

# CLINICAL COMPLAINTS AMONG MALES IN BENISEED CONSUMING AREAS OF CROSS RIVER AND BENUE STATES OF NIGERIA

M.A. AGIANG, I.B. UMOH, A.I. ESSIEN AND M.U. ETENG

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## ABSTRACT

A survey on clinical complaints arising from beniseed consumption by 860 males randomly selected from residents and indigenes of Obudu, Ogoja in Cross River State and Vandekya, in Benue State, all in Nigeria, was conducted. Traditionally, there had been an age long complaint by men from these areas of painful urination upon consumption of beniseed soup. The results obtained in the survey showed that 804 (93.49%) respondents aged 18 years and above, had consumed beniseed in its various processed forms. Of this number, 492 (61.19%) claimed to have experienced some discomfort ranging from painful urination (343, 84.0%), abdominal upset (26, 6.4%), heartburn (20, 4.9%), constipation (15, 3.7%) and flatulence (4, 0.98%). Also, 408 (82.9%) consumed beniseed as soup, 17 (3.5%) raw, 25 (5.1%) roasted while 42 (8.5%) gave no response to the questionnaire. From the survey, 38.7% of respondents who consumed beniseed soup, 41.2% raw beniseed and 52.0% roasted beniseed experienced the discomfort shortly after consumption while 47.8% of those who consumed beniseed soup, 41.2% raw beniseed and 28.0% roasted beniseed had any of these experiences 1-3 days after consumption and the experiences lasted in both cases for 2-7 days. These experiences, particularly on consumption of beniseed soup, was attributed to when the soup was not "properly cooked".

**KEY WORDS:** Clinical Complaints, Beniseed, Males, Nigeria

## INTRODUCTION

Oil seeds and nuts such as groundnut (*Arachis hypogaea*), melon seeds (*Citrullus vulgaris*), African oil bean (*Pentaclethra macrophylla*), oil palm nut (*Elaeis guineensis*), jack bean (*Brachystegia nigerica*) and beniseed (*Sesamum indicum*), form a major part of the diet of Nigerians. They are consumed as snacks and used as ingredients for soups. Beniseed, commonly known as sesame in English and 'kana' by the Obudu people of Cross River State of Nigeria, is an important annual oil seed crop cultivated for its seeds which contain approximately 50% oil of very high quality (47% oleic and 39% linoleic acids) and 25% protein especially rich in the amino acids methionine and tryptophan (Bedigian and Harlan 1985; Ashri, 1989). It contains an appreciable amount of calcium and phosphorous (Cobley and Steele, 1976), vitamin A and some B vitamins, as well as 2 – 3 % oxalic acid, partially in the unhulled seeds, occurring as calcium oxalate, which gives the seed a bitter flavour (Weiss, 1983). It is used whole, or processed for oil and meal. Whole decorticated seeds are used to prepare sweets (candies and halva) and in baking. The seeds are roasted and

eaten whole with roasted groundnuts by the Tivs of Benue State of Nigeria. In West Africa (Togo and Nigeria particularly), beniseed is used to make porridge, confectionery and as a main soup ingredient (Ashri 1989; Morris, 2002).

Some food components may adversely affect body physiology and function when consumed.

Beniseed has been shown to contain some lignans (sesamol and sesamolin) with high antioxidative and anti-carcinogenic properties (Jeng and Hou, 2005) to counter any discomforting effect in the body when consumed. A soup generally is either a thin puree (or liquid) or thick mixture made by cooking meat and /or fish, vegetables and other ingredients plus seasoning in water (Soanes, 2001). They are mainly consumed with carbohydrate foods such as pounded yam, boiled yam, cassava (as garri or foofoo), yam foofoo, sweet potato, boiled rice or plantain. There had been undocumented reports of various forms of discomfort such as painful urination (particularly of partially cooked beniseed soup). This study forms a baseline for more scientific investigations into these claims.

**M.A. Agiang**, Department of Biochemistry, University of Calabar, Calabar, Nigeria

**I.B. Umoh**, Department of Biochemistry, University of Calabar, Calabar, Nigeria

**A.I. Essien**, Department of Animal Science, University of Calabar, Calabar, Nigeria

**M.U. Eteng**, Department of Animal Science, University of Calabar, Calabar, Nigeria

## Materials and Methods

A questionnaire survey on consumption of beniseed was conducted among males residing in Obudu and Ogoja Local government Areas of Cross River State and Vandekya in Benue State, both in Nigeria. One thousand (1000) questionnaires were randomly distributed, out of which only eight hundred and sixty (860) were retrieved. The questionnaires included items on thesex, age, Local Government and State of origin, educational level, and occupation of the respondents. They also sought to know whether the respondents knew or not what beniseed was, who had eaten beniseed and for how long, who had not, reasons for not eating. Other questions were the processed form consumed, nature of complaints arising from consumption of the various processed forms of beniseed, onset of discomfort, duration of discomfort and respondents' advice. The data collected were later on analyzed by use of simple percentage statistic.

## RESULTS

The results obtained in this study are summarized in Tables 1-5. The study showed that majority of the respondents were educated with 35.47% possessing Senior Secondary Certificate (SSC) and

46.16% with higher qualifications, indicating that illiteracy was not a determining factor in the choice of consumption of beniseed. While 44.77% of the respondents were applicants/students, 9.65% were low income earners (Table 1). Virtually all the respondents (96.98%) knew what beniseed was, out of which 93.49% had consumed it in one processed form or the other. Of those who claimed not to have eaten it before, 53.57% posited they just did not like it, 12.5% said it was as a result of perceived health risk, 7.14% claimed that their families forbid its consumption while 26.79% gave no reason. The responses also showed that 61.19% of those who had consumed beniseed experienced discomforts on consumption particularly when it was eaten as soup. Table 2 shows that painful urination ranked highest among the complaints, whether beniseed was consumed as soup (84.07%), chewed raw (47.06%) or roasted (76.12%). About 48%, 41% and 28% respectively of those who consumed beniseed as soup, raw or roasted, experienced the discomfort 1-3 days after consumption (Table 3). The discomfort lasted for 2-7 days for those who consumed beniseed soup and up to 4 weeks for those who consumed it raw or roasted (Table 4). The general advice given by the respondents was that beniseed soup should be consumed when "properly cooked" (Table 5).

**Table 1: Educational levels/ occupation/ income per annum of respondents**

| Educational levels   |       | Occupation           |       | Income per annum |       |
|----------------------|-------|----------------------|-------|------------------|-------|
|                      | %     |                      | %     | ₦                | %     |
| Informal education   | 8.84  | Peasant farmer       | 9.65  | 36,000-140,000   | 36.86 |
| FSLC                 | 8.72  | Applicant/student    | 44.77 | 140,000-240,000  | 23.02 |
| SSCE                 | 35.47 | Civil/public servant | 34.30 | 240,000-500,000  | 6.05  |
| Higher qualification | 46.16 | Self employed        | 11.28 | Above 500,000    | 11.63 |
|                      |       |                      |       | Dependents       | 22.44 |

**Table 2: Clinical complaints associated with consumption of beniseed by respondents (%)**

| Types of complaints | Beniseed soup | Raw beniseed | Roasted beniseed |
|---------------------|---------------|--------------|------------------|
| Abdominal upset     | 6.37          | 17.65        | 12.21            |
| Constipation        | 3.68          | 23.53        | 8.13             |
| Painful urination   | 84.07         | 47.06        | 76.12            |
| Heart burn          | 4.90          | -            | 4.31             |
| Flatulence          | 0.98          | 11.76        | -                |

**Table 3: Onset of discomfort**

| Period                    | Beniseed soup | Raw beniseed | Roasted beniseed |
|---------------------------|---------------|--------------|------------------|
|                           | %             | %            | %                |
| Shortly after consumption | 38.73         | 41.18        | 52.00            |
| 1-3 days later            | 47.79         | 41.18        | 28.00            |
| 4days-1week               | 12.99         | 17.64        | 16.00            |
| Longer period             | 0.49          | -            | -                |

**Table 4: Duration of discomfort**

| Duration | Beniseed soup | Raw beniseed | Roasted beniseed |
|----------|---------------|--------------|------------------|
|          | %             | %            | %                |
| 1 day    | 23.28         | 41.18        | 20.00            |
| 2-7 days | 65.20         | 23.53        | 32.00            |
| 2-4weeks | 9.07          | 23.53        | 36.00            |
| 1 month  | 0.98          | -            | 8.00             |
| Longer   | 1.47          | -            | -                |

**Table 5: Advice from respondents on the best form to consume beniseed**

| Advice                         | Beniseed soup | Raw beniseed | Roasted beniseed |
|--------------------------------|---------------|--------------|------------------|
|                                | %             | %            | %                |
| Eat raw                        | 0.25          | 5.88         | 4.00             |
| Eat when roasted               | -             | 5.88         | 12.00            |
| Eat when 'well processed'      | 97.55         | 88.24        | 80.00            |
| Eat when 'partially processed' | 0.49          | -            | -                |



(a)



(b)

**PLATE 1:** Sesame plant (a) with flowers and maturing pods (b) White and black sesame seeds

### DISCUSSION

Beniseed soup, in particular, is a special delicacy of the Obudu, Bekwarra, and Ogoja people of Cross River and the Tiv people of Benue State, both in Nigeria. Traditionally, the soup is cooked for 45min to 1hr in order to make it acceptable to men, in particular, who complain of experiencing painful urination if the soup is not 'properly' cooked. For this reason, some men detest eating beniseed soup or beniseed in general-whether raw or roasted.

Cooking had been shown to improve the growth-promoting properties of foods, not only due to the destruction of the anti-nutritional factors, but also due to better utilization of nutrients like protein and

carbohydrates (Ajala, 2006; Akpanabiatu *et al*, 1998; Osagie, 1998). A plant food may contain two or more antinutritional factors which may act in concert to produce a myriad of deleterious effects when eaten raw or improperly processed (Aletor and Fetuga, 1988, 1989). Beniseed soup requires such ingredients as beef, smoked fish, dawadawa, (fermented locust bean), crayfish, and pepper depending on the socio-economic status of the consumer. These ingredients are rich sources of protein, except pepper which serves as a mild stimulant to the consumer. Cooking these ingredients together could result in nutrient-nutrient interactions which could give rise to production of toxic substances that may be detrimental to the consumer. Few of the respondents complained of flatulence,

heartburn, constipation (particularly those who consumed raw beniseed), but majority complained of painful urination. Painful urination is associated with inflammation of the prostate, urinary tract infection and kidney stones.

## CONCLUSION

The results of this study show that beniseed, particularly when used for soup, still play an important role in the diet of the people of Nigeria. The food security of a nation is better guaranteed by reliance on locally produced foodstuff. The restriction posed by the socio-clinical experiences of the respondents call for further research into the probable cause of such discomfort following beniseed consumption.

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