



International Journal of Medicine and Health Profession Research

Journal home page: www.ijmhpr.com



THE NEW ERA OF NATURAL MANAGEMENT OF HYPERTENSION IN GHANA: THE CASE OF BIOENERGIZED HIBISCUS SABDARRIFA

Raphael Nyarkotey Obu*¹

¹Da Vinci College of Holistic Medicine, Larnaca city, Cyprus.

ABSTRACT

This paper examines the development of a natural hypertensive product that has undergone clinical trials at the Kwame Nkrumah University of Science and Technology (KNUST) at Kumasi-Ashanti region in Ghana. Animal model was employed for the clinical trials. The product formulated by Dr. Raphael Nyarkotey Obu and Manufactured by RNG Medicine Research Laboratory in Ghana contains the Hibiscus Sabdarifa as a single ingredient. The product has the brand name 'Dr. Nyarkotey Tea' with batch number 01D19 for the management of Hypertension, diabetic conditions and support for general wellbeing. RNG introduced bioenergization into the plant to increase its shelf life, reduce microbial loads and improve its efficacy.

The Faculty of Pharmacy and Pharmaceutical Sciences of the University employed three diverse trials for the product (in a tea form of thirty (30) bags) conducted through Department of Pharmaceutics to assess the microbial loads, the Department of Pharmacology to assess the efficacy, acute and Sub chronic Toxicity test and the Department of Pharmacognosy, to assess the phytochemical and Physicochemical properties of the formulation. These are the protocols needed and if passed to be sent to the Food and Drug Authority for certification. The formulator's dosage is two bags twice (x2) daily for diabetics and hypertensive patients.

The product Dr. Nyarkotey Herbal Tea produced dose-dependent reduction in the arterial blood pressure of the anaesthetized cat comparable to acetylcholine. The depressor effects of acetylcholine and Dr. Nyarkotey Herbal tea on the blood pressure of the anaesthetized cat were inhibited by $72.3 \pm 5.21\%$ and $55.6 \pm 6.82\%$ respectively, suggestive of muscarinic mediation.

The remarks states that, as per the findings, Dr. Nyarkotey Herbal Tea has hypotension effect and hence could be used in the management of hypotension. The No-Observable-Adverse-Effect level (OAEL) is greater than five times the stated daily dosage (7.0ml/kg) indicated by the manufacturer. The recommended daily dose is thus within the acceptable margin of safety.

KEYWORDS

Hypotension, Diabetes, Hibiscus sabdarifa, Dr. Nyarkotey Herbal Tea, Diabetic and General Wellbeing.

Author for Correspondence:

Raphael Nyarkotey Obu,
Da Vinci College of Holistic Medicine,
Larnaca city, Cyprus.

Email: oburalph30@yahoo.co.uk

INTRODUCTION

High blood pressure (BP) is a major health issues in Ghana and Africa. It frequently coexists with diabetes mellitus worldwide, occurring twice as frequently in diabetic as in non-diabetic persons. It accounts for up to 75% of added cardiovascular

disease risk in people with diabetes, contributing significantly to the overall morbidity and mortality in this high-risk populations¹. According to Wolf-Maier K *et al*² the condition is one of the most significant treatable risk factors for cardiovascular diseases because of its high prevalence and deadly consequences.

Diverse researches conducted have stated the global prevalence of hypertension in adults as 3.4–72.5%. It is projected that in 2025, there will be 333 million patients in developed countries and 639 million patients in developing countries suffering from hypertension^{4,3}.

The condition has been a major challenge in advanced countries in the past years, it has been a major setback of public health concern in Ghana and incidence is rapidly on the increase also in many developing countries, especially in Africa which Ghana is no exception⁵⁻⁸. Hibiscus Sabdariffa also known as ‘sobolo’ in Ghanaian parlance is widely consumed. Mozaffari-Khosrav *et al* 2009⁹ studies revealed that consuming hibiscus infusion had positive effects on BP in type II diabetic patients with mild hypertension.

The plant has different names based on its geographical orientation and is a genesis of the Malvaceae family. In English-speaking countries, it is named Roselle or Red Sorrel, in Nigeria it is called Zobo and in Arabic it is called Karkade. The phytochemical, pharmacological and toxicological properties of H. sabdariffa have been examined in numerous researches. Hibiscus contains many chemical constituents including alkaloids, L-ascorbic acid, anisaldehyde, anthocyanin, β -carotene, β -sitosterol, citric acid, cyanidin-3 rutinoside, delphinidin, galactose, gossypetin, hibiscetin, mucopolysaccharide, pectin, protocatechuic acid, polysaccharide, quercetin, stearic acid and wax. In Traditional medicine, the calyx extracts are used for the treatment of several complaints, including high BP, liver diseases and fever.

METHODOLOGY

DEPARTMENT OF PHARMACOLOGY

Test Conducted: efficacy, Acute and Sub-Chronic Toxicity Test

Hypotensive Activity

The cat was anaesthetized using 1% w/v chloralose (80mg/kg, i.p). The femoral vein on one of the hind legs was isolated by dissection and fitted with a cannula. The arterial blood pressure was recorded through a carotid artery cannula via a pressure transducer and the phasic arterial pressure was continuously monitored via a universal oscillography.

Effects of doses of acetylcholine (1×10^{-8} - 1×10^{-1} mg/kg) and Dr. Nyarkotey Herbal Tea (1-1000mg/kg) on the arterial blood pressure was recorded. These effects were again recorded in the presence of atropine (1.2×10^{-6} mg/ml). It should be noted that after each drug administration, cardiovascular variables were allowed to stabilize (in about 15 minutes) before any further administration of drugs were made. The venous catheter was continuously flushed with 0.5ml of 0.9% normal saline after each dose administered, this was to ensure that drug collected in the catheter were all pushed into the femoral vein. Each procedure described above was repeated four times. The doses of agonists and antagonists were chosen based on preliminary study in the lab at the Faculty of Pharmacy and Pharmaceutical Sciences-KNUST.

RESULTS

Dr. Nyarkotey Herbal Tea produced dose-dependent reduction in the arterial blood pressure of the anaesthetized cat comparable to acetylcholine. The depressor effects of acetylcholine and Dr. Nyarkotey Herbal Tea on the blood pressure of the anaesthetized cat were inhibited by $72.3 \pm 5.21\%$ and $55.6 \pm 6.82\%$ respectively, suggestive of muscarinic mediation.

REMARKS

As per the findings, Dr. Nyarkotey Herbal Tea has hypotension effect and hence could be used in the management of hypotension. The OAEL is greater than five times the stated daily dosage (7.0ml/kg

daily) indicated by the manufacturer. The recommended dose is thus within the acceptable margin of safety.

**DEPARTMENT OF PHARMACEUTICS
MICROBIAL ANALYSIS OF DR.
NYARKOTEY HERBAL TEA
Microbial Test Protocol-(BP Level of Microbial
Contamination)**

1. Assessment of total viable count of aerobic bacteria and fungi
2. Test for specific harmful organisms.

REMARKS

The bacterial load obtained for the aerobic viable count was within the acceptable limit. The fungal load was within the acceptable limit (BP 2015). No harmful microorganisms were detected

**DEPARTMENT OF PHARMACOGNOSY
Phytochemical and Physicochemical Analysis.**

RESULTS

Three (3) spots

Two (2) purple spots (Rfs= 0.25 and 0.37)

One (1) violet spot (Rfs=0.81)

BIOENERGIZED PLANT TECHNOLOGY

RNG Medicine Research employed bioenergetics technology in its hibiscus and all products formulation in Ghana. RNG is the only evidence-based products manufacturer in Ghana that employs such technology. The sourced raw materials at RNG Medicine Research Lab are also washed with bioenergized water.

The technology uses Amezcua Bio Disc device. The Amezcua Bio Disc 2 has a greatly enhanced energy field attributed to the seven wave-form rings on the disc's surface. The seven ribbed rings speed up the bio-molecular structure process of plants using the disc, improving the biocompatibility of plants molecules. The plants are energized faster and more efficiently via the wave-form produced by the rings

Biophoton Light

The Amezcua Bio Disc 2 increases luminescence, designed with Biophoton production in mind.

Photons - the concept of the basic units of light developed by Albert Einstein - and their interaction within and on biological systems is a long established field of scientific study. The design of the QNET Bio Disc 2 takes advantage of this to enhance the energy of, and improve the efficacy of the products from RNG. Biophoton light can be generated by shining a 120-Watt LED light through the Amezcua Bio Disc 2. It is well known that plants use energy from sunlight to make food in the process of photosynthesis, but plants are not the only living things that have a complex relationship with, and need for, light. If a human being is deprived of light, growth and biological function is rendered impossible.

As the smallest physical units of light, biophotons are stored in, and used by, all biological organisms - including the body.

Stronger

Heat and impact resistance

The QNET Bio Disc 2 has a higher resistance to heat and impact, which allows it to retain good physical strength properties even after prolonged exposure to unfavorable environmental conditions. The durability and usability have been greatly enhanced from that of its predecessor.

Bio Disc Shield

Each Amezcua Bio Disc 2 comes with a high-quality silicone rubber shield to protect it in everyday use. Combined with the disc's enhanced durability and impact resistance, this Amezcua accessory reduces the risk of potential breakages or damages without affecting the energy properties of the disc.

DISCUSSION

The study conducted revealed that Dr. Nyarkotey Herbal Tea has hypotensive effect and hence could be used in the management of hypertension (Table No.1). The recommended dose is also within the acceptable margin of safety as per the toxicity test; hence it is safe for human consumption (Table No.1).

The microbiological load test conducted also has no harmful microorganisms were detected (Table No.2) From several researches conducted; we know that the active components of the hibiscus extract are the

chemicals known as polyphenols. So without the polyphenols, blood pressure is not lowered. Polyphenols are highly charged chemicals that can interact with and be combined into the blood vessel walls. These strengthened blood vessels become more resistant to inflammation, and the polyphenols - which are highly charged molecules - structure the water in the blood, hence increasing the charge of the blood and, ultimately, the flow of the blood. Once the flow is restored, the system is restored to health and the pressure can relax.

This explanation is why we employed bioenergized technology to help improve our brand of hibiscus in Ghana to improve its concentration and improve its potency to further enhance its effect on the blood pressure. Bioenergetic medicine refers to the manipulation of bioenergetic fluxes to positively affect health. Bioenergetic medicine approaches rely heavily on the law of mass action, and impact systems that monitor and respond to the manipulated flux. Bioenergetics is a biochemical process that is used now in many natural healing modalities such as naturopathy and homeopathy, and even has become its own emerging field called bioenergetic medicine. The basic theory (in a nutshell) is that universal life energy (chi, prana, qi, ki, etc.), which exists in every living organism on the planet, can now be harnessed and infused into ingredients for therapeutic products. By doing so, the ingredients become highly concentrated and their beneficial properties become more effective¹⁰.

Dr. Yury Kronn is a Russian radio physicist and inventor who is on the forefront of bioenergetics and subtle subatomic energy technologies. His Vital Force Technology™ is the method used to infuse ingredients with this energy. This process and bioenergetics work with the body's natural energy pathways just as many Eastern traditions would (Acupuncture, Wull Stone Therapy, Reiki, Qi Gong, etc.) to create balance and harmony in the body.

The QNET Bio Disc 2 is made of technically engineered natural minerals that have been structurally bonded in glass at a molecular level using high-heat fusion methods. Through this combination of minerals and fusion techniques, a positive energy field is created, which allows the

Amezcua Bio Disc 2 to transfer its energy field to water, plants and the human body, as has been certified through various testing and evaluation processes. Similar to the original Bio Disc but stronger in energy field, it is this transfer of energy that brings out the best in your water.

Tests conducted at the Holistic Competence Center by Dr Manfred Doepp have shown that the Amezcua Bio Disc 2 is even more effective than the original Amezcua Bio Disc¹¹. The water for washing all or raw materials employs bioenergized treated water. The manufacturing room is also bioenergized at RNG.

Meaning of Bioenergized Hibiscus

When you bioenergized something, it is infused with life energy, similarly to how one would pass universal life energy to another living organism in an energy healing session like Reiki or Qi Gong. Giving an ingredient this energy actually magnifies its healing benefits and makes it more effective. In fact, some studies show that it can even create new therapeutic energies within the ingredient, thus giving it more benefits.

A notable metaphor is burning music onto a CD from the computer...it is not the actual music itself you are burning onto the CD; it is the data, or energy of the music that gets embossed into the CD. Yes, we do not see or hear the event happening...but there is a signal on the computer telling us that something is happening. We are only interested in the end result which is the music being played in the CD player later proves that something has certainly transpired.

Benefits of using Bioenergized Hibiscus

Bioenergized ingredients are highly concentrated and highly effective. Therefore less of the ingredients are necessary to be used in formulations. In fact, using lower quantities of bioenergized ingredients is actually more efficacious than using traditional measurements of ingredients that have not undergone the process. Besides being more effective, using bioenergized ingredients is also eco-friendly. Using less ingredients means using less packaging, as well as less harvested natural ingredients. In this way it can prevent deforestation and over-cultivation of rare species. Additionally, research has indicated that this technology can help reduce and protect us

from harmful electromagnetic radiation similar to how magnet therapy or a bioelectric shield would.

Toxicity Test

Table No.1: NOAL: No-Observable-Adverse-Effect Level

S.No	Species and Strain	No.of animals sex/group	Route of administration	Formulations And Dosages	Time of Deaths and period of observation	NOAL	Symptoms
1	Sprague-Dawley rats	25 Males 5 groups (N=5)	Oral	Freeze-dried preparation 10, 30, 100, 300,and 1000 Mg/kg	No death occurred during the period of observation;24h, and 30days	>100mg/kg	Nil

Test Results

Table No.2: Level of microbial contamination

The total aerobic viable count of sample (BP 2015 Specification $\leq 1 \times 10^5$ cfu/mL)	8.20x10 ¹ cfu/mL
Test for Ecsherichia coli -MAC/37°C/48hrs (BP 2015 Specification-Nil/mL)	None detected
Test for Staphylococcus aureus-MSA/37°C/48hrs (BP 2015 Specification-Nil/mL)	None detected
Test for Salmonella spp.BSA/37°C/48hrs (BP 2015 Specification-Nil/ mL)	None detected
Test for Pseudomonas aeruginosa/PCA/37°C/48hrs (BP 2015 Specification-Nil/ mL)	None detected
Test for Yeast and Moulds-SB/25°C/5days (BP 2015 Specification)	6.10 x10 ¹ cfu/mL

Table No.3: Organoleptic Properties

Form	Tea bag
Colour	Wine
Taste	Acidic
Odour	Characteristic

Table No.4: Physicochemical Properties

PH(1% warm aqueous ext.)	2.6
Total alcohol-soluble extractive	not less than33%
Total water –soluble extractive	not less than 41%
Moisture Content	not more than 12%

Table No.5: Phytochemical Properties

Reducing sugars	Positive
Saponins	positive
Tannins	positive
Alkaloid	Negative
Flavonoid	positive
Sterols	Negative
Coumarins	Negative

Table No.6: Chromatographic Profile

Stationary phase	silica gel
Detecting reagent	Anisaldehyde
Sample used	Chloroformic extract
Mobile phase	chloroform Pet ether 9: 1



CONCLUSION

The study brings to the body of evidence in using Hibiscus Sabdariffa in treating hypertensive patients. It finally brings to the body of evidence and the first bioenergized Hibiscus in Ghana for managing medical conditions from the RNG Medicine Research Lab.

ACKNOWLEDGEMENT

This work was funded by RNG Medicine Research Laboratory, Tema Community 18, opposite Kings Corner-Accra, Ghana-West Africa. The author also thanks those who provided raw materials for the Research Lab.

CONFLICT OF INTEREST

The author reports no conflict of interest for this work.

BIBLIOGRAPHY

1. El-Atat F, McFarlane S I, Sowers J R. Diabetes, hypertension, and cardiovascular derangements: pathophysiology and management, *Curr Hypertens Rep*, 6(3), 2004, 215-223.

2. Wolf-Maier K, Cooper R S, Banegas J R, Giampaoli S, Hense H W, Joffres M *et al*. Hypertension prevalence and blood pressure levels in 6 European countries, Canada, and the United States, *JAMA*, 289(18), 2003, 2363-2369.
3. Kearney P M, Whelton M, Reynolds K, Muntner P, Whelton P K, He J. Global burden of hypertension: analysis of worldwide data, *Lancet*, 365(9455), 2005, 217-223.
4. Kearney P M, Whelton M, Reynolds K, Whelton P K, He J. Worldwide prevalence of hypertension: a systematic review, *J Hypertens*, 22(1), 2004, 11-19.
5. Azizi F, Ghanbarian A, Madjid M, Rahmani M. Distribution of blood pressure and prevalence of hypertension in Tehran adult population: Tehran Lipid and Glucose Study (TLGS), 1999–2000, *J Hum Hypertens*, 16(5), 2002, 305-312.
6. Bahrami H, Sadatsafavi M, Pourshams A, Kamangar F, Nouraei M, Semnani S *et al*. Obesity and hypertension in an Iranian cohort study; Iranian women experience higher rates

of obesity and hypertension than American women, *BMC Public Health*, 6, 2006, 158.

7. Sadeghi M, Roohafza H R, Kelishadi R. Blood pressure and associated cardiovascular risk factors in Iran: Isfahan Healthy Heart Programme, *Med J Malaysia*, 59(4), 2004, 460-467.
8. Singh R B, Suh I L, Singh V P, Chaithiraphan S, Laothavorn P, Sy R G *et al.* Hypertension and stroke in Asia: prevalence, control and strategies in developing countries for prevention, *J Hum Hypertens*, 14(10-11), 2000, 749-763.
9. Mozaffari-Khosravi H, Jalali-Khanabadi B A, Afkhami-Ardekani M, Fatehi F and Noori-Shadkam M. The effects of sour tea (*Hibiscus sabdariffa*) on hypertension in patients with type II diabetes, *Journal of Human Hypertension*, 23(1), 2009, 48-54.
10. Racheal Pontillo. Defining Alternative Medicine: Bioenergetics to be accessed at <https://rachealpontillo.com/defining-alternative-medicine-bioenergetics/>, 2011.
11. Amezcua Bio Disc 2to be accessed at www.amezcua.com/biodisc.html.

Please cite this article in press as: Raphael Nyarkotey Obu. The new era of natural management of hypertension in Ghana: the case of bioenergized hibiscus sabdariffa, *International Journal of Medicine and Health Profession Research*, 4(2), 2017, 69-75.