



Awareness Study of the Anti-Malaria Activity of Cocoa Powder in Oyo State Nigeria

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Abstract

The high awareness level of the beneficial effect of cocoa powder which is accompanied by low consumption is a source of concern in Nigeria over the years. The awareness level of health benefit of cocoa consumption is (70.0%) while consumption rate of cocoa powder is as low as (31.3%). The resultant effect of this is the high expenditure on treatment of malaria (57.3%) of the respondent spent close to 3999 in the treatment of malaria. However, many used various means of treatment while (50.0%) spend money on drugs for malaria treatments. Those who consumed cocoa powder frequently is as low as (13.0%) while 56.0% rarely consumed in spite of knowledge of the beneficial effect of regular intake of cocoa powder on human health. Similarly, the results from this study shows that, the health history of consumption among respondent with genotype AA is as high as (46.7%), these have health history of frequent malaria occurrence (54.7%), high family attack of malaria (66.7%) while (50.0%) of these respondents used drug for treatment of malaria.

Keywords: Cocoa powder; Awareness; Consumer; Health benefit; Malaria.

1. Introduction

Cocoa contains polyphenols with a high percentage of polymerization. Cocoa also, contains small amount of flavonoids and phenolic acids which are beneficial to human health. Studies have shown the effect of cocoa powder as immune booster which is very beneficial to human health (Jayeola *et al.*, 2011). The awareness campaigns on the health benefit of consuming cocoa powder is on the increase in the recent time (Agbongiarhuoyi *et al.*, 2013). It is recognised that cocoa powder is beneficial to human health as protection against cancer (Akinboye, 2010), Cardiovascular diseases, (COPAL, 2009), anti-allergies, anti-platelet, anti-inflammation, anti-tumor (Keen *et al.*, 2005). Flavonoids in cocoa are found to reduce the blood pressure, prevent malaria, as well as diabetes (Akinboye, 2010).

Knowledge and awareness on the health benefit of cocoa dates back to the 15th and 18th centuries. Azetecs in central Mexico in the year 12th and 15th century highlighted the beneficial health effect of cocoa. Alexander von Humboldt 1769 stated that nowhere else has nature compressed stores of most valuable nutrients as contain in cocoa bean. Kwaku Addai (2013) noted that cocoa bean when properly processed is better than food and it regulate cardiovascular health than any drugs. Also, Cocoa News (2013) the EU confirmed that regular consumption of cocoa free flow of blood in the vessels. London Independent Newspaper (2014) wrote that cocoa is high in antioxidants and can fight blood clots and elevate mood. In the recent times awareness creation of health benefit of regular consumption of cocoa is the priority of all cocoa producing countries of the world.

Beverages Daily (2014), stated that to compliment this vision, the processing capacity of cocoa processing companies are expanded in Latin America and South East Asia. Millions of dollars are been invested into cocoa ventures around the world to make cocoa products available for all households consumption Olubamiwa (2014). This has resulted into increased entrepreneurship for cocoa producing countries. ICCO, (2014) noted that the demand for cocoa product in the recent times is appreciably high and the production capacity of West Africa is just 65.4% need to be expanded to cater for future demand. Adesina (2013), stated that Nigeria plan to increase cocoa production from 250,000 metric tonne to 500,000 metric tonne in year 2015 and to 1,000 metric tonne, 000 met in year 2020. Ivory Coast maintains her production capacity of 1,000,000 metric tonne while Ghana projected to meet the 1,000,000 metric tonne target for cocoa producing countries.

This research work seeks to ascertain the level of awareness of the effectiveness of consumption of cocoa powder on human health in Oluyole Local Government of Oyo State Nigeria.

2. Methodology

Random sampling techniques were employed to select the respondents among those who come for malaria treatment in CRIN health centre. The respondents were selected among those who have frequent cases of malaria episode at the health post. The section cut across people of different ages, sex, religions and educational backgrounds. Information was sourced through structured questionnaire to collect information of their age, sex, educational background and marital status. Also, information on their health history was sourced: Genotype, frequency of malaria attack, family history of malaria, treatment methods and drugs used in treating malaria. In addition too, the pre tested questionnaire asked information of awareness level of beneficial effect of cocoa powder on human health, consumption of malaria, in take rate, health benefit experienced and expenditure on treatment of malaria. Questionnaire was administered on 150 respondents. Descriptive Statistics was used to describe the social demographic characteristics of respondent as well as health history and their treatment of malaria before the use of cocoa powder.

3. Results and Discussion

3.1. Personal Characteristics of Respondents

The distribution of the respondents according to their social demographic variables shows that 32.8% of the respondents were between 35-44 years while, 25.3% are between ages 25-34 as shown in [table 1](#). This implies that the respondents were in their productive stage of life and malaria attack can affect their productivity. However, 68.85% were female, indicating that the stress of taken care of children, house keep and other responsibilities women undertake in the home make them susceptible to malaria. Only 45.3% had tertiary education, this is a positive pointer to management of malaria illness, understanding of sensitization on malarial and prevention practices available. It is observed that married women constituted 56.1% of the respondents while 15.3% are widow; however, 62.0% of the respondents are Christians while 38.0% are of Muslims religion.

Table-1. Social Economic Characteristics of Respondents

Variables	Frequency	Percentages
Age (Years)		
15-24	20	13.3
25-34	38	25.3
35-44	49	32.8
45-54	26	17.3
55-64	17	11.3
Total	150	100
Gender		
Male	46	30.7
Female	104	69.3
Total	150	100
Marital status		
Married	84	56.1
Single	23	15.3
Widow	23	15.3
Separated	20	13.3
Total	150	100
Education		
Primary	33	22.0
Secondary	49	32.7
Tertiary	68	45.3
Total	150	100
Religion		
Christian	93	62.0
Muslim	57	38.0
Total	150	100

Source: Field survey, 2017

3.2. Health History and Malaria Treatment Strategy

It could be observed from [table 2](#) that people with genotype AA were majority (46.0%) among the interviewee. Implying that, the true situation with malaria attack and treatment could be ascertained from the health history of these groups who are prone to malaria attacks frequently. However, 64.7% of these interviewed do have frequent family history of malaria attack. Also, it is observed that 19.0% of these respondents rarely have malaria attack indicating that malaria episode is common with respondent with genotype AA. It is also observed that 50.0% of the respondents used drugs for the treatment of malaria while, 21.3% utilized herbal treatments and 28.7% used

combination of drugs and herbal. This implies that majority of the respondent find drugs more effective in their treatment of malaria. This result is in harmony with that of Addai (2006).

Table-2. Distribution of Respondents According to Health History

Variable	Frequency	Percentages
Genotype		
AA	69	46.0
AS	48	32.0
SS	33	22.0
Total	150	100
Family History of Malaria		
Very common	97	64.7
Not common	53	35.3
Total	150	100
Frequency of Malaria occurrence		
Once in a while	31	20.7
Frequently	100	66.7
Rarely	19	12.6
Total	150	100
Treatment of Malarial		
Drugs	75	50
Herbal	32	21.3
Drugs/Herbal	43	28.7
Total	150	100
Drugs Used for malarial Treatment		
Camoquine	1	6.7
Artesunate	2	1.3
Coartem	7	11.48
Amala	1	1.64
Combisunate	3	4.92
Acy	9	14.75
Armaterm	1	1.64
Chloroquine	3	4.93
Artemerter	4	6.56
Alaxin	1	1.64
Lumaterm	18	29.51
Herbal	3	4.92
Total	150	100
Expenditure on malarial treatment (N)		
≤ 999	30	20.0
1000- 3000	82	54.7
4000-6000	16	10.7
7000-8000	16	10.7
9000-11000	3	2
Total	150	100

Source: Field survey, 2017

Table 3 indicated that 65.3% of the respondents are aware of the existence of cocoa powder as a byproduct and beverages from cocoa but not necessary its health benefits while 70% are aware of its health benefits to humans' health. However, sources of information about cocoa powder and its health benefit vary among the respondents; 50% got information from CRIN, 28.7% got from media and 21.3% from other sources. This implies that there is need for increased awareness sensitizations about the benefited health benefit of cocoa powder through all medium.

Table-3. Distribution of Respondents Awareness Level of cocoa powder

Variable	Frequency	Percentages
Awareness		
Yes	98	65.3
No	52	34.7
Health benefit awareness		
Yes	105	70
No	45	30
Source of information		
CRIN	75	50
Media	43	28.7
Others	32	21.3

Source: Field Survey, 2017

Information from table 4 shows the consumption of cocoa powder in relation to its awareness level. The result shows only (31.3%) of the respondents are consumed while majorities (68.7%) are not consuming cocoa powder despite their knowledge about the health benefit it offers. The implication of this is that respondents are not taking advantage of the health benefit of cocoa and this is responsible for all ailments ravaging in our society today and responsible for millions of death in Nigeria. These ailments can be prevented by regular intake of cocoa powder for people who have not been affected or otherwise maintained the ailment for those living with them thereby elongating their lives. Also from the table, its observed that there is low (13.3%) regular intake of cocoa powder among the respondent while (56%) seldomly and 30.6% rarely consumed powder. The implication of this is high mortality rate as well as increase in ailments which would have otherwise be prevented/maintained by the natural cocoa powder. However, expenditure on treatment of ailments keeps increasing (57.3%) among the respondent resulting from failure to take the cheap natural powder provided by the creator.

Table-4. Respondents Consumption of Cocoa Powder

	Frequency	Percentage
Consumption		
Yes	47	31.3
No	103	68.7
Total	150	100
Frequency of consumption		
Always	20	13.3
Seldom	84	56.0
Rarely	46	30.6
Total	150	100
Expenditure (N)		
0-999	15	10.0
1000-1999	24	16.0
2000-2999	86	57.3
3000-3999	25	16.7
Total	150	100.00

Source: Field survey, 2017

4. Conclusion

Cocoa powder contains active ingredients which are efficient in malarial prevention. Despite the efficacy of cocoa powder in preventing malarial and the heathen awareness campaign the uptake by consumer is low. The cost of malarial treatment is high and the various drugs used have varied effect on the health of consumers. There is need for enhancement of local consumption of cocoa powder to improve the health of the population.

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