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**PERCEIVED POTENCY OF HERBAL MEDICINES FOR
TREATMENT OF ILLNESSES AMONG RESIDENTS OF
ODO-OTIN LOCAL GOVERNMENT AREA, OSUN
STATE, NIGERIA**



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Abstract

Herbal medicine is the use of herbs or medicinal plants properties for the prevention and treatment of illnesses.' It takes the form of concoction, decoction and infusion. The researchers observed common usage of herbal medicines among residents of Odo-Otin Local Government Area, Osun State, Nigeria and there was a claimed of efficacy of these herbs despite not fully integrated in healthcare. The purpose of the study therefore, was to investigate the perceived potency of; (i) candle bush flower (senna alata) and boundary tree leave (newboldia laevis) for the treatment of pile and diarrhoea. A descriptive research design of the survey type was employed for this study. The population of the study comprised all herbal medicine users in Odo-Otin Local Government Area, Osun State, Nigeria. Multi-stage sampling procedure which consists of purposive and snowball sampling techniques used to select 384 respondents for the study. A researchers developed questionnaire validated by three experts in the Department of Health Promotion and Environmental Health Education, University of Ilorin, Nigeria was used for the study and tested for reliability using a split-half method. A reliability coefficient of 0.75 was obtained using the Spearman Brown Prophecy Formula. Relevant data collected by the researchers and three trained research assistants. Inferential statistics of Chi-square was used to test the hypotheses formulated for the study at 0.05 level of significance. The findings of the study indicated that, the use of candle bush flower was perceived as significantly potent for the treatment of pile because the calculated value of (25.21) greater than the table value of (21.03) at 12 degree of freedom, the use of boundary tree leaves was perceived as significantly potent for

the treatment of diarrhoea because the calculated value of (28.33) greater than the table value of (21.03) at 12 degree of freedom. The study concluded that candle bush flower and boundary tree leave are potent for the treatment of pile and diarrhoea. Therefore, it was recommended that candle bush flower and boundary tree leave should be further subjected to NAFDAC test and if found effective, should be considered for the treatment of pile and diarrhoea.

Keywords: Potency, Herbal- medicines, Illnesses, Treatment,

Introduction

Life without natural products such as water, air, plants is doubtful survival because the products provide mankind with oxygen, food, clothing, shelter and medicine. Healthy living is a valuable thing and the foundation. However, combating ill health is a problem for mankind. When individuals are unwell or sick, they either seek out medical attention in health facilities or self-medicate while some people take no treatment at all.

Herbs, medicinal plants or botanicals used since the early days of humankind are still in use throughout the world for health promotion and treatment of diseases (Onyegem-Okerenta, Spriggs & Bradshaw, 2018). Medicinal plants continue to show influential role in the health care despite not fully integrated into dominant health care systems and this is true in developing countries such as Nigeria where herbal medicine has continuous history of long use (Dar, Shahnawaz & Qazi, 2017) while in some rural communities, herbal medicine is the only form of health care that is available, affordable and accessible (Joshua, 2010).

According to Mahomoodally (2013), herbal medicines include herbs, herbal materials, herbal preparation and finished herbal products that contain parts of plants such as leaves, fruits, root, bark, stem, and flower of the plant as active material or ingredients which can cure, treat or prevent illnesses. Faluyi (2021) defined herbal medicines as the use of herbs or medicinal plants properties which one or more of its organs contains substances that can be used for therapeutic purpose or which are precursors for the synthesis of useful drugs. These non-bio-medical remedies are together referred to as Complementary and Alternative Medicines [CAMs] (Zamawe, King, Jennings, Mandiwa & Fottrell, 2018).

Plants and natural sources form the basis of today's modern medicine and contribute largely to the commercial drug preparations manufactured and about 25% of drugs prescribed worldwide are derived from plants, still, herbs, rather than drugs, are commonly used for health care (Sahoo, Manchikanti & Dey, 2010). The use of plant extracts in the form of concoction, decoction, and infusion to treat a variety of infections has received tremendous appreciation and has been locally testified to be effective against health challenges such as malaria, epilepsy, convulsion, diarrhoea, bacterial and fungal infections, mental illness, asthma, hypertension, worm infestation, ulcer and lots of others that have shown resistance to orthodox medicine (Agbafor & Ezeali, 2015; Igwe & Onwu, 2015).

The interest in the plant remedies has been encouraged by several factors including their reported effectiveness, long waiting time in health facilities, inaccessibility of health facilities, feeling that the ailment is minor, cost of the treatment, side effects of orthodox medicines, improvement in the safety preparation of herbal medicines and the belief that herbal medicines might be effective in the treatment of disease such as diabetes where conventional therapies has not fully maximized (Auta, Banwat, Dayom & Shalkur, 2012); (Amorha, Nwabunike, Okwumuo, Ayogu, Nduka &

Okonta, 2018). Thereby, thousands of plants claimed to possess medicinal properties are employed in the treatment of ailments or illnesses (Iweala & Oludare, 2011).

Furthermore, herbal mixtures are prepared using fruit extracts, exudates from the bark of plants, volatile oils, powdered herbs and fatty oils obtained from leaves, fruits, stems, root and barks of plant which are often prepared in different forms such as liquid, powders, oils, and teas (Okon, Okafor, Kokome, Ajeh, Isimi, Olayemi & Emeje, 2016). During preparation, these parts of plants are grinded, squeezed, pounded, boiled to extract the juice and it is usually administered either orally, topically, via an incision or through enema (Ita & Offiong, 2013). Obum-Nnadi, Okey-Ndeche, Nnagbo and Ohabughiro (2020) reported that herbal mixtures have made large contributions to human well-being and traditionally provided a source of hope for novel drug compounds because of their claimed efficacy, in that way, owing to their popular use as remedies for treatment of diseases, searches for substances with antimicrobial activity in plants are frequent. Bamidele, Adebimpe and Oladele (2009) also revealed that the use of alternative medicines is quite popular in Osun State and a large proportion of the people not only prefer but also use it irrespective of their communities, even with or without access to orthodox medical care and medical practitioners.

Thus, the word pile is derived from the Latin word "pil" meaning a ball or a mass. Bharat (2011) explains piles as varicosities of the veins of haemorrhoidal plexus, the pillow-like cluster of veins that lie just beneath the mucous membranes lining the lowest part of the rectum and the anus. But piles as perceived by the people in this study refer to as (*Jedi-Jedi*) which the symptoms include lower back pain, inability or difficulty to pass stool, bloating, passing mucous stool with traces of blood and inability to satisfy partner sexually in men. Candle bush known as (*asunwon*) in Yoruba is a shrub that belongs to the family *Fabaceae*. The shrub stands 3 – 4 metres tall, with leaves 50-80 centimetre long. The flower looks like yellow candle. The fruit, shaped like a straight pod is up to 25 centimetres long. The leaves of candle bush are plucked and boiled with a little salt (to extract the water) and drink when cold or dried candle bush flower, grinded with black pepper, taken before or after meal as remedy.

Diverse parts of candle bush plant (leaves, seed, and root) are presumed for their medicinal values. Several chemical compounds such as anthraquinone glycosides, naphthopyrone glycosides, phenolic compounds, flavonoids and lots of others have been isolated from this plant and well recognized traditional medicine as laxative and is effective for treatment of leprosy, ringworm infection, constipation, lower back pain, ophthalmic, skin diseases and liver disorders (Ranjanie, Yuhanis, Mohammed, Fouad, Aman, 2019). It has been widely used traditionally in the treatment of illnesses such as problem of back pain, problem of passing stool or felling of constipation including skin disorder, pile and heart disease (Wegwu, Ayalogu & Sule, 2005).

Diarrhoea is the passage of three or more loose liquid stools per day or more frequently than is normal for an individual (WHO, 2019). It is a global health problem with many causes ranging from viral, bacterial, parasitic, fungal and other non-infectious causes such as indigestion and malnutrition, having a high mortality rate in children under the age of 5 years and causing about 4 – 5 million death annually (Dawurung, Gotep, Usman, Elisah, Lombin & Pyne, 2019). In Nigeria, contaminations of drinking water and food with pathogens have been reported to be the cause in several towns (Raji & Ibrahim, 2011). Boundary tree known as *akoko* in Yoruba belongs to *Biognoniaceae* family. It is regarded as a sacred tree and symbolic marker for sacred spots. It has height of about 7-8 metres; the leaves are lush, tropical looking, dark-red and waxy. Its flower are

tabular, pink attract butterfly and bees. The fresh leave is plucked, salt is added (to easily extract the water), squeezed to bring out liquids and drink till the symptoms disappear

Newbouldia laevis is widely used in African folk medicine for the treatment of several diseases such as worms, malaria, fever, sexually transmitted diseases, diarrhoea, dysentery, cough, hernia, dental caries, fungal skin infections, wound dressing and eye infections (Ejele, Duru, Ogukwe & Iwu, 2012). The extract of *Newbouldia laevis* has been demonstrated to show antioxidant, antimicrobial, sedative, anticonvulsant, analgesic, anti-inflammatory, hepatoprotective, anticancer, antiulcer, anti-hypertensive and anti-diarrhoea properties (Adeoye, Kehinde, Adesola, Olusola, Oluwatobi, Omosola, & Olugbenga, 2019).

The world is endowed with a rich heritage of medicinal plants and it is good things that many people now find themselves turning back to the medicinal plants or herbal medicine for treatment of illnesses but unsupported potency claims of some herbal medicines have been proliferating in our society while Federal Ministry of Health taken steps to promote and established traditional medicine departments in the 36 States Ministries of Health and the Federal Capital Territory (Shariff, 2019), it is on this premise that the researchers pertinently examined the perceived potency of herbal medicines for illnesses' treatment among residents of Odo-Otin Local Government Area, Osun State, Nigeria.

Statement of the Problem

Despite the high number of people in the study area who depend on herbal medicines for the treatments of their illnesses but up till today, government has not approved the products of herbs for treatment of ill health. The researchers observed that use of herbal medicines is common in the study area and substantial number of people prefer to use herbal medicines to orthodox medicine. Some people in the area claimed to have neither visited a hospital for medical treatment nor taken injection since birth claiming the efficacy of herbal medicines. The researchers also observed that some of the health problems reported to health facilities in the study area include pile, hypertension, diarrhoea, malaria and gastric ulcer and the alternative treatment widely available includes candle bush flower (*senna alata*) for pile, sausage tree fruit (*kigelia africana*) for hypertension, boundary tree leave (*newboldia laevis*) for diarrhoea, lemon grass (*cymbopogon citratus*) for malaria and unripe plantain (*musa paradisiaca*) for gastric ulcer.

Consequently, research has shown that for every one person visited orthodox health facility for medication, there are nine others that had the same condition but sought health care from other sources, including traditional health care, self-medication and two other never sought health care (Raji, 2018). From this assertion, the researchers deduced that the number of health problems reported to modern health facilities in the study area far below the number of people use herbal medicines for their health problems.

Medicinal plant properties were reported to have been used to treat illnesses' with success such as bitter kola used for the treatment of asthma, pawpaw fruit used as a remedy for hypertension, basils as cure for typhoid fevers, kola nut for the treatment of piles, black aphrodisiac for the treatment of erectile dysfunction and African whitewood for treatment of malaria and lots of others (Agbafor & Ezeali, (2015); Yakubu, Akanji & Adeyemi, (2019); Chukwuma, Chukwuma & Adekola, 2019). Therefore, after the World Health Organisation Alma Ata declaration in primary health, which saw the global acceptance of phytomedicine, suggested efforts to intensify the search for more effective and safer medicinal plants for the prevention and treatment of

diseases or illnesses (Nwachukwu, Duru, Nwachukwu, Obasi, Uzoechi, Ezenwa & Anumodu, 2017).

Research Hypotheses

This study tested the following hypotheses

- The use of candle bush flower (*senna alata*) will not significantly be a potent treatment for pile as perceived by residents of Odo-Otin Local Government Area, Osun State.
- The use of boundary tree leave (*newboldia laevis*) will not significantly be a potent treatment for diarrhoea as perceived by residents of Odo-Otin Local Government Area, Osun State.

Methodology

This study employed a descriptive research design of survey type. The choice of descriptive research of survey type was based on the fact that it has the potential to provide information about the characteristics within a particular field of study with the purpose of providing a picture of situations as they naturally exist. Therefore, the researcher used the research design because the study involves a clear definition of the problem, collection of relevant and adequate data and report of findings. The population for the study comprised all the herbal medicines users in Odo-Otin Local Government Area (LGA), Osun State. The target population comprised all herbal medicines in the study area. A sample of three hundred and eighty-four (384) herbal medicines users were involved as respondents for the study. A multi stage sampling procedure was used to select the sample for the study. This includes purposive and snowball sampling techniques. The instrument used for collecting data for this study was a researcher's developed questionnaire. The instrument used for the study validated by three experts. Spearman Brown Prophecy Formula of coefficient was used to determine the reliability of the instrument and result of 0.75r was obtained. The researchers with the help of three trained research assistants administered the questionnaire. Data were collected, sorted, coded and subjected to appropriate statistical analysis. Inferential statistics of chi-square was used to analyze the data collected for hypotheses formulated for the study at 0.05 level of significance.

Results

Hypothesis One: *The use of candle bush flower (*senna alata*) will not significantly be a potent treatment for pile as perceived by residents of Odo-Otin Local Government Area, Osun State.*

Table 1: Chi-square summary on the use of candle bush flower as a potent treatment for pile
 $\alpha=0.05$

S/ N	Items	SA	A	D	SD	df.	Cal. χ^2 Val.	Tab. χ^2 Val.	Decision
1.	Candle bush flower intake reduces lower back pain	200 (52.1%)	120 (31.2%)	48 (12.5%)	16 (4.2%)				
2.	<i>Senna alata</i> consumption solve constipation problems	208 (54.2%)	100 (26.0%)	56 (14.6%)	20 (5.2%)				
3.	Intake of <i>senna alata</i> boost sexual performance in men	212 (55.2%)	84 (21.9%)	52 (13.5%)	36 (9.4%)	12	25.21	21.03	H_0 is rejected
4.	The use of <i>senna alata</i> relief general body pain resulting from the inability to pass stool	188 (49.0%)	112 (29.2%)	56 (14.6%)	28 (7.3%)				
5.	Candle bush flower intake makes defecation easy	204 (53.1%)	84 (21.9%)	64 (16.7%)	32 (8.3%)				
Total		1012	500	276	132				

Table one shows the result of the research hypothesis one which states that the use of candle bush flower (*senna alata*) will not significantly be a potent treatment for pile as perceived by residents of Odo-Otin Local Government Area, Osun State. The calculated chi-square value of 25.21 is greater than table value of 21.03 at 12 degree of freedom. Research hypothesis one was therefore rejected. This implies that the use of candle bush flower (*senna alata*) is significantly potent for the treatment of pile as perceived by residents of Odo-Otin Local Government Area, Osun State.

Hypothesis Two:

The use of boundary tree leave (newboldia laevis) will not significantly be a potent treatment for diarrhoea as perceived by residents of Odo-Otin Local Government Area, Osun State.

Table2 : Chi-square summary on the use of boundary tree leave (*newboldia laevis*) as a potent treatment for diarrhoea

S/N	Items	SA	A	D	SD	df.	Cal. χ^2 Val.	Tab. χ^2 Val.	Decision
1.	Boundary tree leave have the strength to treat diarrhoea	192 (50.0%)	108 (28.1%)	64 (16.7%)	20 (5.2%)				
2.	Extract from <i>ewe akoko</i> has potential to stop watery stool	144 (37.5%)	144 (37.5%)	72 (18.8%)	24 (6.2%)				
3.	Intake of liquid extract from boundary tree leave energizes the body	172 (44.8%)	132 (34.4%)	56 (14.6%)	24 (6.2%)	12	28.33	21.03	H ₀ is rejected
4.	<i>Newboldia laevis</i> solve abdominal pain when suffering from diarrhoea	148 (38.5%)	144 (37.5%)	68 (17.7%)	24 (6.2%)				
5.	Utilization of <i>newboldia laevis</i> stop nausea and vomiting from diarrhoea illness	184 (47.9%)	100 (26.0%)	76 (19.8%)	24 (6.2%)				
Total		840	628	336	116				

 $\alpha=0.05$

Table two shows the result of hypothesis two which states that the use of boundary tree leaves (*newboldia laevis*) will not significantly be a potent treatment for diarrhoea as perceived residents of Odo-Otin Local Government Area, Osun State. The calculated chi-square value of 28.33 is greater than table value of 21.03 at 12 degree of freedom. Research hypothesis two was therefore rejected. This implies that the use of boundary tree leaves (*newboldia laevis*) is significantly potent for the treatment of diarrhoea as perceived by residents of Odo-Otin Local Government Area, Osun State.

Discussion of Findings

The result from the analysis of hypothesis one showed that candle bush flower (*senna alata*) significantly potent for the treatment of pile as perceived by people of Odo-Otin Local Government Area, Osun State. The finding is in line with the findings of Ranjanie, Yuhani, Mohammed, Fouad, and Aman, (2019) who discovered that diverse parts of the candle bush (leaves, seed, and root) are presumed for their medicinal values and several chemical compounds such as anthraquinone glycosides, naphthopyrone glycosides, phenolic compounds and flavonoids have been isolated from this plant and well recognized traditional medicine as laxative and is effective for treatment of leprosy, ringworm infection, constipation, lower back pain, ophthalmic, skin diseases and liver disorders. Similarly, Wegwu, Ayalogu and Sule (2005) found that candle bush flower is traditional employed in the treatment of pile, haemorrhoid and heart diseases.

The result from the analysis of hypothesis two indicated that the use of boundary tree leaves significantly potent for the treatment of diarrhoea as perceived by residents of Odo-Otin Local

Government Area, Osun State. The finding is in line with the findings of Ejele, Duru, Ogukwe & Iwu (2012) that the use of boundary tree leaves is widely used in African folk medicine for the treatment of several diseases such as worms, malaria, fever, sexually transmitted diseases, diarrhoea, dysentery, cough, hernia, dental caries, fungal skin infections, wound dressing and eye infections. In the same way, Adeoye, Kehinde, Adesola, Olusola, Oluwatobi, Omosola and Olugbenga (2019) established that the extract of *Newbouldia laevis* has been demonstrated to show antioxidant, antimicrobial, sedative, anticonvulsant, analgesic, anti-inflammatory, hepatoprotective, anticancer, antiulcer, anti-hypertensive and anti-diarrhoea properties.

Conclusion

Based on the findings of this study, it was concluded that: The use of candle bush flower (*senna alata*) and boundary tree leaves (*newboldia laevis*) is effective for the treatment of pile and diarrhoea respectively as perceived among people of Odo-Otin Local Government Area, Osun State.

Recommendation

The recommendation made was that the candle bush flower (*senna alata*) and boundary tree leave (*newboldia laevis*) should further subject to NAFDAC test and if found effective, it should be considered for the treatment of pile and diarrhoea.

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