

## DOCUMENTATION OF TRADITIONAL HERBS USED IN THE TREATMENT OF PILE AND ASTHMA IN PARTS OF AKWA IBOM STATE

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### ABSTRACT

Asthma and haemorrhoids (pile) are health disorders that cause many of the affected or their caregivers to seek herbal cures beyond orthodox medical solutions. In order to investigate, identify and document herbs used in treating these disorders, a structured questionnaire was administered to 60 respondents in 33 villages and 10 Local Government Areas in Akwa Ibom State of Nigeria. The respondents included herbalists (40%), village heads (10%), farmers (25%) and health workers (25%). There were 40% females and 60% males. A total of 31 plants in 27 families were collected, identified and preserved. Of these, 16 were used to treat haemorrhoids while 17 were for the treatment of asthma. The plant parts used, mode of collection, preparation and administration of the herbal remedies by the people of Akwa Ibom State have been documented. A further investigation into the efficacy of these claims is recommended.

**KEYWORDS:** Asthma, Haemorrhoids, Herbs, Respondents

### INTRODUCTION

Asthma has been defined by Aligne *et al.*, (2000) as a chronic disease that involves the inflammation of the lungs. The airways swell and restrict airflow in and out of the lungs causing people with asthma to pant and wheeze. Asthma is said to be caused by environmental and genetic factors (Martinez, 2007). These factors influence how severe asthma is and how well it responds to medication (Choudhry *et al.*, 2007). Many environmental factors have been associated with asthma occurrence and exacerbation in children such as exposure to air pollutants (Salam *et al.*, 2008). Other triggers include viral respiratory infection (Myint, 2003), psychological stress (Chen and Miller 2007) and maternal tobacco smoking during pregnancy (Wu, 2012). According to Tippetts and Gilbert (2009), someone who has asthma should reduce exposure to allergens, test to assess severity of symptoms and use medications and the treatment plan should be written down and adjusted according to changes in symptoms

Haemorrhoids (pile) are vascular strictures in the anal canal which help with stool control (Chen and Herbert, 2010). There are two types; external and internal haemorrhoids (Lorenzo-Riverro, 2009). External haemorrhoids are painful due to swellings or lumps around the anus while internal haemorrhoids usually are not painful unless they become thrombosis. The best way to prevent haemorrhoids is to keep stool soft, increase fiber in the diet and exercise (Lorenzo-Riverro, 2009)

Both disorders can be a very harrowing experience in children and has led many parents and individuals irrespective of their exposure to seek help beyond or in spite of available orthodox medicine. Many of the victims have been exposed to herbal remedies used over time by family members to alleviate symptoms or treat the ailments which are in some cases, genetic. The objective of this work was to document and therefore conserve indigenous knowledge of plants

used in such herbal remedies.

## MATERIALS AND METHODS

The investigations were carried out in at least 3 villages in each of the following 10 Local Government Areas; Oron, Eket, Uyo, Okobo, Ibesikpo, Ikot Ekpene, Uruan and Ikono (Fig. 1). Four villages each were visited in Itu, Okobo and Ibeno. A total of 60 structured questionnaires were administered. Interpreters were used for those respondents who could not read or write. Plant collection tools were taken on each visit in order to make collections.

During each visit, the village head was visited first who then recommended those in his community who could provide the required information. Information on both pile and asthma were obtained each time. Plant collections were made from home gardens, nearby bushes and sometimes from the forest.

Authenticated plants were deposited in the University of Uyo Herbarium of the Department of Botany and Ecological Studies. Age of respondents, educational qualification, local names of plants, and modes of collection, preparation and administration of the herbs were documented.

## RESULTS

The results were summarised into Tables and Figures. In Table 1, Most of the respondents (30%) were between the ages of 56 and 60 while those of 40 years and below were only 5%. In Table 2, 40% of the respondents had no formal education and 20% had gone through primary education. Only 25% have had some form of tertiary education.

**Table 1: Percentage Age Distribution Respondents of**

| S/N | Age Range    | Number of Respondents | Percentage (%) |
|-----|--------------|-----------------------|----------------|
| 1   | 35-40        | 3                     | 5              |
| 2   | 41-45        | 3                     | 5              |
| 3   | 46-50        | 9                     | 15             |
| 4   | 51-55        | 6                     | 10             |
| 5   | 56-60        | 18                    | 30             |
| 6   | 61-65        | 12                    | 20             |
| 7   | 66 and Above | 9                     | 15             |
|     | <b>Total</b> | <b>60</b>             | <b>100</b>     |

**Table 2: Qualification of the Respondents**

| S/N | Qualification | Number of Respondents | Percentage (%) |
|-----|---------------|-----------------------|----------------|
| 1   | FSLC          | 12                    | 20             |
| 2   | OND           | 6                     | 10             |
| 3   | HND           | 6                     | 10             |
| 4   | NFE           | 24                    | 40             |
| 5   | NCE           | 3                     | 5              |
| 6   | SSCE          | 9                     | 15             |
|     | <b>Total</b>  | <b>60</b>             | <b>100</b>     |

**Key:** FSLC- First School Leaving Certificate **OND-** Ordinary National Diploma **HND-** Higher National Diploma **NCE-** National Certificate in Education **SSCE-** Senior Secondary Certificate Examination **NFE-** No Formal Education.

Table 3: Plants used in Herbal Remedies for Asthma, Mode of Preparation and Administration

| S/N | Plant Family  | Plant Name (Local Name)                            | Part Used              | Mode of Preparation   | Mode of Administration                             |
|-----|---------------|--|------------------------|---|--|
| 1   | Acanthaceae   | <i>Justicia flava</i> (Forsk.) Vahl. (Iyip Abasi)  | Whole plant            | Crushed and soaked in water for about 15 minutes.Mixed with Crushed plant of <i>Mimosa pudica</i> and lime juice then filtered.   | 200ml taken as enema 3 times a week.               |
| 2   | Anacardiaceae | <i>Mangifera indica</i> Linn. (manko)              | Leaves                 | Fresh mango leaves are burnt and the smoke inhaled  | Inhalation is done twice daily for 3 days          |
|     |               |  | Seeds                  | Seeds are ground into powder, added to water, boiled and filtered   | 150ml is given as enema once                       |
| 3   | Arecaceae     | <i>Elaeis guineensis</i> Jacq. (Eyop)              | Fruits                 | Fresh fruits are pounded, mixed with water and filtered. Whole plants of <i>Setaria macrophylla</i> (nkwongo) are pounded and mixed with the palm fruit extract before it is filtered | 100ml given as enema once a week                   |
| 4   | Asteraceae    | <i>Vernonia cinerea</i> Del. (utuenikang ifot)     | Leaves                 | The leaves are ground with 7 seeds of <i>Aframomum melegueta</i> , mixed with water and filtered.   | 150ml given daily as enema once daily, for 3 days. |
| 5   | Burseraceae   | <i>Dacryodes edulis</i> G. Don) H. J. Lam. (eben)  | Twigs                  | Chewed as chewing stick   | Twice daily for a week.                            |
| 6   | Clusiaceae    | <i>Garcinia Kola</i> Heckel (effiat)               | Tree bark              | Pieces of bark are pounded and soaked in a glass of water and filtered.   | 10ml of the mixture is taken once daily for a week |
| 7   | Musaceae      | <i>Musa parasidiaca</i> Linn.                      | Peeled Unripe plantain | This is scraped and soaked in water for about an hour. The bluish water is then mixed with the bark filtrate above  | Same as above                                      |
| 8   | Cucurbitaceae | <i>Telfairia occidentalis</i> Hook f.(nkong ubong) | Leaves                 | Fresh leaves are boiled in water and filtered. Milk is added to the filtrate.   | Taken as a beverage 3 times daily for 3 days       |
| 9   | Icacinaceae   | <i>Icacina trichantha</i> Oliv. (efik isong)       | Lesions on the leaves  | The lesions containing fluid are steamed in plantain peels. The lesions are then emptied into an airtight container.  | 10mls taken as a drink 3 times daily for 3 days    |
| 10  | Loranthaceae  | <i>Phragmanthera incana</i> (Schum.)               | Leaves                 | Fresh leaves are sliced and dried at room   | 50ml drunk once daily for a                        |

|    |                |   |             |   |                                     |
|----|----------------|---|-------------|---|-------------------------------------|
|    |                | Balle (ndoro-onyong)                                    |             | temperature. Dried leaves are stored. When needed, some are boiled, filtered and taken as tea                         | week                                |
| 11 | Fabaceae       | <i>Mimosa pudica</i> Linn.(mbabaak-iko)                 | Leaves      | Fresh leaves are ground with lime ( <i>Citrus aurantifolia</i> ) juice and mixed in a glass of water before filtering | 10 ml taken twice daily             |
| 12 | Musaceae       | <i>Musa parasidiaca</i> L. (ukom)                       | Fruits      | As prepared with <i>Garcinia kola</i> in No. 6 above  | Same as No. 6                       |
| 13 | Plumbaginaceae | <i>Plumbago</i> sp.(isim okpok)                         | Whole plant | Fresh plant are pounded and mixed with water before filtering.  | Taken as enema 150ml 3 times a week |
| 14 | Poaceae        | <i>Setaria megaphylla</i> (Steud.)Dur.&Schinz (nkwongo) | Whole plant | Fresh plants are pounded and used as in No. 3 above   | Same as No. 3 above                 |
| 15 | Rutaceae       | <i>Citrus aurantifolia</i> L. (mkpri sokoro)            | Fruit       | Juice used as in No. 11   | Same as No. 11 above.               |
| 16 | Zingiberaceae  | <i>Costus afer</i> Ker Gawl ( mbritem)                  | Stem        | Fresh stem is pounded and the juice extracted   | 10ml 3 times daily for one day      |

**Table 4: Plants used in Herbal Remedies for Pile; Mode of Preparation and Administration**

| S/N    | Plant Family | Plant Name(Local Name)                           | Plant Part used  | Mode of Preparation  | Mode of Administration                        |
|--------|--------------|--|------------------|--|---|
| 1      | Acanthaceae  | <i>Eremomastax polysperma</i> (Benth.) Dandy     | Leaves           | Fresh leaves are crushed and mixed in a glass of water before filtering  | Taken as enema once daily for 3 days          |
| 2      | Araceae      | <i>Colocasia esculenta</i> (Lin n.)Schott.       | Spathe           | The spathe or inflorescence is ground up and cooked in soup and eaten  | To be eaten 2 times a day                     |
| 3a     | Asteraceae   | <i>Emilia sonchifolia</i> (Linn.) DC. (utimense) | Leaves           | Fresh leaves with those of <i>Ipomoea involucreta</i> , <i>Talinum triangulare</i> , <i>Spathodea campanulata</i> and <i>Erythrina senegalensis</i> are pounded together and mixed in water before filtering | The filtrate is taken as enema 3 times a week |
| b      |              | <i>Vernonia amygdalina</i> Del. (etidot)         | Leaves           | The fresh leaves together with those of <i>Occimum basilicum</i> are ground/crushed together, mixed with water and filtered  | 10ml taken twice daily till symptoms vanish   |
| 4<br>5 | Bignoniaceae | <i>Spathodea campanulata</i> P. Beauv.           | Leaves<br>Leaves | These with leaves in 2a above are ground mixed with water and filtered.  | 100ml taken as enema 3 times a week           |

|          |                             |  |                  |   |   |
|----------|-----------------------------|--|------------------|---|---|
|          | Caricaceae                  | (esenim)<br><i>Carica papaya</i> Linn.<br>(po-po)    |                  | Dried leaves are ground to powder and eaten as food   | A tablespoon full at every meal                             |
| 6        | Clusiaceae                  | <i>Garcinia kola</i> Heckel<br>(effiat)              | Seeds            | The seeds are pounded together with sun dried root scraps of <i>Ekebergia senegalensis</i> , the bark of <i>Pentaclethra macrophylla</i> and the seeds of <i>Piper guineense</i> and mixed with stem juice of <i>Costus afer</i> and left for a day before the mixture is filtered and stored             | 150ml taken as enema 2 times daily for one week             |
| 7        | Convolvulaceae              | <i>Ipomoea involucreata</i> P. Beauv.<br>(ufuk ikot) | Leaves           | Used with other herbs as listed in 2a above   | Taken as enema three times a week.                          |
| 8a       | Fabaceae                    | <i>Erythrina senegalensis</i> DC<br>(esiere usen)    | Leaves           | Used with other herbs as listed in 2a   | Taken as enema three times a week                           |
| b        |                             | <i>Senna alata</i> (L.) Roxb.<br>(adaya okon)        | Leaves           | 3 Fresh leaves are collected in the evening and pounded with seeds of <i>Aframomum melegueta</i> . Two glasses of water are added and thoroughly mixed before filtering   | 200ml taken as enema once daily for 3 days                  |
| c        |                             | <i>Pentaclethra macrophylla</i> Benth.<br>(ukana)    | Tree bark        | Mixed with other plant parts as in No. 6 above  | Filtrate taken as enema 2 times daily for one week.         |
| 9        | Lamiaceae                   | <i>Occimum gratisimum</i> Linn.<br>(ntoong)          | Leaves           | Used with leaves of <i>Vernonia amygdalina</i> as in No. 3b above   | 10mls of mixture taken daily till symptoms vanish.          |
| 10       | Meliaceae                   | <i>Ekebergia senegalensis</i> (akikomfai ita)        | Root             | The harvested root is scraped, cut and dried in the sun. The bark of <i>Pentaclethra macrophylla</i> , the seeds of <i>Piper guineense</i> and <i>Garcinia kola</i> are all pounded together and mixed with stem juice of <i>Costus afer</i> and left for a day before the mixture is filtered and stored | The filtrate is taken as an enema, twice daily for one week |
| 11<br>12 | Piperaceae<br>Portulacaceae | <i>Piper guineense</i> Schum. & Thonn.               | Fruits<br>Leaves | Used in the formulation as in 10 above<br><br>Used with other herbs as  | As above<br>Taken as enema three times a week               |

|     |               |  |        |                                       |   |
|-----|---------------|--|--------|---------------------------------------|---|
|     |               | (odusa)<br><i>Talinum triangulare</i><br>(Jacq.)Willd.<br>(mmongmon g-ikong) |        | in 3a above                           |   |
| 13a | Zingiberaceae | <i>Aframomum melegueta</i><br>(ntuen ibok)                                   | Fruits | Used with <i>Senna alata</i> in 8b    | Taken as enema once daily for three days    |
| b   |               | <i>Costus afer</i><br>Ker-Gawl<br>(mbritem)                                  | Stem   | Used in the formulation in No.6 above | Taken as enema two times daily for one week |

**Table 5: Percentage of Plant Parts used in Herbal Remedies for Pile and Asthma**

| S/N | Plant Part Used | Percentage(%) for Pile | Percentage (%) for Asthma |
|-----|-----------------|------------------------|---------------------------|
| 1   | Leaves          | 57.1                   | 61.5                      |
| 2   | Stem            | 4.8                    | -                         |
| 3   | Seed            | 9.5                    | -                         |
| 4   | Whole plant     | 9.5                    | 7.7                       |
| 5   | Fruits          | -                      | 23.1                      |
| 6   | Bark            | 9.5                    | -                         |
| 7   | Lesion          | 4.8                    | -                         |
| 8   | Root            | 4.8                    | 7.7                       |

**Table 6: Routes of Administration and Percentage Use**

| s/n | Route of Administration | Percentage Use in Remedies for Pile | Percentage Use in Remedies for Asthma |
|-----|-------------------------|-------------------------------------|---------------------------------------|
| 1   | ORAL                    | 33.3%                               | 53.8%                                 |
| 2   | ENEMA                   | 66.7%                               | 38.5%                                 |
| 3   | INHALATION              | 0.0%                                | 7.7%                                  |

## DISCUSSIONS

Respondents who were knowledgeable about the herbal cures were between the ages of 56 – 60 (Table 1). The implication of this is that indigenous knowledge on herbal use as cures for asthma and pile is in danger of being lost since those below 40 years of age were only 5%. Bassey and Effiong (2011) made a similar observation when documenting herbs used in paediatric care among the people of Akwa Ibom State in Nigeria. Among the respondents, those with no formal education (NFE, Table 2) were more (40%). Bassey and Isu (2011) in their investigation of herbs used by traditional birth attendants (TBA) in Akwa Ibom State, Nigeria, reported that 80% of their respondents had no formal education. In spite of their lack of formal education, this was not a deterrent to their being patronised even by people who have benefitted from formal education. This is because they have knowledge of herbal cures which seem to be effective to users.

However, their lack of formal education has affected documentation of the information over time. Of the 27 families documented in this work for further investigations (Tables 3 and 4), the Families Fabaceae, had the highest number

of plant species used in herbal remedies. The family Fabaceae (Table 4) provided more plants used in herbal remedies for pile. Bassey and Effiong (2011) reported that more herbs from the family Asteraceae were used in formulation of remedies in paediatric care.

Most of the herbal formulations were made using the leaves of the medicinal plants (Table 5) but the route of administration of the herbal remedies differed in both cases (Table 6). The most preferred (66.7%) route for pile was by enema and that for asthma was by oral means (53.8%). Bassey and Effiong (2011) also observed that 70% of herbal remedies used in paediatric care were formulated with the leaves while the most preferred route of administration was by enema.

It was also observed that *Garcinia kola* and *Costus afer* showed up in herbal remedies for both asthma and pile. Some plants are considered so effective that the locals often use them as a general remedy for various ailments. These claims therefore need to be verified and authenticated by further pharmaceutical research.

## CONCLUSIONS

A total of 31 plant species in 27 families have been documented in this investigation. For treatment of pile, 17 plant species, belonging to 16 families and 16 plant species, belonging to 16 families, were used in herbal remedy for asthma. It was noted that *Garcinia kola* and *Costus afer* were used in herbal remedies for both asthma and pile. Herbal remedies were mostly administered by enema for pile and orally for asthma and were formulated mostly from the leaves of the medicinal plant species. Most of the respondents with knowledge of the herbal remedies were over 55 years of age and had no formal education. With lack of previous documentation of this indigenous knowledge the information on these medicinal plants is in danger of being lost completely.

## RECOMMENDATIONS

More documentations of indigenous knowledge are required in order to conserve such information as baseline data for further research for pharmaceutical purposes. These claims must be subjected to research so that they could be verified and authenticated.

## REFERENCES

1. C.A. Alligneet *al.*, "Risk factors for paediatric asthma; contributions of poverty, race and urban residence". *Am. J. Respir. Crit. Care Med.*, 162: (873-877)-3. 2000
2. M.E. Bassey, and E.O. Effiong, "Preliminary investigation of herbs used in paediatric care among the people of Akwa Ibom State, Nigeria". *J. Nat. Prod. Plant Resour.*, 1(33-42)-3, 2011.
3. M.E. Bassey, and P.O. Isu, "Ethnobotanical survey of Indigenous herbs used by Traditional Birth Attendants (TBAs) in Akwa Ibom State". *J. Gender and Community Health*, 2( 30-48)-1. June, 2011
4. C. Herbert, "Illustrative Handbook of General Surgery". Berlin, Springer, 2010. pp 217.
5. S. Choudhry *et al.*, "Dissecting diseases in complex populations; asthma in Latino Americans". *Proc. Am. Thorac. Soc.* 4(226-233)-3. 2007.
6. E. Chen and G.E. Miller, "Stress and Inflammation in Exacerbations of Asthma". *Brain Behav. Immun.* 21 (993-

- 999)-8. 2007.
7. Wu, P. (2012), "Maternal Smoking during Pregnancy and its Effect on Childhood Asthma". *Amer. Jour. Of Respiratory and Critical Care Med.*, 186 (941-942)-10. 2012.
  8. S. Lorenzo-Riverro, "Hemmoroid: Diagnosis and Current Management". *Am. Surg.* 75(635-642)-8. 2009.
  9. F.D. Martinez, "Gene-Environment Interactions in Asthma". *Proc. Am. Thorac. Soc.*, 4(1): 26-31. 2007
  10. S. Myint, "Microbiology and Epidemiology of Upper Respiratory Tract Infections". in: *Respiratory Infections in Allergy and Asthma*, S.L. Johnston and N. Papadopoulos Eds., Florida. C.R.C Press, 2003 pp.13-14.
  11. M.T. Salam *et al.*, "Recent Evidence for Adverse Effects of Residential Proximity to traffic Sources of Asthma". *Curr. Opin. Pulm. Med.* 14 (3-8)-1. 2008.
  12. B. Tippetand T.W. Gilbert, "Managing Asthma in Children. Part 1: Making the Diagnosis, Assessing the Severity". *Consultant for Pediatricians* 8(1-2)- 5. 2009.