy is satisfied. This means that the independent variables are useful predictors of the membership of the groups defined by the guinea worm infection status. The proportional by chance accuracy rate is computed by squaring and summing the proportion of cases in each group from the table of prior probabilities for groups (see Appendix for Table 5): ($0.5^2 + 0.5^2 = 0.5$). A 25% increase over this would require that cross-validated accuracy to be 62.5% (1.25 X 50% = 62.5%).

CONCLUSION

Unlike in most developed countries, where tea drinking tends to be more common in the higher socio-economic groups, the study showed that tea is consumed by everybody irrespective of the socio-economic group. Generally, the study revealed a high rate of tea consumption among the resident of Abeokuta, Ogun state. Tea consumption is highest among the residents in the age bracket of 38 – 47 years for both sexes (male and female). The study also showed that age, marital status, educational status, average consumption and income per month are the strong discriminating factors for consumers' and non-consumers' of tea. Preference for tea by residents varies among the available common brands varies (Lipton, Top Tea, Prime Tea, Bongo and Home Cup). Although the study showed that the prevalence of tea consumption was high, it was noted that most people would have preferred cocoa food drinks such as Milo, Bournvita, Vitalo and Ovaltine but for the high prices. The general belief is that cocoa food drinks are fortified with vitamins and minerals and very convenient to prepare most especially with cold water. Among the populace, the belief is that those that consume cocoa food drinks are of higher social status. The fear of caffeine side-effect is higher among the educated respondents hence their preference for cocoa food drinks.

RECOMMENDATION

From the foregoing, the following are suggested recommendations that will bring about increase in tea consumption in the study area:

- Proper education of the populace through media on the recent findings on the effect of caffeine on human being,
- Improved packaging and
- The need for integrated advertisement and sales promo most especially for those brands that have low demand.

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