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HUNTERIA UMBELLATA FOR APHRODISIAC THERAPY

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ABSTRACT

Aims: to determine the composition Hunteria umbellata substances to justify or de-bunk its traditional use as an aphrodisiac, and to combat male penile erection dys-function. The purpose is to discourage its use if it is a mere myth, and to encourage proper use if evidence support its use. **Study design:** Mention the design of the study here. **Place and Duration of Study:** Faculty of Health Sciences, Walden University, Unit-ed States, between March 2021 and November 2022. **Methodology:** Asystematic review that determined the compositions of Hunteria umbellata and an assay of existing evidence about Hunteria umbellata efficacious-ness for treating reproductive illnesses, as well as the mechanism of controlling re-productive disorders. Peer reviewed epidemiological experimental quantitative stu-dies and systematic reviews freely available online only were selected. Studies short of inclusion criteria were excluded. Two phases of study namely, Phase I involving pre-assessment of abstract, and phase II, data that passed pre-assessment criteria for selection were sampled and analyzed. The outcome was synthesized along its use as folk medicine for treating reproductive illnesses. Sample size n (n=21). Data were obtained via Google, Fire Fox, and Google Scholar, and search words, were phytochemical composition of hunteria umbellata, proximate composition of hunteria umbellata, Hunteria umbellata and aphrodisiac, aphrodisiac and fertility enhancing herbs. Summaries of each data comprised of title, objectives, findings and conclusion are presented.
Results: Locally and international evidence supported that Hunteria umbellata is rich in nutrients, and phytochemical compounds, which links up with it effectiveness for treating reproductive illnesses including as an aphrodisiac and countering male penile erectile dysfunction. **Conclusion:** Hunteria umbellata and the suggested herbs in this study possess the potency for treating reproductive illnesses.

Keywords: Hunteria umbellata, Hunteria umbellata and aphrodisiac, Hunteria umbellata composition, sexual dysfunction, reproductive illness treatment.

INTRODUCTION

[Sexual dysfunction is embarrassing, and people shy away from discussing it with spouses, friends and even with their physicians. Reproductive life, which is a critical aspect of human health and life, is understudied. Available modern treatment is out of reach of many and for those who can afford it, side/adverse effects may stand in the way. Hunteria umbellata is a traditional medicine used in West Africa for controlling many illnesses.

And since clinical studies have continuously and increasingly suggested that Hunteria umbellata extract is efficacious in disease control including reproductive illnesses, authors did an assay of the existing evidence to determine the consensus from previous researchers about these claims (1, 2). Sub-Sahara Africa constitutes poor countries where over 80% of the population cannot afford expensive modern medicine, and those who can afford it are underutilizing existing treatment owing to significant side and adverse effects (1, 2). On these grounds, there is a global trend of many falling back on herbal alternatives, which was once rejected in 19th -20th centuries because of lack of scientific evidence, and some think it is superstition to use herbs to treat diseases (1, 2). Herbal medicine is effective, affordable, and side effects are minimal compared with the existing modern medicines (1, 2). In this study, the authors conducted an assay of scientific epidemiological studies performed by previous authors in search of the evidence behind the use of HU extract and other herbal agents for treating reproductive disorders. Especially as sexual dysfunction affects the quality of life of a significant population. As high as 57.4% of Nigerians, 56% of male in the United States, 75% of Pakistanis, and 40% of Canadian male and female aged 40-59 years live with sexual disorders (4, 5, 6, 7).

In this research, an assay of existing clinical studies about the Hunteria umbellata composition and the science behind its use as traditional medicine for treating sexual or reproductive disorders was performed. Some other herbal aphrodisiacs were discussed in this study also. The Purpose is to discourage its use where there is no scientific backing through community education and where there is scientific support, its proper use will be encouraged and promoted through health education. Also, to save clinicians time to go through many related studies to determine the consensus for informed decision making (8, 13, 18, 19).

Male sexual reactions occur in five phases namely, libido or sexual desires, drive or arousal, erection, ejaculation, orgasm, and subsiding desires (4, 5, 6, 7). Sexual dysfunction cases are on the rise globally, and it affects the quality of life of those affected. In recent years the use of complementary and alternative medicine (CAMs) to treat sexual dysfunction and infertility has seen a growing trend worldwide (4, 5, 6, 7). In Lebanon and Jordan, 21% of people use herbal remedies for treating sexual dysfunction. In the USA, 17% use herbal remedies and 29% use CAMs (4, 5, 6, 7). Only 1% of aphrodisiac herbs have been explored, because of insufficient documented evidence about them. The growing trend on the use of herbal remedies for treating sexual dysfunction was on account of affordability of herbs and the minimal side effects if properly used; hence, a need for this kind of study (4, 5, 6, 7). While nervousness, anxiety, depression, low quality of life, and fear surrounds male who were unable to perform and maintain healthy sex life, it is necessary to know that sexuality is complex, and many variables interplay in an act of male erectile sexuality namely, hormones, circulatory system or vascular system that distributes blood and oxygen around the body cells, as well as the neurons and the psychology (4, 5, 6, 7). Erectile dysfunction is simply

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an inability of a male to achieve and maintain adequate penile eretion to penetrate the vagina/anus and perform sexual intercourse (4, 5, 6, 7).

Fertility-enhancement substances are called aphrodisiacs and aphrodisiacs are substances used to treat problems of desire C. The goal to administer an aphrodisiac substance to a person with sexual dysfunction is to improve sexual pleasures by increasing sexual desires, arousal and all the components of the body involved in sexuality namely, prostrate, hormones, sperm count, and the morphology or structure of the sperm (4, 5, 6, 7). Chemical compounds in the body namely acetylcholine (ACh), nitric oxide and cyclic guanine have been implicated as active players in the process of penile erection thus, all aphrodisiacs are required to address those to ensure that they are sufficiently present and performing the role adequately (4, 5, 6, 7). This study is in line with World Health Organization invitation and encouragement for nations to find local alternatives to disease essentially since 80% of diseases get treated through native herbs (4, 5, 6, 7, 9, 10).

METHODS

This study was a systematic review conducted to review the online-accessible epidemiological evidence surrounding Hunteria umbellata seeds, leaves, roots, and stem bark crude extract use in Southern Nigeria as an aphrodisiac. The composition of Hunteria umbellata was also studied to test any connection between its medicinal use for treating diseases. Criteria for selection and inclusion of relevant studies was that they need to be epidemiologically performed and peer reviewed quantitative, or systematically reviewed Hunteria umbellata studies. The studies were required to indicate limitations, and ethical consideration. Non-peer reviewed studies and non-epidemiologically conducted studies were excluded. Also included were studies about aphrodisiac herbs from across the globe used for treating sexual dysfunction (5, 6, 7, 10, 11, 12, 13, 14,). Other herbal aphrodisiacs from across the world were discussed to ensure that no one is left behind, so that wherever people are, they can reach out for what is available in their own environment. The data were obtained via Google, Fire Fox, and Google Scholar, and search words, were phytochemical composition of hunteria umbellata, proximate composition of Hungteria umbellata, Hunteria umbellata and aphrodisiac, Aphrodisiac and fertility enhancing herbs. There were two phases of the study namely Phase I - pre-assessment and ranking of the abstracts of the selected evidence and their inclusion into the investigated data. Authors used NICE framework for ranking and including data (15, 35). Experimental, double blinded and systematic reviewed studies were ranked as high quality with two pluses ++, qualitative and observational studies were ranked as good quality with one plus +. If studies did not state limitations, bias, methodology, and ethics, they were excluded. In phase II the included data were analyzed to obtain the results and conclusions of the study drawn from the results. The bibliography of Hunteria umbellata studies and some other studies on herbal aphrodisiac efficaciousness were stated, and the title, objectives/purpose of the studies, findings and conclusions were presented.]

RESULTS AND DISCUSSION

[Chemical composition of ten medicinal plant seeds in West Nigeria.
In this study, the proximate, mineral and phytochemical components of ten plant seeds, including Hunteria umbellata traditionally used as medicines were analyzed. Results showed that all seeds studied including Hunteria umbellata were composed of moisture, carbohydrates, protein, fat, fiber and ash. They were also rich in inorganic micronutrients namely, potassium (K), Sodium (Na), Calcium (Ca), Magnesium (Mg), iron (Fe), and manganese. The reported concentration of some of the nutrients in HU in this study were namely, crude fat, 17.60%, protein, 21.31%, carbohydrates, 26.58%, ash is 5.95 %, potassium 4.53 mg/L, and magnesium, 1.82 mg/L

HU was determined to be rich in phytochemicals namely, Flavonoids, Phenols, steroids, tannins, reducing sugar, alkaloids, glycosides-saponins, anthraquinone, and saponins, in addition to free Anthraquinones, phylobatannin and polyphenols. These phytochemical compounds have antibacterial properties. Alkaloids have antimalarial and analgesics properties, and it is also, a stimulating agent. And most of the glycoisides namely, saponins, cardiac glycosides, flavonoids and anthraquinone prevent and kill tumor or cancer cells, kill parasites, and control depression.

Conclusion: There is high concentrations of phytochemical compounds in Hunteria umbellata namely alkaloids, glycosides, reducing sugar, ploy phenols, phenols and flavonoids, and these phytochemical compounds were established by scientific evidence as having strong pharmacological properties making it a suitable medicine for treating diseases in human and animals, and its macro and micronutrients composition offer hope for food for humans and animals. Rated as high quality ++ (16).

Quaternary Alkaloids of the stem and root bark of Hunteria Eburnea Pichon.

This author, like others, was in search of new sources of alkaloids. HU seed is composed of nine alkaloids, leaves composed of eight. The highest concentrations of alkaloids are located at the root and stem barks comprised of 14 tertiary, and 16 quaternary bases. Three types of hunteria were studied, Hunteria umbellata is composed of corymine- first class positive and negative hexacyclic indole alkaloids, acetycorymine, Isocorymine, +Eburnamine, and + Eburnamenine. Alkaloids, Acetylcorymine, Desformocorymine, corymine, erinine, Erinicine, Geissoschizol, and Eburnaphylline were isolated from the leaves. Other species of Hunteria namely, Hunteria eburnea contain Hunteribne, hunteramine and several other phytochemical compounds in the stem and rook barks. This study being a sort of ancient study with less sophistication or bias sends a message home about the undisputed riches of phytochemical compounds in Hunteria umbellata plants generally and evidence has established these compounds to have potency for the native diseases-treatment claims that were investigated in this systematize review study (17). Rated as high quality ++

Aphrodisiac effect of Hunteria Umbellata seed extract: Modulation of nitric oxide level and arginase activity in vivo.

The authors 'curiosity about this experiment was because Africans use HU seed extract as native medicine for treating male sexual disorder but there is insufficient evidence about the mechanism under which this happens. The authors performed an experiment with 24 male rats divided into four groups of six rats each and administered orally 5 mg/kg body weight of sildenafil- standard medicine for treating the parameters tested, and 50 mg/kg and 100 mg/kg body weight of Hunteria umbellata seed extract for four weeks. Sexual behaviour parameters used for this test were mounting number or times, mounting latency-delays, intromission number, and intromission latency. Other behaviour tested were anxiety behaviour namely, the open field and dark-light box tests, as well as arginase function, antioxidant, and nitric oxide concentrations. The findings showed that the number of times for mountings and intromissions, duration of light compartment, antioxidants and nitric oxide concentrations of the tested rats increased. Hunteria umbellata treatment also reduced significantly, the

mounting and intromission latencies, as well as the activity of arginase enzyme. Conclusion. Based upon the sexual parameters tested, Hunteria umbellata seed extract significantly improved sexual behaviors in rats, which is an indication of aphrodisiac properties manifested by reduced arginase function and a rise in nitric oxide concentrations, and these cause erection initiation and sustenance (18). Rated as high quality ++

Erection-stimulating, anti-diabetic and antioxidant properties of Hunteria umbellata and Cylicodiscus gabunensis water extractable phytochemicals.

These authors stated that herbs including Hunteria umbellata have been used to treat sexual problems but were unsure if it is true and if yes, how it achieves aphrodisiac benefit. Authors examined Hunteria umbellata seeds and cylicodiscus gabunensis (CG) stem bark extracts effect on the main enzymes that cause erection dysfunction namely, arginase, and phosphodiesterase-5 as well as their effect on two main enzymes associated with type II diabetes namely, alpha-amylase, and alpha-glucosidase. Findings stands as, both extracts achieved inhibition of alpha-amylase, (IC50 = 221.30 ug/ml, and alpha-glucosidase (IC50 = 184.35) based upon dose, the higher the dose the greater the inhibition and the inhibition rate caused by Hunteria umbellata were greater than phosphodiesterase-5 (CG), IC50 = 611.35 ug/ml, and two extracts inhibited arginase and phosphodiesterase-5 based on dose in vitro. However, Hunteria umbellata inhibition was stronger with phosphodiesterase-5 (CG), IC50 = 539.72 ug/ml and arginase 41.53 ug/ml, whereas Cylicodiscus gabunensis showed phosphodiesterase-5 (CG), IC50 = 611.35 ug/m and arginase 47.95 ug/ml. Both extracts were composed of anti-oxidation properties manifested by metal- Fe2+ chelating capability and diphenyl-1-picrylhydrazyl (DPPH)-free radical and alcohol-free radical scavenging properties. IC50 means half or 50% of maximum inhibitory concentration of a substance. It is a measure of the potency of a substance ability to inhibit biochemical or biological activity. Extracts were composed of high levels of phenols namely, Quecertin, chlorogenic acid, gallic acid, ellagic acid and caffein acid examined using HPLC. Conclusion. Both extracts inhibited the main enzymes that cause erectile dysfunction, and diabetes type II, the two plants are natural and affordable therapy for erectile function and diabetes (19). Rated as high quality ++

Analgesic activity of the aqueous seed extract of Hunteria umbellata (K. Scum) Hallier f. In rodents.

Authors investigated the analgesic properties of Hunteria umbellata seed water extract and mechanism of function on experimental rodents at varying doses from 50-200 mg/kg using various models of analgesia by tail flicking, immersion of the tail, formalin-induced analgesia, and acetic acid-induced writhing tests. The results showed that all analyses performed on the animals in various forms were dose response and significant effect on the experimental animals. The analgesic effects were experienced through peripheral and central nervous control mechanisms. Conclusion. There is a justification for using Hunteria umbellata extract as a native medicine for treating pain because it has analgesic properties (20). Rated as high quality ++

Evaluation of male-fertility-enhancing activities of water seed extract of Hunteria umbellata in Wistar rats.

Thirty six Wistar rats were randomly selected and divided into six groups- I-VI, and ravaged with varying doses of Hunteria umbellata water extracts, 100 mg/kg, 200 mg/kg, and 400 mg/kg daily for 60 days to elucidate the effects and mechanical action of Hunteria umbellata extract on the tested rats 'weight gain, gonadosomatic index (GSI), luteinizing hormone (LH), testosterone (TS), serum follicle stimulating hormone (FSH), testicular antioxidant and estradiol, gonadosomatic index (GSI), and prolactin. Group I was the control, received only 10 ml/kg daily, of distilled water, II received standard medicine for male-fertility treatment- clomiphene with distilled water, III-V received HU extract 100 mg/kg, 200 mg/kg, and 400 mg/kg daily in that order, as well as 20 mg/kg of vitamin C daily. All Experiments lasted for 60 days. The serum of each rat was analyzed from their blood samples for the status of the hormones, semen analysis was also performed on testicular tissues, as well as a testicle antioxidation profile determined using catalase (CAT), superoxide dismutase (SOD), Thiobarbituric Reactive Species (TBARS). Glutathione (GSH), glutathione peroxidase (GSH-Px), and glutathione reductase (GSR).

Results showed significant weight reduction, both for standard medicine- clomiphene and Hunteria umbellata extract, which was dose dependent. For 100 mg/kg, 200 mg/kg, and 400 mg/kg daily doses of Hunteria umbellata seed extract, all doses showed significant weight loss and 400 mg/kg showed the highest weight loss and most gonadosomatic index increase. Both Clomiphene and various doses of Hunteria umbellata significantly raised total sperm count and percent live sperm and reduced percent of dead and abnormal sperm. The investigated hormones namely, Luteinizing hormone (LH), testosterone (TS), serum follicle stimulating hormone (FSH), were significantly increased. It significantly reduced serum prolactin. Change that it caused estrogen was not significant. The Hunteria umbellata extracts raised the anti-oxidation of testicular and estradiol hormones. Conclusion: two months straight use of HU significantly improved the functions of the spermatozoa, in the form of spermatogenesis, steroidogenesis, and anti-oxidation mechanism enhancements (21). This was a double blinded study rated as high quality ++. A similar study was performed by but for a shorter duration of 28 days. In that study, Hunteria umbellata water extract inhibited impairment or damage of purinergic regulating enzyme, and NO/cGMP (nitric oxide/cyclic-guanine monophosphate) signals making it effective for treating erectile dysfunction (22).

In vitro inhibition of phosphodiesterase-5 and arginase activities from rat penile tissue by two Nigerian herbs (Hunteria umbellata and Anogeissus leiocarpus).

This was an investigation on the science behind the native use of Hunteria umbellata and anogeissus leiocarpus for treating erectile dysfunction in Nigeria. Their objective was to determine a scientific backing for its use for male erection problems, with a special focus on the enzymes that cause erectile dysfunction namely, arginase, pro-oxidants induced by lipid peroxidation in rat penile tissue, and phosphodiesterase-5 and the goal is to justify and encourage or discourage its use. The findings were that the two extracts significantly inhibited arginase and phosphodiesterase-5 abased upon dose. The stronger the dose the greater the inhibition, however, A. Leiocarpus inhibition was significantly higher (IC50-174.19) than HU (IC50-537.72 ug/ml). Also, the effect of both extract inhibitors was stronger on arginase than phosphodiesterase 5. Iron electron (Fe2+) and nitroprusside actions caused malondialdehydes concentration to increase significantly, and the two extracts in response to dose lowered the concentration of malondialdehyde. The two extracts chelated iron (Fe2+) and scavenged free radicals such as OH* and ABTS*. Quercetin, rutin, chlorogenic acid, gallic acid, and caffeic acids occurred predominantly in both extracts. Conclusion. On the grounds that both extracts significantly inhibited male erectile dysfunction provoking enzymes namely, arginase, phosphodiesterase 5, and pro-oxidant induced by lipid peroxidation and also caused significant metal

chelation justifies and explains the science behind its use as native medicine for treat erectile dysfunction (23). Rated as high quality ++

Hypoxic relaxation of penile arteries: involvement of endothelial nitric oxide and modulation by reactive oxygen species.

In this study, the authors believed that there was insufficient evidence on the mechanism of actions linking erectile dysfunction and hypoxia (low oxygen) and obesity-related cardiovascular diseases particularly on the direct impact of hypoxia on the arteries of the penis. Thus, they investigated the penile arteries response to acute hypoxia and the mechanism of hypoxia responses, with a specific focus on the reactive oxygen species and endothelium. Authors examined the effect of removing endothelium, and cyclooxygenase, nitric oxide synthase, changes in reactive oxygen species, sodium diphenyl oxidase (NADPH oxidase), high fat diet and reactive oxygen species, and acute hypoxia on isolated penile arteries, and determined that those variables had effects on penile arteries. Administration of phenylephrine to hypoxia-relaxed penile arteries resulted in 50% contraction of the penis. When endothelium was eliminated and N-nitro-L-arginine and cyclooxygenase (indomethacin) inhibited, hypoxia-caused and acetylcholine penile relaxation was lower, and administration of Tempol and inhibition of NADPH oxidase achieved by gp91ds-stat and apocynin, increased hypoxia-penile relaxation. Properties of gp91ds-sta and Tempol lowered the basal superoxide concentrations but the blocking of nitric oxide synthase increased superoxide concentrations. Ebselen and catalase increased hypoxia-caused penile relaxation. Penile arteries were relaxed by presence of exogenous peroxide but, partially prevented when endothelium was removed, and when mitogen-activated protein kinase (MAPK) that controls extracellular signal, and clooxygenase were inhibited. High fat diets that cause superoxide production impaired the hypoxia caused by penile relaxation that depends on nitric oxide, which are easily altered by the production of reactive oxygen species that cause oxidative stress. Obesity raised the production of peroxide and impairment of nitric oxide suggesting that obesity causes increase in reactive oxygen species as well as reduction of nitric oxide bioavailability thus, impairing penile artery relaxation and causing erectile dysfunction. In sexual stimulation, upon nerve signal release of nitric oxide, vascular resistance reduces and there is a rise in cavernous and helicon arteries flow of blood that stimulates penile endothelium nitric oxide release causing sustained erection and through nitric oxide synthesis in the corpus cavernosum (two-column spongy penile tissue responsible for erection) tissue control, and smooth muscle relaxation response to electrical stimulation peroxide modulates penile erection and a decrease in peroxide causes reduction in endothelium-dependent vasodilation responses.

Researchers have implicated a link between erectile dysfunction and chronic hypoxia in experimental and clinical studies. Chronic hypoxia is common with heart and respiratory failure, diabetes, aging, sleep apneas, arteriosclerosis, hypertension, and chronic obstructive respiratory diseases. Nitric oxide synthase, and Nitric oxide of the endothelium proteins were reduced in erectile tissue in a rabbit model of atherosclerosis caused by ischemic chronic cavernosal obstruction thus, deficiency of erectile tissue and presence of hypoxia cause impairment of nitric oxide synthase, relaxation and nitric oxide production. On the account that insulin resistance and obesity raise the risk of cardiovascular conditions, erectile dysfunction is common among obese patients. Obesity was linked with penile vascular responses and hypoxia in a rat model experiment (24). Rated as good quality +

Aphrodisiac herbal therapy for erectile dysfunction.

In this study authors examined the science behind the historical use of herbs to treat sexual dysfunction because of side and adverse effects, and costs of standard medicine for treating sexual dysfunction discourage many from using them. In this study the authors conducted an assay of clinical trials with experimental animals to determine the scientific modes and mechanism of achieving aphrodisiac effects in animals treated with the plants. The authors studied herbs including HU that lowered the concentrations of calcium ions (Ca2+), raised the concentration of testosterone, and increased the expression of adenosine monophosphate (cAMP) to reduce oxidative stress. The results of this and all studies reviewed indicated that the herbs possess pharmacological properties that empowers their potency against diseases and erectile dysfunction, and the potency is as strong as the standard sexual drugs such as sildenafil (25, 26). Conclusion: The plants implicated in this study have strong aphrodisiac properties, some as strong as standard medicine for treating sexual dysfunction and some even stronger than standard medicines, with minor or no side effects thus, a justification for its traditional use as potent aphrodisiac agents. (25, 26). Toxicological Evaluation of methanol Seed Extract of Hunteria umbellata on reproductive functions of treated Wistar rats. In this study, authors examined if the ingestion of Hunteria umbellata constitute health hazard or benefit essentially on the reproductive activities of its consumers thus, they performed a quantitative phytochemical analysis of Hunteria umbellata extract, toxicity, and sub-toxicity tests to determine the effects of of administering 250, 500, and 1000 mg per kg per a day for 90 days of HU extract to the experimental rats 'reproductive components. The parameters of focus for the analyses are testosterone, progesterone, and estrogen. Experiment involved 80 Wistar rats (40 female and 40 male) randomly selected and assigned into groups. Result showed that the parameters showed minimum concentration reduction, compared with the control groups, and the histological structure or ovaries and testes, change was insignificant. Conclusion: Prolonged use of Hunteria umbellata extract at dozes 250-1000 mg/kg/day for 90 days, did not have negative effect on male and female reproductive organs, so it is safe for use for this purpose. High Quality rated with two pluses ++ (35)

DISCUSSION

A substance with a capacity to prevent harmful body oxidation can offer an indirect boost to the body's immunity and when the body's immunity is strong, it is sure to protect the body against all diseases including, viral, parasitic, pathogenic, and chronic diseases (33, 4, 5, 6, 7, 34) From the 24 studies selected as core evidence for this investigation, which actually involved over one hundred other previous studies performed within Nigeria and international communities, the results suggest that Hunteria umbellata seed, leave, root and stem bark extract are rich in pharmaceutical compounds as well as phytochemical properties. These properties possess the capability or potency for use as medicine for treating diseases including reproductive diseases or disorders including sex drive or arousal called libido, penile erectile dysfunction, mounting and intromission delays and a sustenance of penile erection, as well as ejaculation (4, 5, 6, 7, 20, 28, 29).

Owing to its high concentration of phytochemical compounds, Hunteria umbellata is generally used for treating old age or geriatric related problems such as arthritis (3), amounting from its analgesic and antioxidation properties, and its effect on the peripheral and central nervous system (20), as well as arteries. Hunteria umbellata extract from fruit and seeds is an effective antipyretic and analgesic agent, and it

is effective as Aspirin (20, 32). Also, Hunteria umbellata fruit and bark decoction has been implicated as potent native medicine against stomachache, hernia, and liver diseases (3, 20, 32).

When Hunteria umbellata root is ground into powder it is used as native medicine for treating female reproductive disorders. It is used to prevent miscarriage and menorrhea or menorrhagia - heavy mensuration or that which last for seven days and painful menstruation (3, 30, 31). It must be noted that lactating mothers must avoid the consumption of Hunteria umellata to avoid low breast milk production for breastfeeding babies. Also Pregnant women must avoid the consumption of Annonia muricata plant because of its inference with placenta size, mother-fetus nutrient and waste exchange, as well as the fetus growth and weight.

CONCLUSION

[Evidence presented here shows that Hunteria umbellata seed, leave, stem and root bark extracts possess effective aphrodisiac agents and sexual dysfunction disorders treatment agents. Hunteria umbellata extract is an effective agent for treating reproductive disorders among women and men, and it is an effective agent for treating male penile erectile dysfunction thus a scientific justification for its folk use for treating male and female reproductive diseases.]

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Competing interests

"Authors have declared that no competing interests exists.".

Authors' Contributions

'Author A' designed the study, performed the literature reviewing, wrote the protocol, performed the analyses of the study, and wrote the first draft of the manuscript, and participated in manuscript reviewing. 'Author B' managed the analyses of the study, participated in reviewing the literature, did the manuscript reviewing. All authors read and approved the final manuscript."

Consent (wherever applicable)

Not applicable

Ethical approval (wherever applicable)

Not applicable, therefore this study was performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki."

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