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**RESEARCH ARTICLE**

# PERCEIVED BENEFITS OF KOLANUT (*Cola nitida*) CONSUMPTION AMONG LONG DISTANCE DRIVERS AT OJOO MOTOR PARK, IBADAN, NIGERIA

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## ABSTRACT

Kola nut (*Cola nitida*) is one of the foods consumed for socio-cultural reasons in West Africa sub-region. The caffeine contents are alleged to be of benefit to many people of different occupations. In this study, the perceived benefits of kola nut were assessed among long distance driver in Ojoo Motor Park, Ibadan, Nigeria. One hundred and one respondents were selected through stratified sampling method and were given questionnaires. Ages of the respondents ranged from 18 – 65 years. The results showed that 69% of respondents consumed kola nut daily, especially when driving. Majority-(75%) of the subjects believed kola nut consumption reduced fatigue, stress and stimulates body function to perform better. In addition, 73% believed kola nut increased mental activities, dispels sleep and hunger (86%), suppresses hunger and makes journey faster (85%), and makes one see clearly (80%). However, the majority of them (63%) agreed that kola nut consumption gives an unsightly dull brown colour to the teeth, caused teeth ache and decay (33%), causes insomnia and therefore general body discomfort (50%) and 66% believed it frequent consumption caused high body temperature. It was discovered that the perceived discomforts associated with kola nut consumption could not deter the subjects from consuming kola nut as 63% of them said kola nut staining of teeth could be prevented by brushing teeth immediately after consumption or brushing three times daily. But there was no evidence to show that the drivers did brush teeth immediately after consuming kola nut or three times as claimed, as up to 83% of them did stop only once in restaurants in their usual 8 to 11 hour journey. It was suggested that health education on regular basis should be organized to enlighten the drivers on the need to drive without the influence of stimulants.



## INTRODUCTION

Kola nut is the nut of the kola tree, a genus of trees native to the tropical rainforests of Africa, classified in the family Malvaceae, subfamily Sterculioideae (or treated in the separate family Sterculiaceae) (Dack and Reed, 2009). Kola nuts have been used in Western African and Anglo-American herbal medicine as an antidepressant. Kola nut is best known for its caffeine-containing seeds and are chewed as a stimulant (Burkill, 2000). The seed also contains many active ingredients that are useful in pharmaceutical industries and in the production of kola-type beverages, dyes, wines and confectionery (Ashihara, Sano and Crozier, 2008). Kola nut is one of the nuts consumed for cultural purposes in many parts of Africa, especially in West African societies (Pendergrast, 2000; Vaughan and Geissler, 2009). Kola nuts are reported to suppress sleep, hunger and thirst and have been used in western and central Africa for thousands of years to treat headaches, migraine, dysentery and diarrhoea (Burkill, 2000; Barwick and Van der, 2004).

On account of their sleep suppressing effect, kola-nut chewing is now very popular among students, labourers and drivers on long distance journeys in West African countries (Mednick, *et al*., 2008). Long distance drivers are usually under more stress than their counterparts plying intra-city roads. In Nigeria, the majority of them are self-employed and owners of the vehicles they drive and some drivers make daily or weekly monetary delivery to the owners of the vehicle they drive. The drivers face the highway on high speeds on a daily basis, sometimes making more than one trip on their usual route. Consequently, in order to reduce or minimize this stress, some drivers believe that the use of substances such as alcohol, cigarette, kola nut, marijuana, amphetamines and other stimulating agents of the central nervous system will significantly improve their performance and prevent them from tiredness and sleep as long as possible (Barry, *et al*., 2008). Studies in Nigeria and other countries have shown a high prevalence of use of psychoactive substances, among various categories of drivers. However, the ability of these substances to stimulate the central nervous system usually impairs concentration on driving (Bamgboye, 2007). The use these substances have been associated with the occurrence of motor vehicle accidents. While the relationship between alcohol use and driving have been studied in different part of Nigeria, literature on the use of other stimulants such as

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kola-nut and cigarette smoking are sparse (Smith, 2002). Studies have also shown that adverse effects of sleep deprivation such as fatigue, headaches, and poor mental and motor functions affect negatively the full concentration requires in driving (Bamgboye, 2007 and Smith, 2002). Therefore, this study was carried out to find out the consumption pattern and perceived benefits of kola-nut among long distance drivers in an Ojoo motor park, Ibadan. This is with a view to giving appropriate health education to the drivers on the maintenance of a healthy lifestyle.

## MATERIAL AND METHOD

### *Study area*

The study was carried out at the commercial motor park, Ojoo Ibadan Oyo State Nigeria. It is a fairly big park measuring 350 $m^2$ for about 100 lorries, buses and cars plying long distances. The drivers in the park are more decent and more dignified in their approach to passengers compared with the intra-city drivers. The places ply include Sokoto, Kaduna, Maiduguri, Yola, Jalingo, Abuja, Calabar, Owerri, Abakaliki, The average kilometer to any of these destinations is 600 and the driver reaches the place within an average hour of 14. Informed consent was obtained from the drivers' union in the park and also from the participating drivers. Using a stratified sampling method, 110 drivers, who consume kola nut were selected as the study population. Information on the benefit of kola nut to fatigue-free driving was elicited from the drivers using a structured questionnaire and direct interview methods. The psychometric property of the questionnaire using Chronbach's coefficient of Alpha showed 0.75 for part two of the questionnaire.

### *Statistical analysis*

The data analysis was done using Microsoft Excel. 2010 edition

## RESULTS AND DISCUSSION

One hundred and ten questionnaires were distributed but 10 respondents failed to return theirs, leaving 100 questionnaire for analysis. Ages of the respondents ranged from 18 – 65 with a mean 31 ± 3.5. It was also revealed that 65% respondents were single, 32% married while the rest were widower. Majority (60%) of the respondents was Muslims, 33% were Christians and 7% practice Traditional African Religion. The educational status of the respondents showed that 32% had vocational education, 30% completed secondary school, and 20% completed primary school while the rest had no formal education. Years of driving experience of the respondents ranged from 1-25 with mean 13.02 ± 2.6. The percentage distribution of various types of vehicle driven by the respondents are shown Fig. 1.

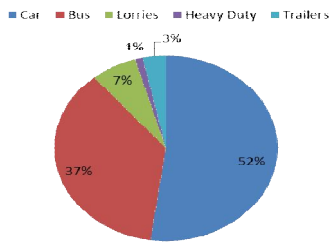


**Fig.1** Perecentage distribution of types of car driven at the Ojoo motor park

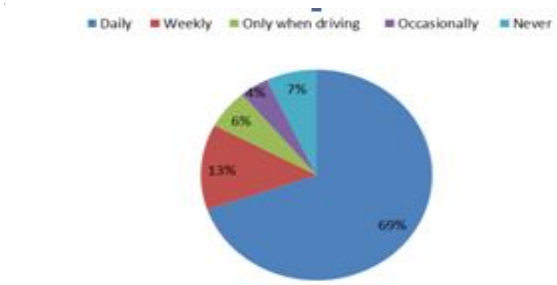


**Fig. 2** Rate of consumption of kola nut by the drivers

**Table 3** Perceived benefits of kola nut to long distance drivers

| Benefits of Cola nut | Strongly Agree % | Agree % | Undecided % | Disagree % | Strongly Disagree % |
|---|---|---|---|---|---|
| Reduces fatigue & stress and so Stimulates body to function well | 56 | 9 | 10 | 12 | 13 |
| Increases mental activities which makes one to be stable in driving | 49 | 12 | 14 | 16 | 9 |
| Dispels sleep and hungers and therefore makes one to concentrate in driving | 56 | 19 | 11 | 10 | 4 |
| Makes one awake and alert | 52 | 14 | 11 | 12 | 11 |
| Suppresses hunger and so makes the the journey faster | 56 | 14 | 15 | 7 | 8 |
| Makes one see clearly while driving | 55 | 23 | 12 | 6 | 4 |

The perceived benefits and disadvantages of kola nut to long distance drivers are shown in Tables 3 and 4.

**Table 4** Perceived Disadvantages of kola nut to long distance drivers

| Perceived Disadvantages | Strongly Agree % | Agree % | Undecided % | Disagree % | Strongly Disagree % |
|---|---|---|---|---|---|
| It colours teeth | 43 | 6 | 17 | 31 | 3 |
| Increases blood pressure | 19 | 13 | 28 | 28 | 12 |
| Raised body temperature | 18 | 14 | 34 | 28 | 6 |
| Frequent chewing of cola nut causes inability to concentrate in driving | 8 | 27 | 18 | 36 | 11 |
| Dispels sleep and hunger and so causes body discomfort | 15 | 12 | 23 | 39 | 11 |
| Continual chewing of cola nut cause teeth ache and fatigue | 23 | 11 | 10 | 39 | 17 |
| Decreases mental activities | 12 | 15 | 15 | 41 | 17 |

## DISCUSSION

Kola nut consumption was discovered to be rampant among the long distance driver at the Ojoo motor park Ibadan, mainly due to the perceived benefit to their job. The rate of consumption of kola nut by the participants and their responses is shown in Fig. 2. The consumption was not due to cultural reason but rather because of their need to drive long distances without stress. According to Mednick *et al* (2008), commercial drivers consume kola nut

simply because of its caffeine content that may make them active for hours. The results of this study corroborate this finding as majority of the subjects strongly agreed that kolanut consumption dispel sleep, make them alert, agile, reduce stress and provide them with impetus to cover long distance.

The work of Chou (1992) show that caffeine disperses throughout the body and penetrates the biological membranes and the blood brain barrier. It is probably the effects of this that makes the driver agile, awake and make them cover long distance without stress. There is dearth of literature to support its acclaimed appetite suppressing effect in its consumer. The perceived benefits and disadvantages of cola nut to long distance drivers are shown in Tables 3 and 4. The consumers of kola nut may probably lose appetite due to the fact that its consumption in large quantity may occupy the fundus of the stomach, and thereby suppresses appetite. Kola nut could also serve as roughage that promotes adequate bowel movement, and by that relieves constipation in the consumers (Temple, 2009).

In a study carried out by Barry *et al* (2008), it was discovered that dull brown colour teeth, which makes some drivers' mouth unsightly was due to excessive consumption of kola nut. In the present study, it was generally agreed by the respondents (83%) that kola nut consumption stained teeth and as such they did brush teeth immediately after consumption and three times daily brushing to removed kola nut remnant that could cause unsightly teeth colouring and decay (Table 2). However, it was not clear whether they did follow this simple rule of hygiene as their colour brown teeth belied frequent teeth brushing. Also there was no evidence to show that they did brush mouth immediately after consuming kola nut as they (74%) said they did stop only once at restaurants for passengers to eat in their regular 8 to 12 hours journey.

In the studies of Asogwa (2008) it was discovered that the long distance drivers that got involved in road traffic accidents in Nigeria are those who usually engage in extensive use of kola-nut. The results of this study corroborate this finding as almost half (49%) of the respondents agreed they have been involved in minor accidents while driving. Also, 54% of these drivers said the accidents occurred when they suddenly dose off while driving. It is clear that the accidents were results of stressful driving; they did not stop to rest when exhausted as they believed the kola nut would dispel sleep and they could easily cover the remaining distance.

From the results of the study, the following recommendations are necessary for the drivers: There is need for health education on regular basis to enlighten the drivers the need to drive naturally without the aid of kola nut or any psychoactive substances. The need to park in a save place and rest whenever they cover average distance. Each driver should discover his individual capacity in terms of average tolerable distance. Kola nut has no required nutrient and energy to satisfy daily food requirement, therefore, its consumption should be minimal, that is, it should not be taking to fill stomach in place of food. Constant teeth brush, at least in their place of rest, to remove food and kola nut debris that could stain teeth and causing embarrassment to the drivers. The Federal Road Safety Corps should also reinforce the advise on minimal consumption of kola nut as it really could not stop sleep in an overstressed drivers. This should form part of pieces of advice to give drivers whenever they stop them on the road.

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