



Some phytomedicines from Shiselweni region of Swaziland

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Abstract

Objective: The purpose of this study was to gather information on herbal medicines used in traditional medicine in the Shiselweni region of Swaziland through an ethnomedical survey. **Materials and methods:** The study involved an open ended interview of each of the renowned traditional medical practitioners of the area to gather information on herbal remedies used by the practitioners. Voucher samples of plants used for the remedies were collected with the assistance of the traditional health practitioners who gave them. The samples were authenticated and deposited with the Curator of the National Herbarium, Malkerns, Swaziland. **Results:** Information about forty three phytomedicines used for treating twenty four diseases and three magico-medical conditions were collected. The phytomedicines were obtained from forty one plant species from twenty six families. Some of the diseases for which herbal medicines were provided were abscess, boils, chest pain, cough, debility, ear infection with pus, fracture, gonorrhoea, hiccup, palpitations, infertility, ulcer and uncontrollable uterine bleeding. The magico-medical conditions for which recipes were provided were good luck, removal of ill fortune and success in litigation. **Conclusion:** It is concluded that indigenous knowledge of the traditional medical practitioners of the Shiselweni region of Swaziland on herbal products is vast and could be useful in the integrated primary health care. There is need for more research on herbal medicines.

Keywords: Herbal medicines; Shiselweni region; Swaziland.

1. Introduction

The vast plant biodiversity found in Africa's diverse ecological zones provides a rich source of staple foods, medicines, building materials, energy and clothing.[1] Of particular significance are medicinal plants because of their widespread use in traditional medicine, a special and distinct component of Africa's health

care. As in many African countries a large proportion of the population in Swaziland rely on traditional medicine for their primary health care. Traditional medical practitioners (TMPs) are usually the first medical practitioners to be consulted by many with health needs. It has been estimated that about 85 % of the Swazis depend

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on TMPs for their medical care. [2] The number of TMPs has been estimated to be over 8,000 with a practitioner – population ratio of approximately 1:100. [3] Herbal medicine is very popular among Swazis for socio-cultural reasons: It is a holistic system which treats the whole person. It is interwoven with culture and anchored on religious beliefs. It is thus an integral part of the people's lives. It is the practice that is readily accessible and compared with conventional medical practice it is more affordable to the rural communities where majority of the people dwell.

Despite the popularity and importance of traditional medicine, information about the system is not readily available. Knowledge about the practice has been acquired through oral tradition from one generation to next especially within members of the families of the TMPs. There is therefore every possibility that vital information about the practice may be lost or distorted as it is being passed down.

It is in this context that an ethnomedical survey of Swaziland has been embarked upon to document properly the indigenous knowledge on the practice and the medicinal plants of the country.[4,5,6] It is to ensure the preservation of the heritage. In continuation of the documentation, a survey of the Shiselweni region was conducted. This paper reports some new phytomedicines from the region.

2. Methodology

An ethnomedical survey of Shiselweni region of Swaziland was conducted from November 2002 to June 2003 using the methodology reported in our previous studies. [4-6] Shiselweni region of Swaziland is located between 26° 44' - 27° 18' S latitude and 30° 54' – 31° 59' E longitude. Renowned TMPs of the region were identified for the survey with the assistance of the rural health motivators of the Ministry of Health and Social Welfare. Each

TMP was interviewed in his homestead where he practised. The interview was conducted, using an open-ended structured questionnaire.

Remedies used for treating diseases were recorded. Details about the recipe for each remedy, mode of preparation, route of administration, evidence of cure and contraindication were recorded. A voucher sample of each plant used for preparations was collected with the assistance of the TMP who mentioned the plant. Mr G. M. Dlamini, the curator of the National Herbarium in Malkerns identified the plants. The voucher samples were deposited in the national herbarium for preservation.

3. Results and discussion

Table 1 shows the list of plants used in the preparation of the phytomedicines in Shiselweni region of Swaziland. The list includes the scientific and siSwati names in italic, the families of the medicinal plants used for each recipe, voucher number, the recipe for each remedy and uses.

Traditional medical practitioners are endowed with indigenous knowledge and skills on the use of plants for the management of various diseases. The phytomedicines for which recipes were given were acclaimed to be efficacious and many of these herbal products could be useful in the integrated primary health care of the country.[6] In Shiselweni region alone, information about forty three phytomedicines was collected. Recipes were provided for treating twenty four diseases and three magico-medical conditions. The phytomedicines were obtained from forty one species from twenty six families.

The diseases for which herbal medicines were provided are diverse in nature. They include among others; abscess, boils, chest pain, cough, debility, ear infection with pus, fracture, gynaecological problems, hiccup, infertility,

Table 1
Plants used in Shishelweni Region of Swaziland as phytomedicines

Scientific name	Family	siSwati name	Voucher number	Recipe and Use
<i>Acrotome hispida</i> Benth	. Labiatae	<i>Sisefo</i>	S-047	Crush 30 g leaves, add to 2 l water and boil for 5 min and drink about ½ a cup twice daily for gonorrhoea.
<i>Agathisanthemum bojeri</i> Klotzsch	Rubiaceae	<i>Litfondvo</i> (<i>licimamlilo</i> <i>lelidvuna</i>)	S-042	Add 50 g crushed bulb to 2 l water and boil for 10 min. Take 2 table-spoon twice daily for debility.
<i>Aristea cognata</i> N.E.Br. ex Weim.	Iridaceae	<i>Phayamashiyane</i>	S-006	Put a small piece of rhizome in your mouth when pleading to win litigation.
<i>Artemisia afra</i> Jacq. Ex Willd.	. Asteraceae	<i>Umhlonyane</i>	S-025	Take leaf infusion for cough
<i>Cassine aethiopica</i> Thunb.	Celastraceae	<i>Macundza/</i> <i>umgungulutane</i>	S-029	Crush 50 g bark and add to 2 l water. Drink mixture to induce vomiting for ulcer and chest pain.
<i>Catharanthus roseus</i> (L.) G. Don	Apocynaceae	<i>Imbali</i>	S-009	Grind 30 g root, add to 1 l water and boil for 5 min. Take 2 table-spoon thrice daily for 7 days for stomach ache.
<i>Clutia monticola</i> S. Moore	Euphorbiaceae	<i>Mbumbumbu</i>	S-046	Crush 30 g root or tuber. Apply topically as poultice on sore or wound once or twice daily for sores and wounds.
<i>Colocasia antiquorum</i> Schott	Araceae	<i>Lidumbe</i>	S-022 and	Grind together 20 g bulb of each of S-022 and S-023, and add to 2 l
<i>Aloe maculate</i> All.	Asphodelaceae	<i>Lihala</i>	S-023	water. Take 2 tablespoon twice daily for a week for ulcer and palpitation.
<i>Crassula acinaciformis</i> Schinz	Crassulaceae	<i>Livenge</i> <i>lelincane</i>	S-021	Crush 50 g bulb, add to 1 l water, boil for a few minutes. Take 2 tablespoon when having hiccup.
<i>Cryptolepis oblongifolia</i> (Meisn.) Schltr.	Asclepiadaceae	<i>Luphondvongoti</i>	S-052	Crush 30 g roots into powder and mix with soup or milk. Take 1 table-spoon once daily for impotence.
<i>Cussonia spicata</i> Thunb.	Araliaceae	<i>Umsenge</i>	S-039	Crush 100 g root and mix with milk or soup. Take 2 tablespoon once daily for impotence.
<i>Cyperus fastigiatus</i> Rottb	Cyperaceae	<i>Insikane</i>	S-011	Crush 50 g dry leaves, add to 2 l water and boil for 10 minutes. Take 2 tablespoon thrice daily for 7 days for lower abdominal pains.
<i>Cyperus fastigiatus</i> Rottb	Cyperaceae	<i>Insikane</i>	S-051	Crush 50 g roots, add to 2 l water and boil for 10 min. Drink ½ cup twice or thrice daily excessive uterine bleeding.

Scientific name	Family	siSwati name	Voucher number	Recipe and Use
<i>Dicoma anomala</i> Sond	Asteraceae	<i>imboziso</i>	S-016	Crush 30g roots, add to 1 l water and boil for five minutes. Take 1 tablespoon once daily for 7 days for chest pains.
<i>Diospyros lycioides</i> Desf.	Ebenaceae	<i>Mvuthuza</i>	S-034	Crush 50 g leaves and mix with pig fat. Apply the mixture topically once a day and take a teaspoon orally twice a day for a few days for pubic and body lice.
<i>Ekebergia pterophylla</i> (C.DC) Hofm.	Meliaceae	<i>Indzitane (emangwe labovana)</i>	S-037	Crush 100 g bark and add to 20 l water. Use mixture to induce vomiting and bath once a day in the evening for 3 days to remove ill fortune
<i>Faurea saligna</i> Harv	Proteaceae	<i>Sicalaba</i>	S-040	Crush 50 g bark, add to 2 l water and boil for 5 min. Take 2 tablespoon twice daily for one week for cracking of skin in groin area.
<i>Gunnera perpensa</i> L	Gunneraceae	<i>Gobho</i>	S-049	Crush 50 g roots, add to 2 l water and boil for 5 minutes. Take 2 tablespoon twice or thrice daily for uncontrollable uterine bleeding.
<i>Helichrysum aureonitens</i> Sch.Bip.	Asteraceae	<i>Impepho</i>	S-050	Burn 100 g each of dry leaves and stem in the house and add the ashes to 20 l of water. Use the mixture for steaming for good luck.
<i>Heteromorpha trifoliata</i> (Wendl.) Eckl. & Zeyh.	Apiaceae	<i>Libangalala lemashangane</i>	S-048	Crush 30 g root and mix with 2 cups of soup. Take 1 tablespoon once every evening before sexual act for a few days for impotence.
<i>Hypoxis argentea</i> Harv. ex Bak	Hypoxidaceae	<i>Inkhofe</i>	S-020	Slice 100 g bulbs to pieces, add to 5 l boiled water and mix thoroughly. Drink ½ cup twice daily for internal sores, ulcer and as immune booster.
<i>Hypoxis colchicifolia</i> Bak	Hypoxidaceae	<i>Lilabatseka</i>	S-024	Slice 100 g bulbs to pieces and add to 2 l boiled water. Take 2 tablespoon once or twice daily for debility.
<i>Jacaranda mimosifolia</i> Juss.	Bignoniaceae	<i>Jacaranda</i>	S-005	Crush 30 g bark, add to 1 l water and boil until colour changes to dark brown. Take one spoonful thrice daily until you finish 1 l for abscess.
<i>Lippia javanica</i> (Burm. F.) Spreng	Verbanaceae	<i>Umsutane</i>	S-002 and	Add 30 g leaves of each of S-002 and S-003 to 5 l water. Boil for 10 min. and sieve. Drink 2 tablespoon once or twice daily until you finish one or two litres for pubic sores.
<i>Acanthospermum australe</i> Kuntze	Asteraceae	<i>Sanama</i>	S-003	

Scientific name	Family	siSwati name	Voucher number	Recipe and Use
<i>Maesa lanceolata</i> Forssk.	Myrsinaceae	<i>Magucu/umphendulo</i>	S-030	Crush 100 g bark and add to 20 l water. Use the mixture to bathe once daily for 3 days for good luck
<i>Maytenus acuminata</i> (L.f.) Loes	Celastraceae	<i>Umlahlabantfu</i>	S-032	Crush 30 g leaves and apply on boil over night until the boil is ripe.
<i>Oxygonum dregeanum</i> Meisn	Polygonaceae	<i>Tinkhobe tagogo</i>	S-053	Crush 50 g bulb, add to 2 l water and boil for 5 min. Drink ½ cup of mixture once or twice daily for infertility in women.
<i>Parinari capensis</i> Harv	Rosaceae	<i>Umkhuna/umvalandlebe</i>	S-035	Crush 30 g roots, add to 2 l water and boil for 5 min. Take 2 table-spoon twice daily as tonic during pregnancy.
<i>Pentanisia prunelloides</i> (Klotzsch ex E. & Z.) Walp.	Rubiaceae	<i>Licimamlilo lelibovu</i>	S-054	Crush 50 g bulbs, add to 2 l water and boil for 10 min. Take 2 table spoon twice daily as tonic.
<i>Pentanisia prunelloides</i> Klotzsch ex E & Z	Rubiaceae	<i>Licimamlilo</i>	S-019	Crush 100 g bulbs and add to 2 l hot water. Use the mixture as hot soak/compress twice daily on swollen aching foot.
<i>Pentanisia angustifolia</i> Hochst.	Rubiaceae	<i>Umgwamiso</i>	S-055	Crush 30 g roots, add to 2 l water and boil for five minutes. Take 2 tablespoon once or twice daily for sores.
<i>Prunus persica</i> (L.) Batsch	Rosaceae	<i>Limpetjisi</i>	S-015	Crush 30 g leaves and add to 1 l boiling water. Take 2 tablespoon when necessary for stomach ache.
<i>Rapanea melanophloeos</i> (L.) Mez	Myrsinaceae	<i>Dzilidzili / maphipha</i>	S-038	Crush 100 g bark and add to 20 l water. Use mixture to steam, induce vomiting and bath once daily in the evening for 3 days to remove ill fortune.
<i>Rhoicissus tridentata</i> (L.f.) Wild & Drum.	Vitaceae	<i>Sinwati</i>	S-045	Crush 50 g bulb, add to 2 l water and boil for 10 min. Drink a cup daily for a week for infertility in women.
<i>Scilla natalensis</i> Planch	Hyacinthaceae	<i>Lukhovu</i>	S-043	Crush 50 g bulb, add to 2 l water and boil for 30 minutes. Use ½ cup as enema for waist or back pain
<i>Scilla nervosa</i> (Burch.) Jessop	Hyacinthaceae	<i>Ndwendwendwe</i>	S-041	Crush 50 g bulb, add to 2 l water and boil for 10 min. administer as enema once daily and take 2 tablespoon twice daily for lower abdominal pains.
<i>Senecio oxyrifolius</i> DC.	Asteraceae	<i>Mzim bomubi</i>	S-018	Crush 100 g bulb and add to 2 l boiling water. Take 1 tablespoon

Scientific name	Family	siSwati name	Voucher number	Recipe and Use
<i>Syzigium cordatum</i> Hochst.	Myrtaceae	<i>Umncozi</i>	S-028	once daily for two weeks for ear infection with discharging pus. Crush 50 g bark and add to 1 l hot water. Drink enough to induce vomiting once daily for 3 days for cough and chest tightness.
<i>Tulbaghia alliacea</i> L.f.	Alliaceae	<i>Sikhwa</i>	S-004	Crush 50 g rhizome into powder and add to 5 l warm water. Drink enough to induce vomiting once daily for 3 days for good luck.
<i>Urginea delagoensis</i> Bak.	Hyacinthaceae	<i>Mahlanganisa / umhlabelo</i>	S-008	Crush 30 g bulb add to 1 l water and boil for 5 min. Take 2 tablespoon thrice daily for 7 days as laxative. Dry inner part of bulb and burn. Make incisions on the skin and rub in the ash from the bulb for bone fusion in fractures..
<i>Vernonia oligocephala</i> (DC)	Asteraceae	<i>Lihlunguhlungu</i>	S-044	Crush 30 g root and add to 2 l water. Drink about ½ cup twice daily for
Sch.Bip. ex Walp.				atleast 5 days for lower abdominal pains in women.

palpitations, ulcer and venereal diseases. The magico-medical conditions for which recipes were collected are good luck, removal of ill fortune and success in litigation.

These magico-medical conditions and the treatments for them can only be understood in the Swazis' traditional context of diseases and the spiritual world. [7] The phytomedicines have never been reported before in the ethnomedical survey of Swaziland. [4 - 6] It is also noteworthy that some of the medicinal plants reported for preparing the recipes have never been described in the flora of Swaziland. [8,9]

Cyperus fastigiatus Rottb (Cyperaceae) was given two voucher numbers, S-011 and S-051 because two recipes in which the species was used were given by two TMPs. The plant was therefore collected twice during the survey. *Pentanisia prunelloides* (Klotzch ex E. & Z.) Walp. (Rubiaceae) was given two codes, S-019 and S-054 for the same reason.

It is important to note that in these cases where different TMPs identified the same medicinal plant, the plant was known by the TMPs by the same names in siSwati. The skills of the TMPs for recognition and identification of medicinal are commendable and should be acknowledged. They are naturally endowed with the knowledge of identification of plants using different morphological features of the species.

It is equally noteworthy that although *Jacaranda mimosifolia* is native to Argentina and has been introduced for ornamental purposes, a TMP gave a recipe which contains parts of the plant thus showing that the indigenous knowledge used in traditional medicine is not limited to only indigenous plants. Although the practice of herbal medicine is very popular and is embraced by a very large proportion of the population in Swaziland, there is no national policy for the practice. Therefore, there is no regulatory control mechanism in the country for the practice as compared with the orthodox medical practice.

There are no mechanisms for monitoring the claims for efficacy and safety of products from traditional medical practice. The innocent public is therefore exposed to quacks and charlatans. Products from traditional medicine should go through the normal process involved in the scientific validation in drug development because human lives are at stake. There is need for a thorough scientific evaluation for safety and efficacy for each medicinal product from traditional medical practice.

The claim that a particular product has been used since time immemorial is not enough proof for its safety as medicine. The quality of each product ought to be ascertained and proof of safety and efficacy ought to be supported with authentic scientific data before public utilization of the product is authorised. Such screenings and data would assist in the development of traditional medical practice and its acceptability by the general public.

There is need to confront the prejudices of sceptics with convincing evidence of the usefulness of traditional medicine such that it could be integrated with orthodox medicine. This calls for more scientific research on herbal products especially in the areas of pharmacology and toxicity. It is high time each nation in Africa rose to the call by the Convention of Biological Diversity to know the extent of her biodiversity and design strategies for their sustainable and beneficial exploitation.[10] Research and development on herbal medicines could lead to novel pharmaceutical products for the benefit on humankind.

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References

1. WWF. (1993) WWF and the conservation of plants, World Wild Fund for Nature, CH-1196 Gland, Switzerland ; 4-10.
2. Makhubu LP. (2002) In: Makhubu LP, Amusan OOG, Shongwe MS. (Eds.) Proceedings of the workshop on the management of HIV/AIDS with traditional medicine, Kwaluseni, Swaziland; 1-3.
3. Mdluli K. (2002) In: Makhubu LP, Amusan OOG, Shongwe MS. (Eds.) Proceedings of the workshop on the management of HIV/AIDS with traditional medicine, Kwaluseni, Swaziland; 19-28.
4. Adeniji KO, Amusan OOG, Dlamini PS, Enow-Orock EG, Gamedze ST, Gbile ZO, Langa AD, Makhubu LP, Mahunnah RLA, Mshana RN, Sofowora A, Vilane MJ. (2001) Traditional medicine and pharmacopoeia contribution to ethno-botanical and floristic studies in Swaziland, OAU/STRC, Lagos.
5. Amusan OOG, Dlamini P, Msonthi JD, Makhubu LP, Dlamini BB. (2000) *UNISWA J. Agric, Science and Tech.* 4: 20-26.
6. Amusan OOG, Dlamini P, Msonthi JD, Makhubu LP. (2002) *J. Ethnopharmacol.* 79: 109 – 112.
7. Makhubu LP. (2003).In: Potsua B. (Ed.) Proceedings of 11th Conference of South African Association for Research in Mathematics, Science and Technology Education, Mbabane; 25-28.
8. Compton RN. (1976) *J. South African Botany* Supplement 2.
9. Dlamini B. (1981) Swaziland flora. Ministry of Agriculture and Cooperatives, Mbabane.
10. CBD. (1992) Convention of Biological Diversity Text and Annexes, Convention of Biological Diversity, Montreal; 12.