

**Research Article**

## Men's Formula Anecdotal evidence : An emerging Phyto-product in Natural Urology; subjectivity or objectivity?

Raphael Nyarkotey Obu, RND, PhD

Nyarkotey College of Holistic Medicine, Tema C7 & Post office and RNG Medicine Research Lab, Tema C18, Ghana

**Article History**

Received:03.07.2020

Accepted: 19.07.2020

Published: 29.07.2020

**Journal homepage:**

<https://www.easpublisher.com/easjpp>

**Quick Response Code**

**Abstract:** *Aim:* The field of urology is not limited to mainstream medicine and pharmaceutical drugs. Today, Naturopathic doctors, researchers, scientists and even some mainstream doctors are researching into natural remedies to help their patients. Phytomedicinal products are used in our daily lives for prostatic health. However, it is not without controversies. Obviously, controversy about phytomedicinal efficacy continues due to product inconsistency, different trial designs, placebo effects and other factors that make it difficult to assess reasonable trials of different products. This current paper discusses the anecdotal evidences and safety of the development of FDA certified Men's Formula as phytomedicine for prostate health and immune booster for men with advanced prostate conditions. *Method:* In the first stage, Six(6) samples of Men's Formula Tea were sent to the department of Pharmaceutics and Pharmacognosy to assess the microbial loads and phytochemical and physicochemical analysis at Kwame Nkrumah University of Science and Technology, KNUST, Kumasi, Ashanti region, Ghana. In the second stage, The Product, Men's Formula Tea produced by RNG Medicine Research Lab, Ghana, West Africa was given to 100 men for either their prostate problem or to boost their sex life. The patients, distributors or the individual who purchased the product to their loved ones further called or WhatsApp their experiences on the products to the author of this paper. *Result:* out of the 100 Men who used Men's Formula for their prostate health, 99 reported significant quality of life improvement. They also reported drastic changes in their sexual life. The author also noticed divergent views on health improvements in the patients. One been blood pressure stabilization in dialysis patient for over four years. *Conclusion:* Anecdotal evidence from patients revealed significant impact of Men's Formula on their prostate and sexual life. Various mechanism of actions were also discovered which could be as a result of the over fourteen (14) ingredients synergistically blended together.

**Keywords:** Men's Formula, Phytomedicine, Natural Urology, Prostate Health, sexual health.

**Copyright © 2020 The Author(s):** This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

## INTRODUCTION

Prostate health plays an integral role in the life of Men and all that is needed for a man to get prostate disease is the prostate. Without the prostate gland, there is no prostate headache!. Certainly, Men cannot do without the prostate gland, yet Men do ignored this precious asset they have. This could be due to the small nature of the gland, location and obviously, out of sight is out of mind. But when the prostate goes rogue, a man's life can be over!

As a novice, I thought, Urology was all about surgical specialty! But interestingly, urology, goes beyond merely surgical specialty and it has to do with so many things that affect both men and women urinary health. The field of Urology also goes beyond the

practice in mainstream or conventional or pharmaceutical medicines.

Today, the field of Naturopathic Urology is currently emerging with so many scientists, researchers, clinicians' *et al.*, looking for alternative ways to deal with urological issues that affect our daily lives using natural medicines. In one conference I attended at the University of Ilorin, Kwara State, during the science of Global Prostate Cancer Disparities organized by the University of Florida, USA, one of the key note speakers, who happens to be one of the leading professors in Urology called for evidence based research into traditional Medicines and prostate cancer. He noted that, the war on prostate cancer in West Africa cannot be won without collaboration between

traditional medicine practitioners and Conventional Urologists. This he noted due to the faith, patients have in Traditional Medicine Practitioners and Prostate diseases.

Almost every man will develop some sort of prostate health issue at some point in their lives. Whether it's a rising PSA, fear of prostate cancer, erectile dysfunction, waking up at night to rush to the bathroom, incontinence, urgency, or some other symptom. And with more and more research showing the dangerous and ineffective nature of the more common prostate drugs, is it any wonder that more and more men are turning to prostate supplements as a healthy natural alternative to drugs or surgery?

But how do you choose which supplement is right for you? How do you know which nutrients are scientifically proven, effective and safe? Many men do not realize that prostate disease can cause kidney damage by forcing you to consistently strain to pee at the toilet. This additional pressure on your kidneys can cause serious damage. The long-term lack of sleep also impacts physical and mental health, as well as contributes to lethargy, stress and weight gain. Additionally, an enlarged prostate can also cause public embarrassment due to unexpected 'dribbling' and incontinence.

The most life-threatening side effect of prostate disease is your elevated prostate cancer risk. Numerous large-scale, double-blind & peer-reviewed studies, both in Europe and the USA, have linked BPH to an increased risk of developing prostate cancer.

When it comes to treating an enlarged prostate it seems men have three options: pharmaceutical drugs, invasive surgery or natural prostate supplements. All three have potential pitfalls and risks. The concern with surgeries related to the studies showing their long-term effectiveness is limited. Many men see a resurgence of urinary issues after 2, 5 or 10 years. Additionally, 80% of men report significantly impaired sexual function. A smaller percentage report urinary pain for upwards of a decade after surgery.

With supplements, the number of different brands currently available can make it difficult to navigate the market. Also, because there is no real regulation or mandatory quality standards, there is a risk that you end up with a cheap, ineffective supplement full of fillers and low-quality ingredients. So how can you guarantee that you are getting a quality,

effective supplements that's actually shrinking your prostate? How do you know which prostate supplements really work? This is why I decided to research and formulate this product after almost a decade of research work.

Lycopene, green tea, pomegranate juice and flaxseed have gained much attention as preventative measures for prostate cancer. However, there is little positive conclusive data to support the use of these products, but with increased interest in these products, further investigations are being undertaken that could provide valuable information for urologists to advise their patients.

## METHODOLOGY

In the first stage, Six(6) samples of Men's Formula Tea were sent to the department of Pharmaceutics and Pharmacognosy to assess the microbial loads and phytochemical and physiochemical analysis at Kwame Nkrumah University of Science and Technology, KNUST, Kumasi, Ashanti region, Ghana.

The Product, Men's Formula Tea produced by RNG Medicine Research Lab, Ghana, West Africa was given to 100 men for either their prostate problem or to boost their sex life. They bought the product due to social media advertisement and articles on the product they read in leading Ghanaian Newspapers such as the Chronicle, The Herald, The Ghanaian Times and some online websites such as Modernghana, the Awake news website and others. Some walked to the office of RNG Medicine Research Lab, Tema community 18, Nyarkotey College of Holistic Medicine, Tema community, Post office or through the nationwide distributors.

The patients, distributors or the individual who purchased the product to their loved ones further called or WhatsApp their experiences on the products to the author of this paper. Some of the anecdotal evidences were also collected from Dr. Chris Cole, Niamey, Niger as part of his clinical trial of the product.

1. Department of Pharmaceutics.
  - Microbial Analysis Test Conducted.

### Microbial Test Protocol-(BP Level of Microbial Contamination)

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

## TEST RESULTS

**Tab 1.** Level of microbial contamination

The total aerobic viable count of sample(BP 2015 Specification - <1 x105cfu/mL)	X
Test for Escherichia coli - MAC/37oC/48hrs (BP 2015 Specification-Nil/mL)	None detected
Test for Staphylococcus aureus- MSA/37oC/48hrs(BP 2015 Specification-Nil/mL)	None detected
Test for Salmonella spp.BSA/37oC/48hrs(BP 2015 Specification-Nil/ mL)	None detected
Test for Pseudomonas aeruginosa/PCA/37oC/48hrs(BP 2015 Specification-Nil/ mL)	None detected
Test for Yeast and Moulds- SB/25oC/5days(BP 2015 Specification-< 1 x105cfu/mL	1.42x102cfu/mL

- Remarks**

The findings revealed that 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

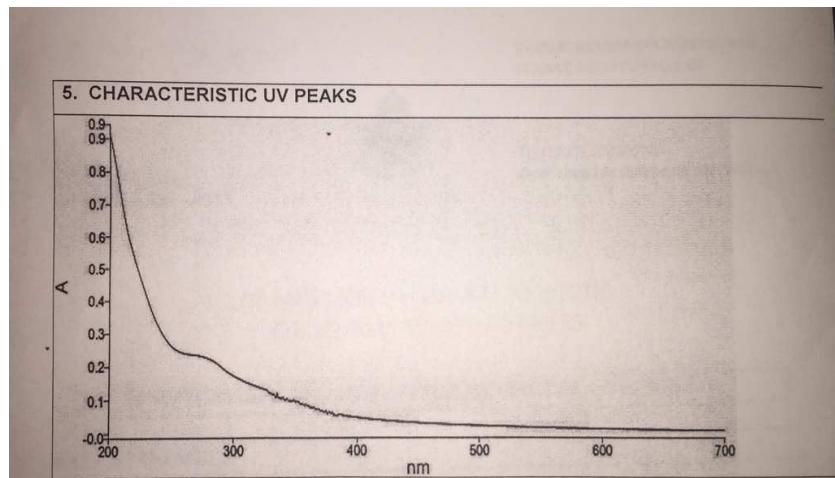
## 2. Department of Pharmacognosy

### Phytochemical and Physicochemical Analysis

#### I. Organoleptic Properties

**Tab 2**

Form	Tea
Colour	Brown
Taste	bland
Odour	Characteristic



**Fig 1..**The UV Spectrum 0.1% w/v aqueous extract Men's formula prepared by cold macerating 0.1g of the powder with 100mL distilled water for an hour, showed

#### ii. Physicochemical Properties

**Tab 3**

PH( aqueous decoction.)	5.10
Total ash	not more than 1.89w/w
Water –soluble extractive	not less than 8.46% w/w
Moisture Content	4.15 w/w

#### iii. Phytochemical Properties

**Tab 4**

Reducing sugars	Positive
Saponins	positive
Tannins	positive
Alkaloids	positive
Flavonoids	positive
Sterols	Negative
Terpenoids	Positive

#### iv. Chromatographic Profile

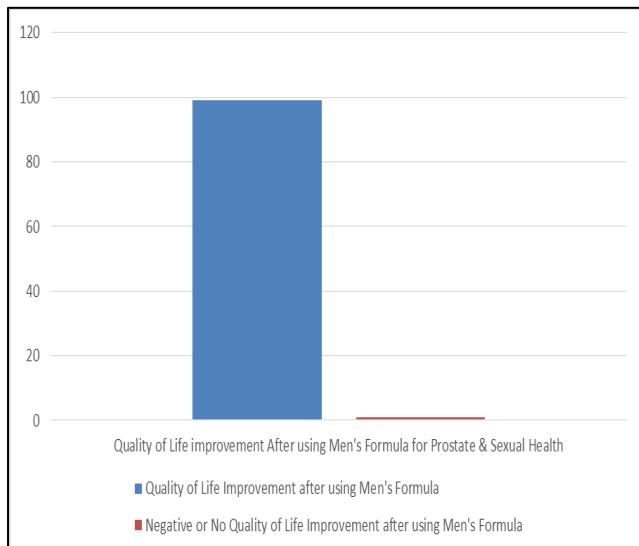
**Tab 5**

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

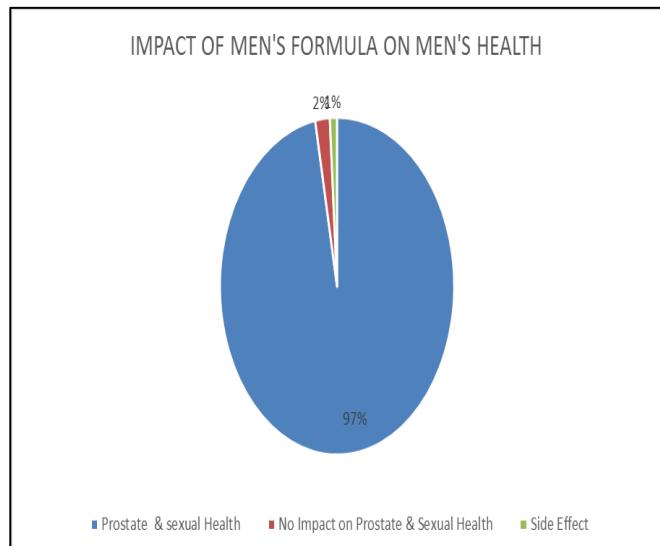
- Remarks** - four(4) spots were observed after Spraying and gently warming
  - one (1) pink spot( $R_f=0.86$ )
  - Two (2) brown spots ( $R_f= 0.73 \& 0.44$ )
  - one (2) purple spot (  $R_f=0.27$ )

absorbance at wavelengths of 335.0nm(0.1236), 332.1nm (0.1199), 339.8nm (0.1065) and 348.6nm(0.1022).

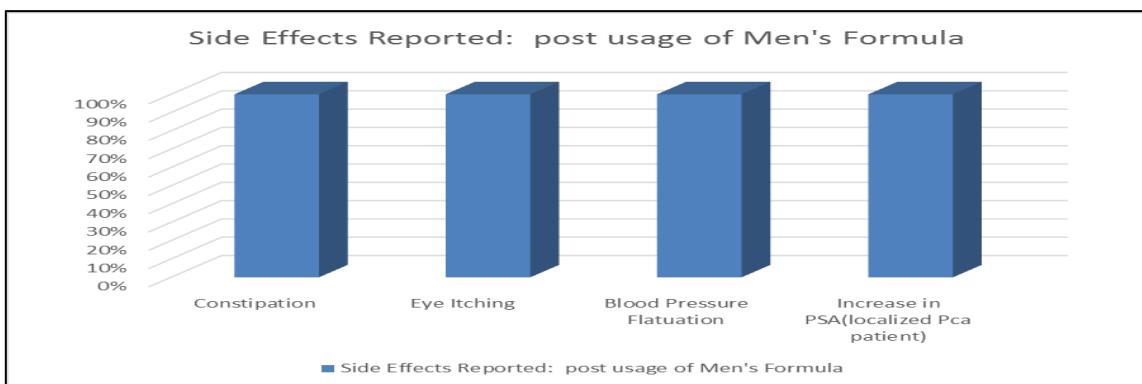
## RESULT



**Fig 2**



**Fig 3**



**Fig 4**

Quality of Life (QOL) improvement were significantly seen in both prostate and sexual health men. Few patients at the time reported some negative review about the product (fig 2, fig 3). The negative review from the patient whom happened to be an organ confined prostate cancer patient claimed the product had no effect on his prostate specific Antigen after using three boxes, others also reported fluctuation in their blood pressure readings, Constipation and itching of the eyes were also reported in others (fig 4).

Another interestingly findings from one of the patient who also happened to be a dialysis patient battling Benign Prostatic Hyperplasia symptom did not see much urine improvement and consulted through WhatsApp chat. His chat on May 02-2019, 6:06pm read “The small urine that comes come in drips and drops. It’s like there is small barrier/blockage in the head of the penis. Any suggestions?

I actually stopped the finasteride and tamsulosin but I’ve stated that tamsulosin to relax the

muscles. Can I combine them all? Finasteride, tamsulosin and Men’s Formula please”?

The patient was made to combine for monitoring as an integrative approach to prostate Health Management and on 03-may, 2019 at 3: 15pm GMT, he sent an update via Watsapp.

“Wow! It’s good to consult. With the combination of three, Finasteride, Tamsulosin and Men’s Formula, am flowing with amount the kidney is producing. No painful drip drop. Good flow. Thanks Doc”. This result could also attest to the fact that, integrative approach to prostate health is paramount to those who would not benefit from the Men’s Formula as a stand alone treatment.

## DISCUSSIONS

Urology is a part of health care that deals with diseases of the male and female urinary tract (kidneys, ureters, bladder and urethra). It also deals with the male organs that are able to make babies (penis, testes, scrotum, prostate, etc.).

Since health problems in these body parts can happen to everyone, urologic health is important. The scope of urology is big and the American Urological Association has named some subspecialty parts:

- Pediatric Urology (children's urology)
- Urologic Oncology (urologic cancers)
- Male Infertility
- Calculi (urinary tract stones)
- Female Urology

Neurourology (nervous system control of genitourinary organs). However, all these areas could also be addressed by natural remedies. Despite in vitro laboratory testing, the active components of the herbal products used in urological conditions have not been identified. Also, the mechanism of action of these products have not been elucidated, e.g. there are over a dozen proposed mechanisms of action for saw palmetto berry extract for BPH. This is an area that is fertile for future urological laboratory research (Franklin C. Lowe and Trushar Patel 2008).

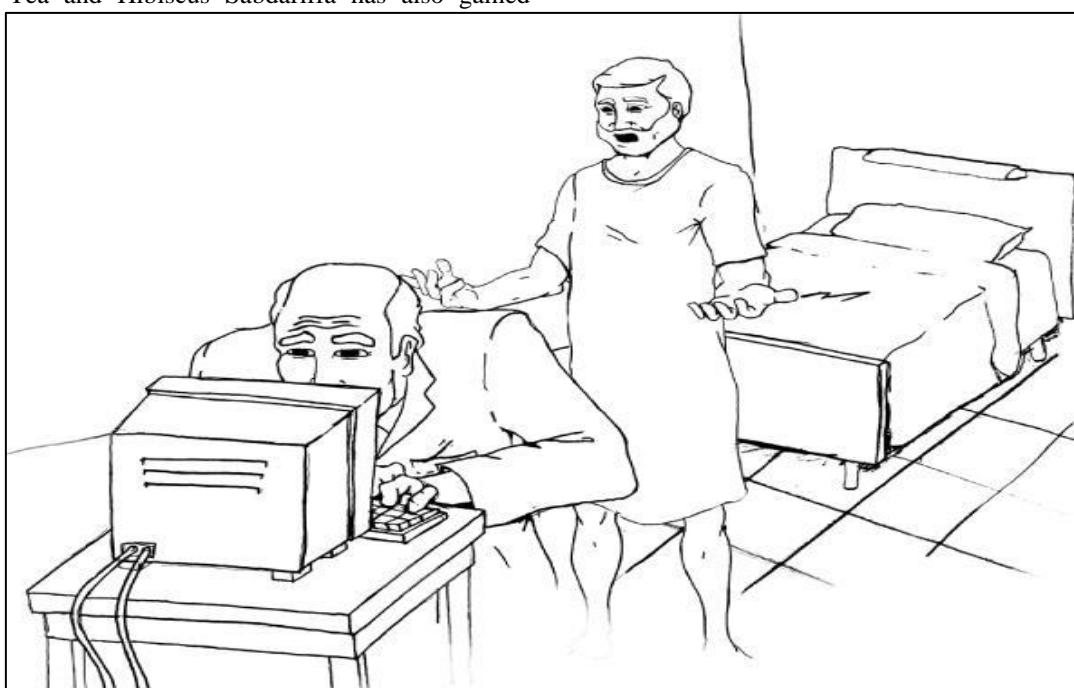
BPH and associated LUTS are almost abundant in older men, and therefore, it is not surprising that 30–90% of men in the USA seen by urologists for BPH/LUTS have already taken phytotherapeutic products for this condition. meta-analyses of many trials of Permixon (Pierre Fabre, France) had indicated a small but significant benefit, with a mean (95% CI) improvement in Qmax of 1.02 (0.1–2.5) mL/s and a 0.38 (0.23–0.5) reduction in episodes of nocturia over placebo. In Ghana, one plant being used for LUTS by Traditional Medicine Practitioners is croton Membranaceus and has gain international recognition. Green Tea and Hibiscus Sabdariffa has also gained

authority on Men's Prostate Health. In one study, the researchers recognized the impact of traditional and alternative on BPH management (Kyei *et al.*, 2017).

### Anecdotal Evidence and Men's Formula

As clinical trials are very expensive for natural medicine practitioners, hence these practitioners and their companies relies on anecdotal evidence in their practice. According to Rafael Campo (2006), Narratives Matter to Medical Practice. "*Whether we choose to admit it or not, the anecdote continues to be an important engine of novel ideas in medicine*"(Rafael Campo 2006).

*Rafeal Campo, the physician provided an interesting article on why Narrative Matters in Medical practice. He had this to say "The irony in our growing intolerance of the anecdote is that storytelling is full of lessons in imagination and invention so beneficial to the creative investigator. One of my favorite, if somewhat hackneyed, anecdotes is the one told to me by my wise organic chemistry professor at Amherst College, who claimed that the discoverer of the elusive structure of benzene said his breakthrough idea of the ring of six carbon atoms linked by slithering electron bonds came to him in a wild dream he had of six snakes swallowing each other's tails. Thus we can begin to see how such dynamic constructs of narrative—the characterization of carbon atoms as lithe snakes, the metaphor of slippery bonds formed by swallowing one another's tails—animate the static concepts that perhaps frustrated more rigidly linear thinkers in their attempts to solve what had been an abiding chemical conundrum.*



*When we fail to listen to our patients' stories, we lose the opportunity to discover what truly ails them (illustration: Anthony Flore)*

*Whether we choose to admit it or not, the anecdote continues to be an important engine of novel ideas in medicine. No matter how wide the perceived rift between science and the humanities, and no matter what new technologies may deliver unto us in terms of more precise tests and life-prolonging therapies, the work of doctors will always necessarily take place at the intersection of science and language. How many of us have first felt inspired to dig deeper into a question that first took shape in the form of “a couple of interesting cases”—the beginnings of a case series, in epidemiological parlance—shared by a colleague over a cup of bad doctors' lounge coffee?*

*Our patients' stories too, if only we could listen to them less critically and cynically, might similarly inspire us to the more practically important discoveries of what truly ails them”.*

Here are some genuine Testimonials from some users of Men's Formula, and this are notable personalities in Ghana and other African Countries. The author of this paper further examined the scientific data on ingredients for the formulation with proof of effectiveness through clinical or scientific data. The formulator used over (14) evidence-based ingredients in Men's formula.

As a researcher with interest in Naturopathic Urology, especially natural prostate health products locally and globally, I realized that most manufacturers uses one or two ingredients in Ghana and Africa, and you 'can't go to war with one soldier'!

#### **These are some anecdotal evidence from genuine clients:**

- i. "After drinking the tea in 500ml water between 9:00am and 1:00pm. Today, the amount of urine I passed at about 2:00pm was unprecedented. I have not passed urine like that as a dialysis patient for a long time."

Further he said: "I suffered low pressure seriously before I started the Men's Formula. My pressure was below 100/68 and it caused me a lot of problems. I was weak and always dizzy. In a sitting position I had to be careful when I stand up. I could easily fall when I stood up. But with Men's formula its ok now. My average is 130/80. I walk around at any speed I like now. At first I had to be careful. Sometimes I was helped. No one can tell that I'm on dialysis now. My nurses are surprised. So I told them the secret. Now they want it for others. Thanks very much Doc. Obu"

On vitality, he had this to say: "Great achievement! We have been having marriage activities now and it gives some staying power for you to last longer. I went two days running after a long time. The Tamsulosin and other medications I took for 4 years knocked my thing out. But now I beg don't try me ohh, it is getting

better and better. In six months all presidents and ministers will be begging you for some. Please give me more stock before it gets finished. I think I will double my dosage in the 500ml for more power!!"

The second claim is from one Dr. Chris Cole, Medical Doctor who is very knowledgeable in naturopathic medicine in Niamey, Niger. He is now practicing integrative medicine and he purchased about 100 boxes of men's formula for his clinical trial in Niamey, Niger. He provided clinical trial update:

"Kidney stones have showed signs of dissolving after two days of using Men's Formula for only two days. He is urinating normal. This is someone who's had two surgical interventions"

He further wrote, "My mentor in medicine products are isolated botanical playing different anti-cancer roles. Yours is bunched up as a single multi-effects remedy. Now in blood group medicine we use incompatible lectins (the lectins that are not compatible to one's blood group) to agglutinates prostate cancer cells. Even your neem in your formulation is super. Obibini black man and you know all this, you are too much young man".

"We have a patient with BPH and hypertension. So we put Nyarkotey(your name is synonymous with hibiscus here in Niger) in the afternoon before meals but blood pressure is still at pre-trial level, men's formula is for morning and evening, and for that we're noticing improvement in QOL"

The interesting thing about this clinical trial funded by Dr. Chris himself in Niger is amazing: This is someone have never met before but showed interest in the product via online contact and supplied him 100 products via road transport to Niamey, Niger.

- iii. A 50 year renowned Politician in Asaba, Delta State, Nigeria had a PSA of 12.8ng/ml. His biopsy proved benign. After using just one box of Men's Formula combined with Nyarkotey Hibiscus Tea for 5 days, his PSA fell to 0.12ng/ml. he had this to say " Interestingly enough, I didn't tell you, I am asthmatic and my asthmatic symptoms has improved drastically "

Interesting, I met this political figure when I went to the world ethnomedical conference in Asaba, Delta State as the guest speaker to deliver a paper on prostate cancer and holistic medicine. After, he invited me to his house with those who invited me to Nigeria. The Nyarkotey Tea is made with concentrated hibiscus certified by the FDA with no: FDA/HD1. 18-11344. it is

*added to the Men's Formula for those with prostate issues for better quality of life care.*

iv. *A renowned Political figure in Niamey, Niger also started Men's Formula and Nyarkotey Tea combined. His sex life energized just one day! This is when Dr. Chris ordered for the products for the clinical trial. In fact, he now termed the product " Magic formula" Dr. Chris had this to say "He now has a slogan for Men's Formula. When he says Men's Formula, he himself replies: Bringing out the man in you".*

v. *Another review from a woman who bought Men's formula and Nyarkotey Tea for his husband diagnosed with organ confined prostate cancer in Ghana. The husband had been on hormone treatment and lost his sex life for over 4 years now! She wrote:*

*"Doc Nyarkotey, Great. Feels good after drinking it. \*It is back ohh\*. He was passing advances this morning. We are privileged to know you. My husband is out on a medical outreach this morning. Doc Nyarkotey, Woye buei wae!" meaning, you are good.*

vi. *A 70 year old native of Doryumu in the Greater Accra region had a catheter on for years now. After using one box of Men's Formula, his catheter had been removed and now peeing freely.*

vii. *Roger in Accra: "Started using men's formula for Four Days Now and Trust moi d Back Pains I experience due to prolonged sitting and lying down, sleeping in an uncomfortable position is No More..... And was Like Wow.....Great Work Doc....GOD Bless u ....GHANA Needs More of You"*

## WHAT IS MEN'S FORMULA?

Men's Formula has Quintuple Action and a patent pending product for general wellbeing of Men. The product is a clinical grade, advanced, comprehensive phytomedicine product approved by the FDA in Ghana for Men's Prostate Health & immune booster for men with advanced prostate conditions. Men's formula is also designed to help guard against the most common consequences of unbalanced testosterone levels and promote successful aging, male vitality and detoxification.

Men's Formula is also formulated for men who are looking to restore their prostate health as close as possible to youthful levels. Lab study conducted in Ghana on efficacy showed the product has high antioxidant activity and would be of significantly relevance to the prostate. It is also safe with phytochemical properties (**Tab 1, Tab 3**).

The mechanism of action of the product is based on the over fourteen (14) plants. Some of the extracts are: Hibiscus Sabdarrifa, Azadirachta indica, carica papaya, Graviola, stinging Nettle, Zanthoxylum zanthoxyloides, small willow herb, saw palmetto, pumpkinseeds, cyperus esculentus, Altsonia Boonei, Africa black pepper, Allium Sativum, Zingiber Officinale and many more blended together!

The special formulation of over fourteen (14) herbs, all synergistically balanced to support the male reproductive and urinary systems-particularly the prostate and kidneys, assisting the prostate in cellular regeneration for ultimate health and well-being. This formula potentially is formulated to shrink inflamed prostate tissue, increases blood circulation in the prostate and sexual organs, increases potency, and calm the nerves.

### Mechanism of Action of Bioenergized Men's Formula



It is:

**Anti-Inflammatory**  
**Anti-Oxidant**

**Anti-Androgenic**  
**Virility**

### **Anti-Proliferative**

Because of the combination of several ingredients, multiple mechanism of action can be responsible for the anticancer activity and other benefits. Most of the agents have shown in vitro activity, ranging from stimulation of natural killer-cell activity to growth inhibition of different cell lines. There are components that proved estrogenic activity or inhibit 5-alpha reductase. The extracts can induce apoptosis and can suppress cell growth by restricting cell cycle progression.

Also Men's Formula combination is not an isolated botanicals playing different anti-cancer roles but bunched up as a single multi-effects remedy.

The active, 100% phytomedicine ingredients combined together in Men's Formula have been shown individually in research studies and clinical trials to:

- Promote proper prostate size
- Support normal urinary flow and volume
- Encourage healthy libido and sexual response
- Support the natural response to DHT (dihydrotestosterone) reduction
- Assist the natural regulation of 5-alpha-reductase which affects normal prostate size and volume
- Support overall prostate and urinary health
- Restore prostate health as close as possible to youthful levels
- Help promote cellular and immune system health
- For General Well-being of Men
- Prostatitis
- Inflamed Tissue
- Night Sweats
- Backache
- Fever
- Debility
- Chronic Weakness
- Pain in Rectum
- General Pain
- Improves erectile dysfunction
- Bladder Health
- Helps deal with the side effects of conventional prostate cancer treatment
- Helps Men on Androgen Deprivation Therapy ADT
- Men considering Watchful Waiting or Active Surveillance

### **Watchful Waiting and Men's Formula**

Statistics show that a high percentage of men diagnosed with prostate cancer ultimately die with it and not from it and as such aggressive treatment is unnecessary. Studies that have been conducted on patients with prostate cancer have found no evidence that undergoing surgery or chemotherapy is in any way better than an overhaul in lifestyle and diet.

One such study, published in the New England Journal of Medicine in 2012, observed men across the US who were diagnosed with localized prostate cancer. The study had enrolled 731 men with localized prostate cancer and randomly assigned them to either undergo radical prostatectomy or maintain observation.

The study followed the progress of these men over a period of ten years and came to the conclusion that observation is a better option than undergoing any radical treatment, especially for men with low risk cancer.

Following the study, a statement from the American Society of Clinical Oncology (ASCO) suggested that the risks of harms caused by PSA tests and other unnecessary treatments like biopsies outweigh the benefits. They also suggest appropriate management options should be considered in the event of prostate cancer.

This study and statement make it clear that undergoing radical procedures and treatments will not increase your life expectancy but instead lead to uncomfortable side effects and lessen your quality of life.

### **Statistics about prostate cancer life expectancy revealed that:**

- i. 99% of men diagnosed with the most common types of prostate cancer will survive for more than 5 years
- ii. 95% of men diagnosed with prostate cancer will survive for more than 10 years
- iii. 76% of men diagnosed with prostate cancer will survive for more than 15 years

Based on this statistics, considering most men are around 70 years old when diagnosed with prostate cancer, the above statistics illustrate the benefits of changing their lifestyles and diet rather than rushing to receive unstable medical treatments. In fact, by changing their diet and lifestyle a diagnosis of prostate cancer could have little or no impact on their life expectancy.

According to Ross and colleague (1994) Epidemiological studies in the USA have suggested a strong dietary factor in the development of prostate cancer. Studies such as these points to the fact that dietary agents may help in preventing the occurrence or progression of this disease.

So for Men on watchful waiting or Active Surveillance for low-risk prostate cancer, Men's Formula could be incorporated into their treatment pathway to help them make an informed decision

### **Dealing with Hormone Therapies Side Effect With Men's Formula**

Hormone therapy can be an effective way to treat advanced prostate cancer, but men need to be aware of the side effects. Fortunately there are many natural ways to reduce hormone therapy side effects that involve attention to exercise, diet, sleep, and herbal and nutritional remedies. One of the common ways to treat advanced prostate cancer is by significantly reducing the levels of sex hormones, especially testosterone, using hormone therapy.

The side effects of hormone therapy are associated with low testosterone levels and include:

- Erectile dysfunction (ED)
- Weakness, fatigue
- Sweating and hot flashes
- Loss of libido
- Men who choose long-term hormone treatment may experience:
- Depression and mood swings
- Weight gain
- Risk of heart failure
- Osteoporosis

Men's Formula is also formulated to help reduce hormone therapy side effects and approaches that help boost energy levels. The formula may also complement both conventional and alternative methods. A 2011 study confirmed that low concentrations of testosterone are associated with sleep deprivation and sexual dysfunction. Establishing a set sleep schedule and getting 7 to 8 hours nightly can support healthy erectile function as well as manage fatigue, maintain strength, and avoid depression. The formula enables you to rest enough as well. Men's Formula with adaptogen plant remedies helps fight fatigue, depression, and mood swings, which are known for their ability to moderate normal system functioning and assist the body in adapting to stress. Also fight sweating and hot flashes, improve blood circulation. Fatigue, depression, and loss of libido as well as heart health and also for bone strength, ultimately balance testosterone level as a result of the Androgen Deprivation Therapy (ADT). The goal here is to create a hostile biological environment for cancer in the body and optimize quality of life despite the ADT.

Exercise program would have to be included with this program. In one study of 2,700 male health care professionals (average age 70 years) with non-metastatic prostate cancer and found that those participating in vigorous physical activity for a duration  $\geq 3$  hours/week demonstrated a 49% lower risk of all-cause mortality and a 61% lower risk of death specifically from prostate cancer, compared with men who did 1 hour/week of vigorous activity (Kenfield *et al.*, 2011).

A systematic review of ten studies (five randomized and five uncontrolled clinical trials) examined the effects of exercise on patients receiving ADT. This paper demonstrated that physical performance was improved by exercise. Randomized controlled trials found exercise to be consistently beneficial for muscular performance: reported as increases in muscular strength and increases in upper and lower limb strength, compared with the control population (Gardner *et al.*, 2014).

Body composition (the amount of fat vs. muscle in the body) is a component of many studies investigating exercise effects on prostate cancer patients on ADT and resistance training has been shown to either increase lean body mass or not decline. Loss of muscle mass is a common scenario amongst ADT patients. (Galvão *et al.*, 2010). An observational study reported in 2006 looking at over 70,000 men observed 11% increase in myocardial infarction risk and a 16% increased risk of coronary heart disease and death from cardiac arrest in the study of prostate cancer patients receiving ADT, versus those not on hormone therapy (Keating *et al.*, 2006).

### **Men's Formula Composition Research: Hibiscus Sabdariffa**

The Prostate.Net described the Hibiscus Tea as the best tea for Men's Health. The most important thing about the hibiscus sabdariffa in tea form is that it is one of the richest sources of antioxidants to be used in a beverage. This was revealed in a study published in Nutrition Journal where the investigators elucidated how they developed a comprehensive food database that listed the antioxidant content of more than 3,100 foods, spices, beverages, herbs, and supplements. After analyzing 283 different beverages, hibiscus tea beat matcha green tea when it came to antioxidant content. While green tea is still a very good beverage choice for antioxidants, hibiscus tea tops the list (Carlsen *et al.*, 2010).

Both green tea and hibiscus tea are among the top drinks for prostate health. Both types of tea contain potent antioxidants. Studies show that green tea can help prevent prostate cancer from forming and may also slow the growth of aggressive prostate cancer. Studies show that green tea can also benefit men with BPH and prostatitis. Chun-Tang Chiu *et al.*, 2015 research demonstrated the effect of hibiscus tea to reduced invasiveness of the cancer cells.

Hibiscus tea has also been shown to work as a natural diuretic in a research by Allison L. Hopkins *et al.*, 2013, increasing both urination and bowel movements. Hibiscus also crushed kidney stones by increasing the flow of water through the kidneys, the concentration of oxalate and other stone forming substances is decreased, and instead of adding to the crystals in the kidneys, watery urine helps dissolve

them. This process is not quick enough for most people, but hydration is very important for kidney stones.

As the water leaves the body, it pulls the sodium with it, which is one mechanism by which blood pressure is reduced. As mentioned above, hibiscus tea contains a rich amount of anthocyanin, which is a phenolic compound. It is believed that this active compound is responsible for the tea's cardio-protective effects.

#### **Analysis of Hibiscus Tea on ED**

**Increased eNOS Activity and Nitric Oxide.** We get most of our arterial nitric oxide from the endothelium and this is governed by the eNOS enzyme. It turns out that the polyphenols in hibiscus tea activate this enzyme and cause endothelium to produce more nitric oxide.

**Endothelial Function.** This formula explains this:  
Erectile function = Endothelial function

The endothelium is the thin layer of cells on the inside of your arteries that are responsible for controlling their expansion and contraction and the nitric oxide that governs the process. Researchers refer to this ability to relax the arteries as "endothelial function," and, generally speaking, endothelial function governs how well and how fast your erections are. (There are exceptions, of course, as low dopamine, venous leakage and other systems can negatively impact erections as well.) In any event, you can probably guess where I am headed: hibiscus tea has been shown to significantly help with endothelial function:

"Diuresis and inhibition of the angiotensin I-converting enzyme were found to be less important mechanisms than those related to the antioxidant, anti-inflammatory, and endothelium-dependent effects to explain the beneficial actions. Notably, polyphenols induced a favorable endothelial response that should be considered in the management of metabolic cardiovascular risks."

Notice that these researchers boldly told physicians to consider using hibiscus in their practices. But how many physicians actually consider natural solutions to chronic disease, even though 99% of the time, chronic disease results from unnatural lifestyles?

Again, an improvement in endothelial function will help the solid majority of men with mild to moderate erectile dysfunction. This is especially true if coupled with a high nitric oxide-based lifestyle.

**3. Hypertensive Type II (Adult Onset) Diabetics.** This study did a black tea versus hibiscus tea study. (Black tea is known for also improving endothelial function,

although this study found the opposite.) The results were very impressive for hibiscus tea:

The mean of systolic BP (SBP) in the ST [hibiscus tea] group decreased from 134.4 11.8 mm Hg at the beginning of the study to 112.7 5.7 mm Hg after 1 month, whereas this measure changed from 118.6 14.9 to 127.3 8.7 mm Hg in the BT group during the same period."

A 20+ point drop in systolic blood pressure should get everyone's attention. Of course, this means that the participants arteries relaxed or dilated and blood flow increased.

Admittedly, the number of patients was small (60) and another study found that black tea decreased blood flow in a dose dependent manner instead of restricting it.

**4. Moderate Essential Hypertension.** Patients with essential hypertension are often the toughest to treat, because they have no known cause. In a small study, hibiscus provided solid results in just this situation:

"Statistical findings showed an 11.2% lowering of the systolic blood pressure and a 10.7% decrease of diastolic pressure in the experimental group 12 days after beginning the treatment, as compared with the first day. The difference between the systolic blood pressures of the two groups was significant, as was the difference of the diastolic pressures of the two groups. Three days after stopping the treatment, systolic blood pressure was elevated by 7.9%, and diastolic pressure was elevated by 5.6% in the experimental and control groups."

**5. Prehypertension and Mild Hypertension.** Again, this was a fairly small study (65 participants) but provided solid results:

"A standardized method was used to measure BP at baseline and weekly intervals. At 6 wk, hibiscus tea lowered systolic BP (SBP) compared with placebo (-7.2 11.4 vs. -1.3 10.0 mm Hg). Diastolic BP was also lower, although this change did not differ from placebo (-3.1 7.0 vs. -0.5 7.5 mm Hg)." This group is particularly relevant in my opinion, because we clearly have quite a few prediabetic men on the Peak Testosterone Forum.

**6. Protection Against Arterial Plaque.** One thing that can lower your nitric oxide and endothelial function over time is a buildup in plaque in your arteries. Why? Because plaque represents actual damage and "scarring" of the lining of your arteries. Keep in mind that blood supplied to your penis is done so via the pudendal artery and you have actual penile arteries as well. Things simply are not going to work right in the bedroom if you have significant atherosclerosis.

### **Meta-Analysis.All I can say for what these researchers concluded:**

"Results Four trials, with a total of 390 patients, met our inclusion criteria. Two studies compared Hibiscus sabdariffa to black tea; one study compared it to captopril and one to lisinopril. The studies found that Hibiscus had greater blood pressure reduction than tea but less than the ACE-inhibitors. However, all studies, except one, were short term and of poor quality with a Jadad scoring of <3 and did not meet international standards. Conclusion .The four randomized controlled studies identified in this review do not provide reliable evidence to support recommending Hibiscus sabdariffa for the treatment of primary hypertension in adults."

The authors above know that no one except large pharmaceutical companies can afford massive, large scale trials. So, sure, it's obvious that hibiscus tea has not been held up to FDA-style scrutiny, and it never will. But it's been a solid performer in multiple studies on multiple subpopulations.

Hibiscus tea provides solid results for increasing blood flow and lowering blood pressure and should be considered by men with erectile dysfunction as a potential significant help. It should also be consumed in my opinion regularly to help prevent atherosclerosis.

### **Ginger-Zingiber Officinale**

Ginger has anti-inflammatory, antioxidant and antiproliferative effects upon tumors making ginger a promising chemopreventive agent. Whole ginger extract holds significant growth-inhibitory and death-inductor effects in a spectrum of cancer cells by interrupting cancer cell-cycle progression, impairing cancer reproduction and modulating apoptosis.

Ginger health benefits include the potential to inhibit prostate cancer cell growth and promote the death of prostate cancer cells. Ginger extract was the focus of the 2012 study published in the British Journal of Nutrition. This report is believed to be the first to evaluate the ability of ginger extracts to fight prostate cancer. The study involved adding ginger extract to a variety of prostate cancer cells as well as administering the extract to mice with prostate cancer.

When scientists examined the effect of ginger extract on prostate cancer cells, they found that ginger inhibited cell growth and helped cell suicide. In the mouse experiments, ginger health benefits included the ability of the spice to inhibit tumor growth and progression by approximately 56 percent. Also important was the finding that ginger extract did not cause toxicity in normal tissues. It's only been a few years since researchers discovered that whole ginger extract can be helpful in the management of prostate cancer. In that important study, scientists observed that

ginger inhibited cancer cell growth and tumor growth, promoted apoptosis, and inhibited cell life progression (cell cycling) in mice. Numerous subsequent studies have supported these findings, including a University of Texas at Austin study in which a team demonstrated how 6-shogaol, a potent compound in ginger, reduced survival, inhibited tumor growth, and induced cell suicide in both human and mouse prostate cancer cells.

Ginger root is well known for its potassium and manganese content. Potassium is essential for maintaining normal blood circulation, muscle and nerve function, while manganese helps absorb beneficial vitamins and minerals. Ginger contains vitamins A, C and E, beta-carotene and zinc, all strong antioxidants that protect the prostate from harmful free radicals. Free radicals speed up tissue aging and cancer development. Vitamin C and zinc stimulate the immune system, and protect the body from infection and inflammation.

Ginger is effective in blocking 5-lipoxygenase, an enzyme that promotes cancer development. It helps reduce the risk of cancer and even helps shrink tumors in the prostate. In a number of studies, ginger has been determined to affect prostate cancer cells by:

- i. Weakening the development of cancer cells
- ii. Disrupting the growth cycle of cancer cells
- iii. Controlling naturally produced compounds to trigger self-destruction of cells
- iv. Killing off cancer cells by cutting off energy production and stimulating the release of enzymes that break down cancer cells

Researchers recently concluded that ginger tea is a natural aphrodisiac. According to a study published in the African Journal of Biomedical Research, ginger had a positive effect on the reproductive systems of male rats because of its "potent antioxidant properties and androgenic activities."

This conclusion confirms what the ancient Indian and Chinese's medicine systems claimed for centuries. Furthermore, ginger tea is also known to possess sedative properties, which might help explain why ginger it's traditionally used as an effective antidepressant treatment that can improve low moods.

Researchers at the Toyama Medical and Pharmaceutical University in Japan found that gingerols stimulated blood vessel contractions in mouse and rat tissue samples by regulating signaling molecules known as eicosanoids (Kimura I *et al.*, 1989).

### **Garlic-Allium Sativum**

Garlic takes care of the immune system and is an antioxidant, antibiotic and anti-inflammatory. Several studies suggest garlic and garlic supplements offer protection against cancer, including prostate cancer.

A population-based, case-control study conducted in Shanghai, China, found that men who ate more than 10 grams of Allium vegetables, particularly garlic and scallions, per day were 50% less likely to get prostate cancer than those who ate only a little bit of garlic. The reduced risk of prostate cancer associated with garlic consumption was independent of total caloric intake, body size, and consumption of other foods. This study appeared in the November 2002 edition of the Journal of the National Cancer Institute.

In another case-control study, a group of researchers from Oxford asked 328 men diagnosed with prostate cancer before the age of 75 and 328 controls to provide details of their dietary habits. The controls were matched for age. Garlic and garlic supplements, along with a few other foods such as beans and peas, were found to have a protective effect against prostate cancer. This study was published in the renowned British Journal of Cancer in 1997.

According to Amagase *et al.*, (2001), garlic has a wide array of bioactive components. It prevents the formation of free radicals which contribute to the development of cancer and BPH. Garlic was also found to support the body's protective mechanisms to destroy free radicals.

Agarwal (1996) studied allicin, a component of garlic, and its anti-cancer potential. It was found that allicin actively combats sarcomas (cancer of connective tissues) in rats. Garlic extracts have the potential to stop cell division of cancer-causing cells in all phases of growth. Live studies have also shown that garlic has a component which prevents the development of cancer cells in patients with acute myeloid leukemia. In another study, a compound in garlic known as diallyl disulfide was found to suppress the growth of prostate cancer cells. It also showed that the higher the dose of diallyl disulfide, the greater its effect on suppressing prostatic cancer growth.

Garlic (*Allium sativum*) has been known to have anti-inflammatory, anti-cancer and antioxidant effects. Owing to these effects, garlic and its preparations have been used for the treatment of prostate cancer and relief of BPH symptoms for decades. It is thought that the mechanism(s) through which garlic may show anti-cancer and anti-inflammatory effects should be investigated further. Several researchers are attempting to demonstrate the useful properties of garlic and its mechanism(s) of action. Studies have demonstrated more than 150 beneficial health effects of garlic, including reducing your risk for heart disease, high cholesterol and high blood pressure, and various cancers such as brain, lung and prostate cancer.

Interestingly enough, An Italian multicenter, case-control study examined the potential role of allium vegetables, namely onions and garlic, on BPH. Using dietary questionnaires, researchers found that men with BPH typically ate less garlic and fewer servings of onions per week than those without BPH.

Researchers did point out a few weaknesses in their study, such as the fact that they didn't collect information on the types of onions and garlic that participants ate, how the vegetables were prepared, or the consumption of other allium vegetables, such as scallions. Nor did the study account for changes in diet over time. Even so, the findings suggest that a diet rich in onions and garlic may cut the odds of developing BPH(Galeone *et al.*, 2007) published in the journal Urology.

Garlic is also an all-round disease fighting product. Example, Research has shown that those taking garlic daily for three months had fewer colds than those who took a placebo, and, when they did come down with a cold, the duration of illness was shorter. Garlic must be used fresh to give you optimal health benefits. To stimulate the process that catalyzes the formation of allicin, compress a fresh clove with a spoon prior to swallowing it, or put it through your juicer with other veggies.

According to The University of Oregon, Linus Pauling Institute, garlic is a good source of organosulfur compounds, including alliinase, which is released when garlic is crushed or chopped. Organosulfur compounds are thought to provide certain health benefits.

A critical review by Rahman and Lowe (2006) analyzed numerous studies since 1993 regarding the medical benefits of garlic to preventing cardiovascular diseases. They claim that increased garlic consumption reduces the risk of cardiovascular disease.

Enzymes present in garlic have been shown to decrease lipids, platelet aggregation (associated with stroke and atherosclerosis), increase antioxidants, and inhibit the action of angiotensin-converting enzyme (related to hypertension).

There is also evidence supporting the anthelmintic properties of garlic. Ayaz *et al.*, (2008) evaluated the effects of garlic on intestinal parasitic nematodes in mice. They found that garlic was about 91% effective in treating the infected samples. Subsequently, they made recommendations for garlic to be used as an alternative anti-parasitic treatment for humans.

Erectile dysfunction is primarily caused by lack of blood flow. An erection requires dilating of the blood vessels into the penis to allow extra blood to flow to this region of the body during arousal. At the same time, it requires narrowing of the vessels leading out of

the penis, so that the blood becomes trapped there. When men have trouble getting an erection, it is usually a sign that blood flow is compromised.

There are many causes for compromised blood flow, including clogged arteries that can also cause heart disease and strokes. Garlic has been shown to increase blood flow throughout the body, with as little as four cloves per day. The substance allicin is the key ingredient in garlic that increases blood flow.

### Pumpkin seeds

Pumpkin seeds contain zinc in high concentration which is needed in the prostate for healthy function. The prostate gland contains zinc in high concentration and low level of it affects men's prostate health. Pumpkin seeds contain 23 percent of daily zinc needs. Pumpkin Seed Oil also contains phytosterols, which helps in shrinking the prostate as they inhibit the transformation of testosterone into dihydrotestosterone (DHT). High levels of DHT are associated with enlarged prostate.

Pumpkin seed functions in part to regulate BPH, by inhibiting the prostate enzyme 5-alpha reductase. This protein, in the prostate, converts testosterone into the dihydrotestosterone, or DHT. While this is a normal process necessary for male development and reproduction, excessive DHT can act as a potent growth inducer of prostate cells. Too much DHT can lead to BPH.

According to a 2014 study, both pumpkin seed oil and a combination of pumpkin seed oil and saw palmetto oil may improve benign prostatic hyperplasia (BPH) symptoms. Researchers concluded that pumpkin seed oil and saw palmetto oil are safe and effective alternative treatments for BPH. An earlier study found that pumpkin seed oil could block certain types of prostate growth. The study looked at rats induced with testosterone and the alpha-blocker drug Prazosin. Testosterone is thought to play a role in the development of BPH, although it's not completely clear why.

Results of a 2011 study showed that malignant prostate tissue and prostate tissue from men with BPH had significantly less zinc than normal prostate tissue. The study also found an increase in urinary zinc excretion. Zinc is an essential trace mineral that plays a role in many body processes.

Pumpkin seeds contain protective compounds called phytosterols, which may be responsible for shrinking the prostate, says Schar. They also contain chemicals that may prevent some transformation of testosterone into dihydrotestosterone (DHT).

Pumpkin seed oil also contains carotenoids and omega-3 fatty acids. Research shows that men who

have higher levels of carotenoids in their diet have a reduced risk of BPH. A recent study from the Linus Pauling Institute suggests that zinc may protect against the development of prostate cancer.

A double-blind placebo-controlled study, published in Nutrition Research and Practice, found that pumpkin seed oil can improve BPH symptoms. Korean researchers administered daily either sweet potato starch (group A, placebo), pumpkin seed oil (group B), saw palmetto oil (group C), or pumpkin seed oil plus saw palmetto oil (group D) to 47 men with BPH for 12 months. International prostate symptom score, quality of life, serum prostate specific antigen, and prostate volume measurements were obtained from the participants.

The researchers found that international prostate symptom scores were improved in groups B, C and D. Furthermore, maximal urinary flows were improved in groups B and C, with the most significant improvement after six months in group B and after 12 months in group C.

A 2009 study result by Hong *et al.*, titled: Effects of pumpkin seed oil and saw palmetto oil in Korean men with symptomatic benign prostatic hyperplasia published in the journal Nutrition Res Pract results, revealed that administrations of pumpkin seed oil and saw palmetto oil are clinically safe and may be effective as complementary and alternative medicine treatments for benign prostatic hyperplasia.

### African Black Pepper

The innovator and formulator of Men's Formula knowing the importance of zinc to the prostate added the African black pepper also known as 'Hwenteaa' as the Akans called it in Ghana to increase the bioavailability of zinc. Researchers have confirmed the anti-proliferative effects of ethanolic extract of African pepper (*Xylopia aethiopica*) fruits on breast and prostate cancer cells. This can be seen from the inhibition of cell growth by this extract thus highlighting its potential as a therapy against breast and prostate cancer. The study published in July 15, 2016 edition of the journal Experimental and Molecular Therapeutics and Cancer Research is titled "Preliminary anti-proliferative effect of ethanolic extracts of *Xylopia aethiopica* on prostate and breast cancer cell lines." The researchers, Emeka E.J Iweala and Eunice W. Bankole, also published the abstract of the study in Proceedings of American Association for Cancer Research (AACR) 107th Annual Meeting 2016; April 16 to 20, 2016; New Orleans, Los Angeles, United States.

Also a recent study by Adaramoye *et al.*, 2017 published in the Journal Basic Clinical Physiology Pharmacology titled: 'Antioxidant and antiproliferative potentials of methanol extract of *Xylopia aethiopica*. The research also revealed antiproliferative activity in

Prostate cancer (pca) cells through a mechanism that involves apoptosis. Therefore, *Xylopia aethiopica* as a potential therapeutic agent for Prostate cancer.

#### **Neem-Azadirachta indica**

This is a popular tree in Ghana. According to research a compound derived from the leaves of the neem plant could significantly suppress the development of prostate cancer. The study found that oral administration of nimbotide, compound extracted from the neem tree could suppress cell invasion and migration of prostate cancer cells without any significant adverse effects. Over a period of 12 weeks, tumor size was reduced by up to 70 percent and its metastasis, or spread, by up to 50 percent.

A 2014 study by Hao *et al.*, titled: ‘Neem components as potential agents for cancer prevention and treatment published in the journal Biochim Biophys Acta revealed that Azadirachtin and nimbotide are among the few bioactive components in neem that have been studied extensively.

A 2011 study also by Mahapatra *et al.*, titled Novel molecular targets of *Azadirachta indica* associated with inhibition of tumor growth in prostate cancer and published in the journal AAPS also revealed potent anticancer property and the regulation of multiple cellular pathways could exert pleiotrophic effects in prevention and treatment of prostate cancer. Neem leaf has a certain type of protein that boosts the immune system and assists in killing colon cancer cells. Neem also produces antibodies.

In 2006, researchers reported that: An ethanolic extract of neem has been shown to cause cell death of prostate cancer cells ... by inducing apoptosis as evidenced by a dose-dependent increase in DNA fragmentation and a decrease in cell viability ... So the neem extract could be potentially effective against prostate cancer ... ”

#### **Carica Papaya**

One study found that the combination of green tea and lycopene had an effect in the prevention of prostate cancer. Papaya is rich in lycopene. Lycopene is a natural chemical found in tomatoes and several other foods such carica papaya, watermelon and grapefruit. It is a pigment that gives these foods their red color and is a member of a class of compounds called carotenoids. Lycopene is a powerful antioxidant that helps combat damaging free radicals in your body. Levels of lycopene are significantly reduced by advancing age just as prostate cancer increases with age.

A 2017 study by Pandey *et al.*, published in the journal Biomed Pharmacotherapy titled: Selective anti-proliferative activities of *Carica papaya* leaf juice extracts against prostate cancer revealed anti-

proliferative and anti-metastatic attributes extract against prostatic diseases, including PCa.

Another study conducted by University of Florida researchers Dr. Nam Dang and colleagues in Japan has documented papaya’s powerful anticancer properties and impact against numerous lab-grown tumors – and without the negative consequences of chemotherapy. The researchers used papaya leaf extract for the study conduction, with the anticancer effects being even stronger with a larger dose of the extract. In addition, the research showed for the first time that papaya leaf extract boosts production of Th1-type cytokines, which are key signaling molecules and very important in the regulation of the immune system.

#### **Graviola**

Also known as ‘Alungutugui’ in Ghana; is One alternative treatment of cancer that has been used in the past, especially in countries where it grows well. The active ingredient in Soursop that is proving to be effective is called *Annona muricata* or Graviola. Graviola is not just a cancer treatment; it has also displayed anti-parasitic, antimicrobial, anti-inflammatory, antirheumatic and cytotoxic properties, according to Memorial Sloan-Kettering Cancer Center. In some cases, Graviola has also been used as a pain killer and the results were positive.

In an assessment of Graviola, published in the December 2008 issue of the “Journal of Dietary Supplements” by U.S. researchers Lana Dvorkin-Camiel and Julia S. Whelan, multiple in-vitro studies determined that Graviola is effective against various microbial and parasitic agents. Graviola displayed specific effectiveness on parasites *Leishmania braziliensis*, *Leishmania panamensis*, *Nippostrongylus brasiliensis*, *Artemia salina* and *Trichomonas vaginalis*, as well as against the Herpes simplex virus.

As it relates directly to cancer, test-tube and animal research demonstrates that Graviola may be an anti-cancer agent. According to the Memorial Sloan-Kettering Cancer Center, Graviola extract proved to be effective against liver cancer and breast cancer cells. Naturopath Leslie Taylor, author of “The Healing Power of Rainforest Herbs,” notes that studies show Graviola has an inhibitory effect on enzyme processes in some cancer cell membranes. Graviola only affected cancer cell membranes and not those of healthy cells. This research may lend support to the herb’s traditional use against cancer. Research done over 20 laboratory tests by one of America’s largest drug manufacturers suggests that the extracts were able to demonstrate the following:

Effectively target and kill malignant cells in 12 types of cancer, including colon, breast, prostate, lung and pancreatic cancer.

The tree compounds proved to be up to 10,000 times stronger in slowing the growth of cancer cells than Adriamycin, a commonly used chemotherapeutic drug. What's more, unlike chemotherapy, the compound extracted from the Graviola tree selectively hunts down and kills only cancer cells. It does not harm healthy cells.

### **Stinging Nettle**

Stinging nettle root (*Urtica dioica*) is an herb with a long history of medicinal use, especially in Europe. For centuries, men with urinary tract problems have turned to this plant with an ominous name to relieve pelvic pain, urinary pain, burning, and other urinary symptoms. Stinging nettle soothes the urinary tract and also helps men with prostate problems. In addition to its anti-inflammatory properties, stinging nettle is a diuretic, and both of these characteristics make it a good candidate for prostate issues, including prostatitis and benign prostatic hyperplasia (BPH), which share some of the same urinary tract symptoms.

According to the Prostate. Net. Com, Stinging nettle is a Tier 2 supplement for prostatitis, meaning that there are significant clinical studies and research for using stinging nettle for prostatitis and similar prostate conditions. Research shows that this herb can help both men with chronic bacterial prostatitis and men with chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS). It seems that when stinging nettle (along with other supplements) is combined with antibiotics to treat chronic bacterial prostatitis that the elimination of symptoms and long-term outcome is better than taking just an antibiotic alone. Some studies that involve using stinging nettle (and other supplements) for bacterial and nonbacterial types of prostatitis include the following:

Researchers conducted a prospective, randomized study on men with chronic bacterial prostatitis to determine the therapeutic effect of saw palmetto, stinging nettle, quercetin, and curcumin extracts compared with the antibiotic prulifloxacin. A total of 143 men were split into two groups: Group A (106 men) received both prulifloxacin (600 mg daily) plus the herbal ingredients for 14 days; Group B (37 men) received only the antibiotic. After one month, 89.6% of men who received the herbal formulas had no symptoms of prostatitis compared with only 27% of the men in the antibiotic-only group. Six months after the intervention portion of the study ended no patients in Group A had recurrent of prostatitis compared with two patients in Group B. The authors concluded that the association of saw palmetto, stinging nettle, quercetin, and curcumin extracts can improve the clinical efficacy of prulifloxacin in men who have chronic bacterial prostatitis (Cai 2009).

In a six-month trial including 620 patients, 81% of patients who took stinging nettle reported improved lower urinary tract symptoms compared with

only 16% of men who took a placebo (Safarinejad 2005). It is also useful to look at studies that involve using stinging nettle for BPH because sometimes prostatitis patients also experience lower urinary tract symptoms (LUTS) and may take the same medications as BPH patients. Laboratory studies have shown that stinging nettle is comparable to Proscar (finasteride), a drug commonly used to treat BPH, in inhibiting the growth of certain prostate cells. Scientists theorize that stinging nettle contains chemicals that have an impact on the hormones testosterone and estrogen, while another theory suggests the plant's components work directly on prostate cells.

In a clinical trial, 257 patients were randomized to receive a combination of 160 mg daily of saw palmetto plus 120 mg of stinging nettle twice a day or placebo. The double-blind segment of the study was followed by an open control period of 24 weeks during which all patients were administered the natural ingredients. The tolerability of the natural supplements was comparable to the placebo, and the authors concluded that the natural formula was clearly superior to the placebo for the amelioration of LUTS as measured by the International Prostate Symptom Score (Lopatkin 2007).

In another study, a subgroup of 431 patients with early stage BPH was evaluated from a randomized, double-blind, multicenter clinical trial that involved 543 patients. The men were randomly given a fixed herbal combination of saw palmetto extract and stinging nettle root or the 5-alpha-reductase inhibitor Proscar (finasteride). After 24 weeks, the mean maximum urinary flow rate increased by 1.9 ml/second in men who took the natural supplements and by 2.4 ml/second in the Proscar group. Men in both groups showed similar improvements in prostate size and in their values on the International Prostate Symptom Score. A safety analysis of 516 patients showed that more men in the Proscar group reported adverse effects than did those in the natural supplement group. The authors concluded that the efficacy of the natural supplement formula and Proscar was similar and unrelated to prostate volume, but that patients tolerated the natural supplement formula better compared to Proscar (Sokeland 2000).

Researchers in a European study asked 134 patients to take capsules containing extracts of stinging nettle and another prostate supplement called pygeum. After 28 days, symptoms of urine flow, residual urine, and nighttime urination were significantly reduced. Both pygeum and stinging nettle contain large amounts of beta-sitosterol, another prostate supplement.

### ***Zanthoxylum zanthoxyloides***

The root of *Zanthoxylum zanthoxyloides* (Linn) Waterman, commonly used as a chewing stick in southwestern Nigeria, has been reported to have

antibacterial activities. This study was carried out to assess the antibacterial activities of the root extracts of the plant and their toothpaste formulations on oral bacterial isolates and type strains. Ethanolic and aqueous extracts of the root bark, wood cellulose and whole root and their tooth paste formulations were evaluated by agar diffusion-cup plate method against type strains of *Staphylococcus aureus*, *Escherichia coli*, *Bacillus subtilis*, and *Pseudomonas aeruginosa*. Clinical isolates obtained from oral specimens of dental patients and identified by conventional methods were also used. Root extracts were dispersed in a variety of bases for toothpaste formulations. Ethanolic extract of whole root and its toothpaste exhibited the highest antibacterial activities comparable at 2.5%w/w but considerably higher at 5.0%w/w to those of commercially available tooth pastes used as positive control. The root extracts exhibited higher activities against oral bacterial isolates than the type strains. All the test agents showed no activity against *P. aeruginosa*. The findings indicated that development and use of *Z. zanthoxyloides* root as a toothpaste will serve to improve oral health. The antibacterial property of this plant will help fight prostate infection.

#### **Epilobium- Small Willow Herb**

Willow herb has a substance called oenothein B, which appears to have 5-alpha-reductase inhibitory activity.

A 2003 study, which covered various species of willowherb, proved that the polyphenols from willowherb reduce the spreading of prostate cells thus helping with benign hyperplasia of the prostate. A 2013 study, which included the species *Epilobium angustifolium*, *Epilobium parviflorum* and *Epilobium hirsutum*, found that these species contain potent compounds which stop the growth of prostate cancer cells. The study concluded that willowherb is a strong natural remedy for prostate diseases. Willowherb causes no side effects, unlike conventional drugs like tamsulosin and finasteride, which may cause irregular heartbeat, digestive problems, headache and chronic fatigue.

All willow herb species contain flavorglycosides, especially derivatives of kaempferol, quercetin, and myricetin. *Epilobium parviflorum* also contains b-sitosterol, various esters of sitosterol, and sitosterol glucoside have been detected. These are the compounds considered to be the active ingredients of Saw Palmetto, another major herb used for treating the prostate. Gallic-acid derivatives are also present. Gallic acid and ellagitannins are considered to be the actives associated with the drinking of green tea. Two of these macrocyclic ellagitannins, oenothein A and oenothein B, have been identified as the main constituents responsible for the inhibition of 5-alpha-reductase and aromatase enzymes. These enzymes are considered to play key roles in the cancer of the prostate.

This explains the antihyperandrogenic effects that may be useful in the prevention and treatment of BPH, as well it supports the use of the extract in the prevention and treatment of prostate cancer. Preliminary (in vitro) studies at the Prostate Center of Vancouver found that very low concentrations of an extract from small-flowered willow herb tea, in the micrograms per ml level, was among the most active ever seen against abnormal cells and growths of the prostate. Several extracts from *Epilobium parviflorum*, were evaluated in biochemical assays with 5-alpha-reductase and aromatase, two enzymes involved in the etiology of benign prostatic hyperplasia (BPH).

#### **Serenoa repens- Saw Palmetto**

The most important factor about saw palmetto is that it's been shown to slow the production of the enzyme 5-alpha reductase, so taking it is a strong step to improve prostate health. This enzyme converts the male hormone testosterone into dihydrotestosterone (DHT) — a sex steroid and androgen hormone. While DHT is important because it plays a role in male development, it also contributes to many common health issues in men, such as loss of libido, an enlarged prostate and hair loss. By taking saw palmetto supplements or using the extract of this beneficial plant, you inhibit the production of this hormone and avoid these issues that are seen in middle-aged and older males.

Saw palmetto works by stopping the breakdown of testosterone into its byproduct, called dihydrotestosterone. This helps the body hold onto more of its testosterone and create less dihydrotestosterone. This can slow or stop the growth of the prostate gland.

*Serenoa repens* (Permixon, saw palmetto) inhibits the 5alpha-reductase activity of human prostate cancer cell lines without interfering with PSA expression. Int J Cancer. 2005. Prostate Research Group, University of Edinburgh, School of Molecular and Clinical Medicine, Western General Hospital, Edinburgh, Scotland, UK results demonstrate that despite serenoa repens effective inhibition of 5alpha-reductase activity in the prostate, it did not suppress PSA secretion. They confirm the therapeutic advantage of serenoa repens over other 5alpha-reductase inhibitors as treatment with the phyotherapeutic agent will permit the continuous use of PSA measurements as a useful biomarker for prostate cancer screening and for evaluating tumour progression.

One 2012 study conducted in Switzerland analyzed 82 patients in an eight-week trial; the patients took one capsule of 320 milligrams saw palmetto extract daily. At the end of the treatment, the International Prostate Symptom Score was reduced from  $14.4 \pm 4.7$  to  $6.9 \pm 5.2$ . Investigators' and patients'

assessments confirmed the good efficacy, and treatment was very well-tolerated and accepted by the patients.

### **Reduces Risk of Prostate Cancer**

A systematic literature review of 11 studies identified saw palmetto supplements as one of the five commonly used forms of alternative medicine by men with prostate cancer. Saw palmetto supplements work as 5-alpha reductase inhibitors — meaning they slow down the conversion of testosterone to DHT by blocking the enzyme and preventing its formation. According to research, DHT is responsible for prostate enlargement, which may be a cause of prostate cancer.

The science is still unclear on this matter, but studies on two 5-alpha reductase inhibitor prescriptions, Finasteride (Proscar) and Dutasteride (Avodart) found that men taking either drug were less likely to develop prostate cancer after several years than men getting an inactive placebo. The problem lies in the side effects of these medications — they can cause sexual side effects, such as lowered sexual desire and impotence.

Saw palmetto, on the other hand, can also inhibit DHT and help with urinary problems from BPH, such as trouble urinating and leaking urine, plus it regulates your testosterone levels, helps with libido and works as a natural remedy for impotence. Studies have also found that saw palmetto inhibits the growth of prostatic cancer cells and may destroy dangerous cells. A study conducted at the Department of Biochemistry and Molecular Biology in Beijing found that saw palmetto induced growth arrest of prostate cancer LNCaP, DU145 and PC3 cells and down-regulated DHT, the hormone that leads to prostate enlargement.

Another interesting note about saw palmetto is the research that has been done to measure its effect on post-surgery recovery time. Prostate surgery (known as transurethral resection of the prostate or TURP) can require a lengthy recovery period, but research shows that taking 320 milligrams of saw palmetto daily for two months before prostate surgery can reduce the time spent in surgery. It also helps with blood loss, the development of problems during surgery and the total time spent in the hospital.

### **Cyperus Esculentus -Tiger Nut Virility**

Also called ‘Atadwe’ in Ghana, The product is also well formulated as prostate problems have immersed influence on Men’s Sexual Health. In a man the quality of having strength, energy, and a strong sex drive; manliness, ‘great importance is placed on a man’s virility’.

Tiger Nut is a powerful aphrodisiac (sexual stimulant) and recent study revealed that the oil in tiger nut has properties similar to Olive Oil. The tiger nut milk contains higher magnesium, iron, and carbohydrates than cow milk. It has no lactose hence

good for individuals who are lactose intolerant. The fatty acid composition is similar to that of olive oil. The oleic acid (fatty acid) content helps with lowering of natural fats and oils and cholesterol making it essential for heart health. It also reduces the risk of colon cancer and helps with constipation and flatulence too. Tiger nuts have many added benefits to the human health. The milk supplies the body with enough quantity of Vitamin E, essential for fertility in both men and women.

During a study, two sets of sexually active male rats, highly active and moderately active, were identified depending on baseline sexual activity. Rats in each set were randomly divided into a control and treated groups. The highly active rats were treated with doses of 1 and 2 g/kg/d of raw tiger nut powder, while moderately active rats were treated with a dose of 2 g/kg/d. After 30 days' treatment, sexual behavior and serum hormonal levels were measured. Tiger nut was found to enhance sexual motivation (desire) in highly active and moderately active male rats, and to improve the sexual performance (potency) in moderately active rats. This was accompanied by an upsurge in total serum testosterone concentration in treated rats in both categories. It also boost sperm count as it contain foods high in vitamin C, E, A, as well as folic acid and zinc. The deal is Vitamin C and E will keep your sperms from being damaged while Vitamin A will also increase your sperm motility. Folic acid and zinc will help thicken your sperms.

### **Alstonia Boonei-Nyame Dua**

Low testosterone levels are associated with low libido in both men and women. This plant can boost libido by increasing the body's levels of testosterone. In men, sperm production is guided by testosterone. Too little testosterone results in low sperm count. Similarly, testosterone plays a role in women's production of eggs, with too little testosterone reducing egg production. In this way, this plant can increase both male and female fertility by increasing the body's testosterone level.

A study conducted by Raji *et al.*, titled: Reproductive Functions in Male Rats Treated with Methanolic Extract of Alstonia Boonei Stem Bark and published in African Journal of Biomedical Research investigated the effects of methanolic extract of Alstonia boonei stem bark on sperm characteristics, fertility, body and organ weights of adult albino rats. The result revealed that rats treated for 12 weeks had normal sperm motility, viability and counts. In addition, they had normal serum testosterone concentration and fertility. Fertility was zero in rats that were treated for 2 weeks. Visible lesions in the seminiferous tubular cytoarchitecture were observed in the histological sections of the testes from the treated rats prepared at the end of the study period. Normal sperm characteristics were however, restored in rats that were allowed 4 weeks recovery period. The results therefore

suggest that the extract could have reversible antifertility effects in male rats.

## CONCLUSION

Men's Formula is the first Ghanaian phytoproduct formulated with fourteen (14) ingredients and approved by the FDA for prostate health and immune booster for men with advanced prostate conditions. The product could be the next emerging product in Natural Urology and the author of this paper therefore recommends that, conventional Urologists studies and understand natural urology to be able to advise their patients on CAM.

There is no doubt that some CAM products will be useful in either preventing or treating various urological conditions. However, we must continue to conduct the appropriate rigorous scientific trials to document and to confirm their benefits. Notwithstanding, in CAM practice, narrative or anecdotal evidence plays an integral role in the efficacy and safety concerns of the product and cannot be overrule. Meanwhile, urologists must be aware of the risks and advise their patients accordingly. For example, I advise all pre-surgical patients to take evidence-based natural products 2 weeks before surgery and post-surgery, to prevent inconvenient complications and to help improve their quality of life!

### Conflict Of Interest: None

**Acknowledgment:** The Registrar and Doctor of Naturopathic Medicine students of Nyarkotey College of Holistic Medicine, Mt. George Nartey and staff of RNG Medicine Research Lab, Tema community 18

## REFERENCES

1. Afriyie, D. K., Asare, G. A., Bugyei, K., Adjei, S., Lin, J. M., Peng, J., & Hong, Z. F. (2014). Treatment of benign prostatic hyperplasia with Croton membranaceus in an experimental animal model. *Journal of ethnopharmacology*, 157, 90-98.
2. Asare, G. A., Afriyie, D., Ngala, R. A., Appiah, A. A., Anang, Y., Musah, I., ... & Arhin, P. (2015). Shrinkage of prostate and improved quality of life: management of BPH patients with croton membranaceus ethanolic root extract. *Evidence-Based Complementary and Alternative Medicine*, 2015.
3. Asare, G. A., Ngala, R. A., Afriyie, D., Adjei, S., Nyarko, A., Anang-Quartey, Y., ... & Musah, I. (2017). Calcium-Magnesium imbalance implicated in benign prostatic hyperplasia and restoration by a phytotherapeutic drug—Croton membranaceus Müll. Arg. *BMC complementary and alternative medicine*, 17(1), 152.
4. Boyle, P., Robertson, C., Lowe, F., & Roehrborn, C. (2004). Updated meta-analysis of clinical trials of Serenoa repens extract in the treatment of symptomatic benign prostatic hyperplasia. *BJU international*, 93(6), 751-756.
5. Campo, R. (2006). "Anecdotal Evidence": Why Narratives Matter to Medical Practice. *PLoS Med*, 3(10), e423.
6. Carlsen, M. H., Halvorsen, B. L., Holte, K., Bøhn, S. K., Dragland, S., Sampson, L., ... & Barikmo, I. (2010). The total antioxidant content of more than 3100 foods, beverages, spices, herbs and supplements used worldwide. *Nutrition journal*, 9(1), 3.
7. Chiu, C. T., Chen, J. H., Chou, F. P., & Lin, H. H. (2015). Hibiscus sabdariffa leaf extract inhibits human prostate cancer cell invasion via down-regulation of Akt/NF-kB/MMP-9 pathway. *Nutrients*, 7(7), 5065-5087.
8. Gil-Izquierdo, A., Gil, M. I., & Ferreres, F. (2002). Effect of processing techniques at industrial scale on orange juice antioxidant and beneficial health compounds. *Journal of Agricultural and Food Chemistry*, 50(18), 5107-5114.
9. Gonthier, M. P., Verny, M. A., Besson, C., Rémesy, C., & Scalbert, A. (2003). Chlorogenic acid bioavailability largely depends on its metabolism by the gut microflora in rats. *The Journal of nutrition*, 133(6), 1853-1859.
10. Illy, E. (2002). The complexity of coffee. *Scientific American*, 286(6), 86-91.
11. Imeh, U., & Khokhar, S. (2002). Distribution of conjugated and free phenols in fruits: antioxidant activity and cultivar variations. *Journal of agricultural and food chemistry*, 50(22), 6301-6306.
12. Ismail, A., & Lee, W. Y. (2004). Influence of cooking practice on antioxidant properties and phenolic content of selected vegetables. *Asia Pacific Journal of Clinical Nutrition*, 13, S162.
13. Kalt, W., Forney, C. F., Martin, A., & Prior, R. L. (1999). Antioxidant capacity, vitamin C, phenolics, and anthocyanins after fresh storage of small fruits. *Journal of agricultural and food chemistry*, 47(11), 4638-4644.
14. Kyei, M. Y., Klufio, G. O., Ayamba, A., & Mohammed, S. (2017). Traditional medicines and alternative practice in the management of prostate diseases in southern Ghana. *Ghana medical journal*, 51(3), 128-137.
15. Lin, H. H., Chan, K. C., Sheu, J. Y., Hsuan, S. W., Wang, C. J., & Chen, J. H. (2012). Hibiscus sabdariffa leaf induces apoptosis of human prostate cancer cells in vitro and in vivo. *Food Chemistry*, 132(2), 880-891.
16. Lindsay, D. G., & Astley, S. B. (2002). European research on the functional effects of dietary antioxidants - EUROFEDA. *Mol Aspects Med*. 23, 39–100. doi: 10.1016/S0098-2997(02)00005-5.
17. Lowe, F. C., & Patel, T. (2008). Complementary and alternative medicine in urology: What we need

- to know in 2008. *BJU international*, 102(4), 422-424.
18. Manach, C., Scalbert, A., Morand, C., Rémésy, C., & Jiménez, L. (2004). Polyphenols: food sources and bioavailability. *The American journal of clinical nutrition*, 79(5), 727-747.
19. Manach, C., Williamson, G., Morand, C., Scalbert, A., & Rémésy, C. (2005). Bioavailability and bioefficacy of polyphenols in humans. I. Review of 97 bioavailability studies. *The American journal of clinical nutrition*, 81(1), 230S-242S.
20. Olthof, M. R., Hollman, P. C., & Katan, M. B. (2001). Chlorogenic acid and caffeic acid are absorbed in humans. *The Journal of nutrition*, 131(1), 66-71.
21. Scalzo, J., Politi, A., Pellegrini, N., Mezzetti, B., & Battino, M. (2005). Plant genotype affects total antioxidant capacity and phenolic contents in fruit. *Nutrition*, 21(2), 207-213.
22. Unlu, N. Z., Bohn, T., Francis, D. M., Nagaraja, H. N., Clinton, S. K., & Schwartz, S. J. (2007). Lycopene from heat-induced cis-isomer-rich tomato sauce is more bioavailable than from all-trans-rich tomato sauce in human subjects. *British Journal of Nutrition*, 98(1), 140-146.
23. Worawattananutai, P., Itharat, A., & Ruangnoo, S. (2014). In vitro antioxidant, anti-inflammatory, cytotoxic activities against prostate cancer of extracts from Hibiscus sabdariffa leaves. *Journal of the Medical Association of Thailand= Chotmaihet thangphaet*, 97, S81-7.
24. Xianquan, S., Shi, J., Kakuda, Y., & Yueming, J. (2005). Stability of lycopene during food processing and storage. *Journal of medicinal food*, 8(4), 413-422.
25. Yanagimoto, K., Lee, K. G., Ochi, H., & Shibamoto, T. (2002). Antioxidative activity of heterocyclic compounds found in coffee volatiles produced by Maillard reaction. *Journal of agricultural and food chemistry*, 50(19), 5480-5484.