

Traditional herbal remedies used in the management of sexual impotence and erectile dysfunction in western Uganda

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ABSTRACT

Background: The utilisation of ethnobotanical indigenous knowledge is vital in male sexual reproductive health care delivery in western Uganda. Reproductive health care is the second most prevalent health care problem in Africa. However, this concept of reproductive health care has been focusing mainly on women disregarding men. Thus, some diseases such as sexual impotence and erectile dysfunction that deserve mention are regarded as petty though important in economic productivity, family stability and sexually transmitted diseases control including HIV/AIDS.

Objective: This study was carried out mainly to document medicinal plants used in the treatment of sexual impotence and erectile dysfunction disorders in western Uganda.

Methods: The medical ethnobotanical indigenous knowledge were collected by visiting traditional healers and documenting the medicinal plants used and other socio-cultural aspects allied with sexual impotence and erectile dysfunction. The methods used to collect the relevant information regarding the medicinal plants used included informal and formal discussions, field visits and focused semi-structured interviews.

Results: Thirty-three medicinal plants used in the management of sexual impotence and erectile dysfunction were documented and *Citropsis articulata* and *Cola acuminata* were among the highly utilized medicinal plants.

Conclusion: From the researchers' point of view, the usage of herbal remedies in managing male sexual disorders is useful because of long cultural history of utilisation and the current renewed interest in natural products to sustain health globally. As a way recognising the values and roles of traditional medical knowledge in health care provision, further research into the efficacy and safety of herbal remedies in male sexual disorders is precious in Uganda and beyond. More so, the establishment of rapport between relevant government department in Ministry of Health, modern health workers through collaborative and networking ventures with traditional healers under close supervision and monitoring of herbal treatments is noble.

Key Words: Medicinal Plants, Erectile Dysfunction, Sexual Impotence, Ethnobotanical Indigenous Knowledge, Western Uganda
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INTRODUCTION

About 70 - 80% of the Ugandan population still rely on traditional healers for day-to-day health care. In some rural areas the percentage is around ninety compared to 80% reported world-wide^{10,13,14}. WHO³² had earlier estimates that the usage of traditional medicine in developing countries is 80 %. This is an indication that herbal medicine is important in primary health care provision in Uganda. There are several reproductive ailments that local communities have been handling and treating for ages such as sexual impotence and erectile dysfunction (ED). The concept of reproductive health care has been focusing mainly on women disregarding men and yet men are part.

Erectile dysfunction, sometimes, which also may imply to refer to "impotence," is the repeated inability to get or keep an erection firm enough for sexual intercourse^{23,34}. The word "impotence" may also be used to describe other problems that interfere with sexual intercourse and reproduction, such as lack of sexual desire and problems with ejaculation or orgasm²³. Roper²⁹ defines erectile dysfunction as the total inability to achieve erection, an inconsistent ability to do so, or a tendency to sustain only brief erections (premature ejaculation). Pamplona-Roger²⁷ defines impotence as the inability to finish sexual intercourse due to lack of penile erection. These variations make defining ED and estimating its incidence difficult. For purposes of this publication, since ethnobotanical indigenous knowledge (IK) cannot clearly distinguish between these two terms, then erectile dysfunction and sexual impotence are both used. The local people who are providers of this information are not in position to classify these two conditions.

The estimated range of men worldwide suffering from ED is from 15 million to 30 million²³. According to the National Ambulatory Medical Care Survey (NAMCS), for every 1,000 men in the United States, 7.7 physician office visits were made for ED in 1985. By 1999, that rate

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had nearly tripled to 22.3. This is in USA, where statistics are clearly compiled, the level of awareness and education is high as compared to sub Saharan countries like Uganda. This is a clear indication that there are many silent men, particularly couples affected by ED.

Reproductive Health care is the second most prevalent health care problem on African continent⁴. Reproductive health care did not appear on the health agenda until recent after the Cairo conference on population and the Peking conference on women that it indeed became a live issue⁴. In some instances RH certainly includes the RH needs of the youth or adolescents.

According to Uganda's health policy priorities^{8,25}, men's reproductive health is not given any mention. The national health policy focuses on services like family planning, diseases control like STI/HIV/AIDS, malaria, perinatal and maternal conditions, tuberculosis, diarrhoeal diseases and acute lower respiratory tract infections that are given priority^{8,25}. The sexual and reproductive health rights in Uganda focus on maternal and child mortality, family planning and the like exclusive of men's sexual needs and rights⁸.

The causes of ED are varies from one individual to another. For whatever cause, since an erection requires a precise sequence of events, ED can occur when any of the events is disrupted. This sequence includes nerve impulses in the brain, spinal column, and area around the penis, and response in muscles, fibrous tissues, veins, and arteries in and near the corpora cavernosa²³. Thus, ED causes reported include, damage to nerves, arteries, smooth muscles, and fibrous tissues. These are often as a result of diseases, such as diabetes, kidney disease, chronic alcoholism, multiple sclerosis, atherosclerosis, vascular disease, and neurologic diseases that account for about 70 percent of ED cases²³. NIH²³ reported that between 35 and 50 percent of men with diabetes experience ED. NIH²³ further reported that the usage of many common medicines such as blood pressure drugs, antihistamines, antidepressants, tranquilizers, appetite suppressants, and cimetidine (an ulcer drug) can produce ED as a side effect. Nevertheless, psychological factors such as stress, anxiety, guilt, depression, low self-esteem, and fear of sexual failure cause 10 to 20 percent of ED cases. In addition, men with a physical cause for ED frequently experience the same sort of psychological reactions (stress, anxiety, guilt, depression)²³. Other

possible causes are smoking, which affects blood flow in veins and arteries, and hormonal abnormalities, such as not enough testosterone²³.

In modern medication of erectile dysfunction, the oral prescription medication of popular Viagra (Sildenafil) is effective, but in some men it is not compatible and Sildenafil works in less than 70% of men with various etiologies and has certain side effects²³. The availability of Viagra has brought millions of couples to ED treatment. Oral testosterone can reduce ED in some men with low levels of natural testosterone, but it is often ineffective and may cause liver damage³⁴. Other drugs such as Yohimbine, papaverine hydrochloride [used under careful medical supervision]⁵, phentolamine, and alprostadil (marketed as Caverject) widen blood vessels. However, this available modern medication for the ED in men is very expensive for most of the rural people in Ugandan and other developing countries. Yet, in traditional medicine, there are several medicinal plants that have been relied on for use in the treatment of ED. This ethnobotanical indigenous knowledge has not been earlier documented and scientifically validated for efficacy and safety, future drug discovery and development.

Therefore, this particular study was carried out purposely to document medicinal plants used by traditional medical practitioners to treat ED and sexual impotence and other male erectile related conditions in western Uganda. This manuscript only covers the ethnobotanical documentation of medicinal plants used in the management of erectile dysfunction excluding the socio-cultural aspects. The socio-cultural aspects in details will be presented in the next manuscript covering the broad range of reproductive health ailments management using the indigenous knowledge in western Uganda.

STUDY AREA AND METHODS

This study was carried out in areas in and around Queen Elizabeth Biosphere Reserve (QEBR) and some other sub counties such as Katerera, Kichwamba and Kitagata in Bushenyi and Munkunyu, Kayonza and Kitsinga in Kasese districts in Western Uganda. The sampling sites were located in the parishes around the biosphere reserve, and in the selected fishing villages within the biosphere reserve. These included, Katwe, Mweya, Katunguru, Hamukungu, Kahendero and Kayanja Fishing Villages and many other villages.

The study was conducted between April 2000 and March 2003 in western Uganda. To collect this data indirect asking of questions and investigations that do not refer or offend anyone were used since nobody especially men can say openly that they have this problem. These methods are explained in the textbook of ethnobotany

and others have been used in the field for this kind of studies in Uganda and elsewhere in the world^{10,12,13,14,21}. These methods included visiting the traditional healers to document the indigenous knowledge (IK), regarding medicinal plants used, gender and socio-cultural aspects and where the plants are harvested. Informal and formal conversations, discussions and interviews, market surveys and field visits were conducted.

The informal conversations were held with the specialist resource users and other knowledgeable people on particular ailments. The meeting places were the gardens, women group meetings, at their homes, and any other places convenient to them. Through conversations, the sources of knowledge of the healers on medicinal plants, the medicinal plants used and changes in the availability of medicinal plants were established. Those who were more knowledgeable were later followed and interviewed further especially the TBAs, and some knowledgeable men healers. Focused discussions were held with them later for formal recording. In some instances, young mothers were visited too. This was done to verify the information gathered and the spread of the indigenous knowledge (IK) in reproductive health care among the different reproductive groups particularly on ED management.

The semi-structured interviews and discussions were held with the specialist resource users and other knowledgeable people on particular ailments by use of interview schedules for each respondent. Interviewed people were mainly the herbalists (both men and women) and TBAs. In this selection to some extent, ethnic groups were recorded where possible because different people use the same plants differently. The time and place of interviews were arranged according to the schedules of the respondent. Depending on where the interviews and discussions were held, recording was done immediately or afterwards or appointments were made for more details in a more convenient place arranged with the respondent. Key informants were identified and later interviewed separately and even followed for further details. Some of the key questions asked included, name of the respondents, the village or parish or sub-county he or she was coming from, diseases treated, plant local names used, parts harvested, methods of preparation and administration. In addition, ingredients and incantations with which the plants are used for preparation and where the herbal

medicines were harvested were documented.

The field visits and excursions were arranged with the healers for places far from their homesteads or took place concurrently with the interviews and discussions. When going to the forests, game reserves or other areas where herbalists collect plant specimens, prior arrangements were made with the community leaders and park staff. This was done with individuals or groups depending on where the herbs are collected. In the shared areas such as the fishing villages, or the multiple use areas, group and individual excursions were conducted. Some of the medicinal plants that are harvested from distant places such as the Democratic Republic of Congo, other districts and unsafe areas within the reserve were not collected but their local names were recorded. The data collected were to supplement the information on plant names, plant parts used, collection of the herbarium voucher specimens and conservation status of these medicinal plants. The medicinal plants collected were given the voucher numbers and then later identified in Botany Department herbarium of Makerere University.

The key respondents were mainly old men, male traditional healers, traditional birth attendants and young women and all in total about 160 traditional healers were interviewed. To document male related ailments men are particularly more knowledgeable and most men share their problems with men. In addition, the old men and healers are the ones in charge of administering these herbal remedies. Young women through the informal discussions, interviews and market surveys are particularly more dynamic in the use of herbs for themselves, husbands and children besides being the most active reproductive age group. The medical ethnobotanical data collected has been analysed, medicinal plants from the study areas have been listed and methods of administering the herbal drugs were also documented. In checking for the proper updated naming, spellings and authors of the medicinal plants, besides using voucher specimens in Makerere University Herbarium, several reference books were used^{1,3,9,15,16,20,22,27}.

RESULTS

Thirty-three medicinal plants both cultivated (Table 1) and wild harvested (Table 2) were documented and identified in the area of study. In the description below these results of these two table are combined as presented below. All the identified medicinal plants in both tables belong to 25 families and 30 genera. The family Rubiaceae (4) is the most represented followed by Alliaceae, Euphorbiaceae, Mimosaceae, Papilionaceae and Caesalpinaceae families which have two species each and the rest with one species. The composition is that 42.4% are shrubs, 39.4% herbs and herb climbers and 18.2% trees. Leaves (57.6%) are

the commonest plant parts followed by roots (42.1%), barks (27.3%) and the rest of the plant parts harvested have less than 10% of the parts harvested. From *Allium cepa*, *Allium sativum*, *Rbus vulgaris*, *Warburgia ugandensis*, *Cleome gynandra* and *Tarenna graveolens*, three different plant parts, are harvested for use in sexual impotence and erectile dysfunction. In the case of *Impetiens* species and *Urtica massaica*, the whole plants are harvested while the rest of the species one or two different plant parts are used. The conservation status of these documented plants is that 27.3% are cultivated while 72.7% are collected from wild places. The common methods of plant medicine preparation included boiling, chewing, pounding, cooking, roasting and smoking. The commonest method of herbal administration was by oral means as food, herbal teas or by mixing in several drinks including locally made beer.

Table 1. Cultivated Medicinal Plants used in treatment of Sexual Impotence and Erectile Dysfunction in Western Uganda

Family	Scientific Name	Local Name	Habit	Parts Used	Preparation	Administration
Alliaceae	<i>Allium cepa</i> L.	Katunguru (NY, KI, RU) Onion (Engl.)	H	ST-BU, L, RT	chewing, cooking	oral in water and in food
Alliaceae	<i>Allium sativum</i> L.	Tungurusumu (KO) Garlic (ENG)	H	ST-BU, L, RT	chewing, cooking	oral in water and in food
Cannabaceae	<i>Cannabis sativa</i> L.	Njaji (GA) Njaga (NY) Marijuana (ENG) Mbangi (SW)	S	L	chewing, smoking	oral, inhaling fumes
Capparaceae	<i>Cleome gynandra</i> L.	Esobyo/ Amarera (KO) Eshogi (NY)	H	L, R, FL	chewing, cooking	oral or as food
Malvaceae	<i>Sida tennicarpa</i> Vollesen	Keyeyo (RU)	H	L	pounding, boiling	oral
Papilionaceae	<i>Arachis hypogaea</i> L.	Binyebwa (NY, RU) Ground nuts (ENG)	H	SE	roasting	oral as food
Rubiaceae	<i>Coffea arabica</i> L.	Mwani (NY) Arabica Coffee (ENG)	S	SE	roasting, chewing	oral as a beverage
Solanaceae	<i>Capsicum frutescens</i> L.	Kamurari (GA) Eshenda (NY) Red pepper (ENG)	H	FR	pounding, boiling, chewing	oral in food
Zingiberaceae	<i>Zingiber officinale</i> Roscoe	Ntangahuzi (NY), Ntangawizi (SW), Ginger (ENG)	H	RH	pounding, boiling	oral in tea, porridge, milk as a beverage

Key: SW (Swahili); ENG (English); KO (Rukonjo); RU (Runyaruguru); NY (Runyankore); KI (Rukiga); GA (Luganda); S (shrubs); H (herbs); L (leaves); R (roots); RT (root tuber); RH (rhizome); FR (fruits); SE (seeds); ST-BU (stem-bulb).

Table 2. Wild-harvested Medicinal Plants used in treatment of Sexual Impotence and Erectile Dysfunction in Western Uganda

Family	Scientific Name	Local Name	Habit	Parts Used	Preparation	Administration
Anacardiaceae	<i>Rhus vulgaris</i> Meikle	Mukanja (NY) Mukanza (RU)	S	B, R, L	chewing, boiling	oral and eaten as raw fruits
Asclepiadiaceae	<i>Mondia whiteii</i> Skeels	Mulondo (GA)	H-CL	R	chewing, boiling, pounding	oral in water, in tea and in food
Asteraceae	<i>Vernonia cinerea</i> (L.) Less.	Kayayana (GA)	S	L, R	chewing, boiling	oral
Balsaminaceae	<i>Impatiens</i> sp.	Entungwabaishaija (NY)	H	WP	chewing, boiling	oral
Caesalpinaceae	<i>Cassia didymobotrya</i> Fresen.	Mugabagaba (NY) Mukyora (RU) Mucora (KO)	S	L, R	chewing, boiling	oral
Caesalpinaceae	<i>Cassia occidentalis</i> L.	Mwitanzoka (NY, KO)	H	L, R	chewing, boiling	oral
Canellaceae	<i>Warburgia ugandensis</i> Sprague	Mwiha (RU)	T	B, L, R	pounding, boiling	oral in tea or porridge
Celastraceae	<i>Catha edulis</i>	Mairungi (NY, RU), Miira (SW)	S	L, ST	chewing	oral by chewing fresh leaves and young stem.
Euphorbiaceae	<i>Flueggea virosa</i> (Willd.) Voigt	Omukarara (RU) Omukalali (KO)	S	L, R	pounding, boiling	oral
Euphorbiaceae	<i>Tragia brevipes</i> Pax.	Engenyeni (NY)	H-CL	L	pounding, boiling	oral
Mimosaceae	<i>Acacia sieberiana</i> Scheele	Munyinya (NY, RU)	T	B	pounding, boiling	oral
Mimosaceae	<i>Dichrostachys cinerea</i> (L.) Wight & Arn.	Muremanjojo (RU)	T	B	pounding, boiling	oral
Myricaceae	<i>Macrotyloma axillare</i> (E.Mey.) Verdc.	Akaihabukuru / Kihabukuru (RU)	H-CL	L, RT	pounding, boiling	oral
Myricaceae	<i>Myrica salicifolia</i> Hochst. ex A.Rich.	Mujeje (NY)	S	R, B	pounding, boiling	oral
Palmae	<i>Phoenix reclinata</i> Jacq.	Akakindo (NY), Mukindo (NY)	S	L, R	pounding, boiling	oral
Phytolaccaceae	<i>Phytolacca dodecandra</i> L'Herit	Muhoko (NY) Ruhuko (KO)	S	L, R	pounding, smearing	smear on ripe banana and roast
Polygonaceae	<i>Coffea</i> spp.	Mwani (NY) Wild Coffee (ENG)	S	SE	roasting, chewing	oral as a beverage
Polygonaceae	<i>Hallea rubrostipulata</i> (K.Schum.) J.F. Leroy	Muziiko (NY)	T	B, R	pounding, boiling	oral
Polygonaceae	<i>Rumex abyssinicus</i> Jacq.	Mufumbagyesi (NY) Mufumbijesha (RU) Kasekekambaju (GA, KO)	S	L, ST	chewing	oral
Polygonaceae (S.Moore) Bremek.	<i>Tarenna graveolens</i> Munywamaizi (NY)	Munyamazi (KO, RU)	S	B, L, R	pounding,	oral boiling

Family	Scientific Name	Local Name	Habit	Parts Used	Preparation	Administration
Rutaceae	<i>Citropsis articulata</i> Swingle & Kellerman	Muboro (NY, RU) Katimboro (KO, TO)	T	B,R	pounding, boiling, chewing	oral as beverage in tea
Sterculiaceae	<i>Cola acuminata</i> Schott & Endl.	Ngongolia (SW), Engongoli (KO, RU) Cola nut (ENG)	T	FR	Roasting, pounding, chewing	oral in tea, porridge, milk as a beverage
Tiliaceae	<i>Grewia similis</i> K. Schum.	Mukarara (RU)	S	L, B	pounding, boiling	oral
Urticaceae	<i>Urtica massaica</i> Mildbr.	Engenyeni (NY)	H-CL	WP	pounding, boiling	oral

Key: SW (Swahili); ENG (English); KO (Rukonjo); RU (Runyaruguru); NY (Runyankore); GA (Luganda); TO (Lutooro); T (trees); S (shrubs); H (herbs); H-CL (herb-climber); ST (stem); B (bark); L (leaves); R (roots); RT (root-tuber); FR (fruit); SE (seeds); WP (whole plant).

DISCUSSION

A list of 33 medicinal plants both cultivated and wild-harvested generated show that herbal remedies are greatly utilized by men for managing sexual impotence and erectile dysfunction in western Uganda. Erectile dysfunction and sexual impotence are old problem and traditionally the indigenous knowledge had ways of treating or managing these conditions associated with male reproductive system. These plants in the tables we are discussing have been in use for centuries in treating or managing conditions in male reproductive organs.

The medicinal plants used such as *Citropsis articulata*, *Cannabis sativa*, *Cleome gynandra* and *Cola acuminata* are frequently utilized. Some of these plants (*Citropsis articulata*, *Cola acuminata*) are already under sale for treating these conditions. Their propagation is on-going in western Uganda in places like Rukararwe Partnership Workshop for Rural Development Centre in Bushenyi District³⁶ and researchers personal experience at Rukararwe. Rukararwe is a non-governmental organisation that is processing herbs, running a famous herbal clinic and with a medicinal plants arboretum and medicinal plants agro-forestry.

A plant like *Cleome gynandra* is a popular vegetable used all over Uganda and is on sale in most markets. Other medicinal plants that are food stuff include *Allium cepa* (onions), *Allium sativum* (garlic), *Rhus vulgaris*, *Capsicum frutescens* (red pepper) and *Zingiber officinale* (Ginger) are also on sale in most markets of Uganda and internationally. In addition, the roots of *Mondia whiteii* are used as an aphrodisiac for males and for improving female sexuality (women's Viagra) in most areas of Uganda¹¹

particularly in urban centres and the Kampala City. To date, *Mondia whiteii* has been an old traded medicinal plant in most in Kampala. Recently the patented 'Mulondo Wine' a drink flavoured by the roots of *Mondia whiteii* has hit the national and international markets³⁵. The Mulondo Wine is also believed to be an aphrodisiac for both men and women.

The herbal medicines used in the management of sexual impotence and erectile dysfunction are mainly prepared by pounding, chewing and boiling and are mainly orally administered. The traditional healers treat sexual impotence and ED by prescribing some of these herbs in tea or using local beers, fermented milk and porridge. Some herbs are herbs are roasted or smoked such as coffee before administration. The dispensing of herbal medicines used in sexual impotence and ED using local beers, fermented milk and porridge possibly the alcoholic content improves on the kind of active chemicals extracted than water alone¹².

Some studies carried in and outside Uganda show that some of these plants listed in the management of sexual impotence and ED may be potent. Some of these medicinal plants are regarded as traditionally aphrodisiacs, implying that they have ability to increase sexual desires. For instance, *Cola acuminata* fruits are widely used herbal remedies in ED and are harvested from the forests of Democratic Republic of Congo. The *Cola acuminata* fruits contain about 2% catechine-coffeine (Colanine)⁷. The roasted seeds in Europe are used as strong stimulant, in addition to the treatment of migraine, neuralgia, diarrhoea and stimulant or cardiotoxic, loss of appetite, anti-depressant and melancholy (severe form of depression)⁷. Coffee is drunk for certain migraine, nausea, resuscitation and diuretic⁷. Coffee is a famous stimulant used world

over as a beverage. However, the wild coffee species are more popular in treating ED and are believed to contain more alkaloids (caffeine). Coffee is further reported to be a nervous system stimulant (Pampalona-Roger, 2000). *Cannabis sativa* (Marijuana) is smoked by mentally sick and impoverished men⁷. *C. sativa* is like morphine, it is an opioid analgesics. *Allium sativum* (garlic) is used in treatment of diabetes, high blood pressure, prevention of arteriosclerosis (hardening of the arteries and is one of the causes of ED)⁷. Garlic reduces blood sugar levels and blood cholesterol levels which are the direct causes of ED if not checked. The *Zingiber officinalis* (ginger) volatile oils from the rhizome are used for stimulating the nerves and making then sensitive⁷. *Capsicum frutescens* in many African cultures is a known powerful stimulant and carminative²⁴. *Capsicum frutescens* (chilli) contains enzyme capsaicin that helps in blood clotting (fibrinolytic) and people who consume *C. frutescens* seldom suffer from heart attack. In addition, the pharmacological tests showed that the capsaicin chemical compound from *Capsicum frutescens* acted like powerful stimulant of the receptors participating in circulatory and respiratory reflexes²⁴.

Phytolacca dodecandra leaves and roots are pounded and smeared on ripe banana and then the ripe banana roasted before being eaten for treating erectile dysfunction. However, care has to be taken *Phytolacca dodecandra* is poisonous. *Cola acuminata* fruits are mixed with other plants in Benin to treat primary and secondary sterility²⁴. *Cola acuminata* is also said to be diuretic and laxative when administered orally²⁴. Some *Acacia* species are regarded as aphrodisiacs in Niger². *Cassia* species have high repute as drugs and poisons. For instance, *Cassia sieberiana* is used urinary problems, impotence and kidney diseases in Mali²⁴. In Burkina Faso, *Cassia occidentalis* is used as a stimulant²⁴. *Flueggea virosa* is famous medicine in African cultures. *Flueggea virosa* used in sterility, aphrodisiacs, stimulant, rheumatism, arthritis, spermatorrhoea, kidney and liver problems among many other diseases treated^{17,24}.

In Uganda gender specific malfunctions or complications or diseases and conditions in reproductive health care are not given the due regard and the suffering persons tend to shy away. Sexual impotence and ED in men is considered a secret affair and the suffering persons keep quite or seek medical help in privacy. The psychologically affected men will try other women to test the viability of their manhood. The same is true, women with

spouses with such erectile problems may be tempted to go outside their marriage vows to satisfy their sexual needs. This can also lead to HIV/AIDS exposure and result in broken homes and marriages¹². The consequential outcomes of promiscuity, low self-esteem, polygamy, sexually transmitted diseases including HIV/AIDS are more detrimental to the individuals and society.

Only the few elite (educated) and with money seek modern medical care privately and secretly. The description of impotent men in western Uganda among the Banyankore ethnic grouping is literally translated as the persons having no legs (Kifabigyere, Runyankore Dialect) to imply that the penis is dead (cannot bear children). There are other various terms used to describe such men with sexual impotence and ED like the one trampled by a goat, [Akaribatwa embuzi (empene), Kinyankore dialect]. In other places they called, such men who were unable reproduce as “Ekifera in Kinyankore meaning worthless). The men who were unable to have children were not supposed to be given the positions of responsibility or leadership because they were regarded as abnormal. Socially these men were excluded from society, even on drinking joints for the local brew or beer, they are not expected to talk and if they talked, they are hushed. Even women and children always taunted the suffering individuals. Socio-economically, sexual impotence and ED is demeaning and tortures the sufferers by reducing their self-esteem and worthiness in the society. Culturally, in olden days, the impotent men married wives and entrust their wives to very close friends and or relatives to bear them children. In central Uganda, the men with erectile problems are equalled to car engines that cannot start on their own [non-starters] or cars whose batteries have no or low charge (“Takuba self”, Luganda dialect).

Although there are few men who are born absolutely impotent, the number of men with erectile problems are many especially those tending to 50 years and above. Pfizer²⁸ reported that about 40% of men above years, 50% of men above 50 years, 60% of men above 60 years and in any population are affected by ED. ED has profound effect on psychological well being, it can be devastating, it can lead to low self-esteem, depression, negative effect on relationships and reduced life satisfaction²⁸. Among several other causes, aging is one of the factors leading to ED. There are some other social causes of ED such as high unemployment rates, and diseases like diabetes, hypertension, HIV/AIDS, high cholesterol levels, stress, smoking and obesity²⁸. ED is slowly creating adverse problems in homes in Uganda and particularly, among the mid-aged and old men. The men with sexual impotence and erectile dysfunction deserve proper diagnosis of the conditions and treatment. Thus, the plant remedies described may be healthy if administered

Erectile dysfunction is a common problem in men of all ages than publicly perceived. Since, I started the research in reproductive health care; the commonest question asked by men is related with medicinal plants that empower male sexuality. So far, several males have been consulting on the treatment of ED using herbal remedies, either by themselves or through friends¹².

The proved herbal remedies with therapeutic values such as *Prunus africana* used in the treatment of hypertrophy in male genitalia is indicative that some herbals may be potent though not yet studied comprehensively^{5,13}. However, most of the herbal remedies used in male ailments are not well documented and researched. The dangers of loosing valuable indigenous knowledge (IK) on sexual impotence and ED are likely to occur because westernization in the present generation. This indigenous knowledge in medicine ought to be documented for future use and sustainable utilisation¹⁹. According to the convention on biological diversity (CBD)⁶, specific reference is made to the need to protect the world's indigenous cultures and traditions (Art. 8 of CBD). This article points out that national legislation need to respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities encompassing traditional life styles relevant for the conservation and sustainable use of biodiversity. UNEP argues nations to have an urgent action to safeguard indigenous cultures and their knowledge.

From the conservation point of view, medicinal plants usage will continue to grow in popularity as people seek ways to support health naturally and gently³¹. So far, over 72% of these medicinal plants used in ED conditions were harvested from the wild. Yet, there is increasing trend in usage of traditional medicine in developed countries³⁰. The dramatic increase in herbal remedies usage will continue to rise since WHO has taken on monitoring of all unconventional medicine according to the traditional medicine strategic plan of 2002 to 2005³³. Most medicinal plants have proved successful sources or have acted as leads of effective ingredients that today's drug companies often look first to traditional places such as the rain forests, forest animals and traditional healers for clues to guide their drug development efforts. Furthermore, the harvesting of medicinal plants from the wild places such as the forest reserves, national parks in QEBR is a point of concern whereby no viable mechanisms have been put in

place to propagate them. The plant parts harvested especially those of wild medicines such as roots and stem, pose threat to the future survival of natural reservoirs if domestication strategies are not adopted in the near future.

This calls for serious conservation strategies of plant targets in drug development borrowing from the indigenous knowledge of the local people. For instance, medicinal plants documented in this study like *Warburgia ugandensis* and *Cirtopsis articulata* used in erectile dysfunction and sexual impotence and ED need to be conserved based on their demand and medicinal value to the people. In the event of increased biotechnology and the use of modified living organisms in agriculture, health and environment, most people will go for natural products^{18,26}. Furthermore, research in natural products is on the increase in both developed and developing nations to show that there is renewed interest in medicines of natural origin.

The medicinal plants used in male-related conditions will be very significant in the present and future generations. From the researchers point of view, the usage of herbal remedies in managing sexual impotence and erectile dysfunction is useful because of long history of utilisation of some herbs that are perceived as effective. Thus, the establishment of rapport between modern health workers through collaborative ventures with traditional healers, relevant NGOs like Rukararwe in Bushenyi by having close supervision and monitoring of herbal treatments in such conditions is noble. Ministry of Health through its research wing in traditional medicine the Natural Chemotherapeutics Research Laboratory in Wandegaya has role to play in advocacy of traditional medicine. In addition, Public-Private Partnership in Health Care Delivery Desk Office in Ministry of Health and distinguished researchers in herbal medicine need to network, collaborate and have policy in place for herbal medicine as an alternative form of health care in Uganda. The traditional herbal medicines, relevant to the needs of ailing Ugandans can be tried out after being licensed by the National Drug Authority. In our view, sexual impotence and erectile dysfunction are real silent conditions affecting Ugandan men. Additionally, further investigations into the safety and efficacy of these traditional herbal remedies used in the treatment of erectile dysfunction and other male-related conditions are recommended in Uganda.

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