

Traditional herbal remedies used by South African women for gynaecological complaints

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Abstract

Traditional remedies are part of the cultural and religious life of the African people. In this manuscript the nature and range of traditional remedies used for female complaints in relation to gynaecological conditions and disorders is reviewed. A total of 156 medicinal plant species are documented as being used for gynaecological complaints in South Africa. These are presented in a table with the local name, part of the plant used and specific gynaecological treatment. Medicinal plant species which are potentially toxic are noted as are the compounds responsible for the toxicity and the feature(s) of poisoning. Traditional remedies used in South Africa for the treatment of gynaecological problems are compared to those used elsewhere in the world. This manuscript indicates that a wide spectrum of herbal traditional remedies are used to regulate the menstrual cycle, enhance fertility and as either abortifacients or antiabortifacients.

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1. Introduction

The use of herbal remedies is becoming increasingly popular all over the world. It is estimated that approximately 80% of the South African population use a traditional remedy at some stage in their life (Hutchings, 1989; Brandt and Muller, 1995). Traditional remedies are part of the cultural and religious life of the African people. Furthermore, this broad use of traditional medicine is attributable to its accessibility and affordability.

South Africa has a huge diversity of tribes which is reflected in the systems of medicine practised (Van Wyk et al., 1997). Traditional healers are most commonly known by the Zulu people as *inyangas* or herbalists and *isangomas* or diviners, however, the distinction between the two has become blurred, with both using herbal medication (Van Wyk et al., 1997). Practitioners in other groups are known as *ixwele* and *amaqira* (Xhosa), *nqaka* (Sotho) and *nanga*, *mungome* or *maine* (Vhavenda) (Mabogo, 1990; Van Wyk et al., 1997). Most elderly folk in rural areas have knowledge of herbal lore which they apply (mainly using plants in the vicinity), moreover, there are also faith healers who treat gynaecological and other health problems. In urban areas remedies are purchased at *muti* markets or shops. The

traditional medical practitioner pays special attention to the use of herbs in treating various diseases and relies on symptomatic diagnoses of disease (Mabogo, 1990). Some practitioners specialise in for example children's diseases or in women's fertility problems. The part of the plant used varies from one species to another, from practitioner to practitioner and depends on the nature and state of the disease (Mabogo, 1990).

A substantial number of South African women seek treatment from traditional healers for a variety of complications and disorders associated with the female reproductive and genital organs. This manuscript is an ethnobotanical literature survey of traditional herbal remedies used to treat gynaecological problems and disorders in South Africa.

2. Methodology

Details of plants used for the treatment of gynaecological disorders of women were obtained from published books and monographs. Traditional remedies described as being used for the following were noted: abortion, to prevent abortion (antiabortifacient), contraception, breast and uterine cancer, menstruation: irregular menstruation, painful menstruation (dysmenorrhoea), excessive or prolonged uterine bleeding (menorrhagia), absence of menstruation (amenorrhoea) and/or infertility (sterility). Plants used in the absence

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of menstruation, i.e. to renew or stimulate menstruation are also referred to as emmenagogues (menstrual regulator).

The potential toxicity of the plants used as traditional remedies, the toxic compounds and feature of poisoning were obtained from published books.

3. Results

Based on the literature review, 156 plant species distributed in 73 plant families are documented as being used by traditional healers in South Africa to treat gynaecological conditions and disorders. The plant species are presented in Table 1 in alphabetical order by family name, as are the species within each family. Vernacular names are supplied for most of the species in Zulu, Xhosa or Vhavenda. English names, where known, are provided.

Many plant species are used to treat more than one gynaecological complaint. The majority of species are used to treat infertility (90 species). Eighteen plants are used as abortifacients, seven as antiabortifacients and eight as contraceptives. Only one species was identified for treatment of cancer of the breast and uterus as well as for menopausal complaints. Menstrual disorders; amenorrhoea (15 species), dysmenorrhoea (44 species), menorrhagia (29 species) and irregular menstruation (4 species) are treated with a variety of plants.

Table 2 lists the plants which are known to be potentially toxic. The toxic compounds as well as the features of poisoning are included in the table.

4. Discussion

In South Africa the majority of plants are used to enhance fertility (58). Fertility is a dominant theme in the culture of black South Africans as it ensures preservation and propagation of the tribe (Veale et al., 1992). The latter may be the reason for the vast number of plants used to treat infertility. It is estimated that the prevalence rate of infertility in Africa lies between 30 and 50% in some areas (Belsey, 1976). A large family is regarded as insurance against hunger in old age (Krige, 1957). Barrenness is regarded as a disgrace, as procreation is expected to follow marriage (Katsoulis, 2000). A literature review compiled by Veale et al. (1992) revealed that 57 plant species are used during pregnancy and childbirth. Extracts of *Agapanthus africanus*, *Pentanasia prunelloides*, *Rhoicissus tridentata* and *Gunnera perpensa*, which are traditional remedies used during pregnancy and childbirth, have shown *A. africanus*, *P. prunelloides* and *R. tridentata* to exhibit direct smooth muscle activity on the isolated uterus and ileum of rats and *G. perpensa* to have direct smooth muscle activity on the uterus only (Kaido et al., 1997; Katsoulis et al., 2000). Pharmacological justification for the use of the aforementioned traditional remedies has thus been provided. Thirteen of the plant species identi-

fied by Veale et al. (1992) as being used in obstetrics are also used in gynaecology, specifically for the treatment of infertility: *Clivia miniata* (Amaryllidaceae), *Asclepias fruticosa* (Asclepiadaceae), *Callilepis laureola* and *Vernonia tigna* (Asteraceae), *G. perpensa* (Haloragaceae), *Gladiolus sericeovillosus* (Iridaceae), *Bowiea volubilis* (Hyacinthaceae), *Eulophia clavicornis* and *E. tenella* (Orchidaceae), *Pentanasia prunelloides* (Rubiaceae), *Grewia occidentalis* (Tiliaceae), *Typha capensis* (Typhaceae), *R. tridentata* (Vitaceae).

Only one species, *Catharanthus roseus* (Apocynaceae), has been documented as being used in the treatment of breast and uterine cancer (Van Wyk et al., 1997). The alkaloids vincristine and vinblastine have been isolated from this plant and are known for their antitumour activity (Bruneton, 1995). The incidence of breast cancer for black women is the lowest of all ethnic groups in South Africa and remains uncommon among urban dwellers (Walker et al., 1984; Hoffman et al., 2000). Eighteen plant species were documented as being used to induce abortion, which represents 12% of the medicinal plants listed. Although abortion has been legalised in South Africa, it is suspected that traditional healers will still be approached for help, for both cultural and economical reasons.

A plant known by a specific vernacular name in one region may be called by a different name in another. This also applies to various ethnic groups. This can lead to confusion since the same name is given for many plants or one plant is known by several names. Most names are related to the functional significance of the respective plants while others are derived from morphology, anatomy, habit relations, presence of chemical substances or responses to natural factors (Mabogo, 1990). Plants that produce abundant fruit or have profuse flowering, e.g. *Dombeya rotundifolia* (Hochst.) Planch. (wild pear, the “bride of the bushveld”) are usually used to treat infertility whereas plants with a reddish sap, e.g. *Pterocarpus angolensis* DC. (*bloodwood*), will be used to treat dysmenorrhoea, menorrhagia and related diseases (Mabogo, 1990). Similar remedies appear to be used as treatment for the same cause by the Zulu, Sotho and Xhosa (Veale et al., 1992). Although there are a few plants used by both the Zulu and Vhavenda people, the majority do not overlap. This finding is supported by Mabogo (1990) who mentions that certain species that are indispensable in Venda are virtually unused in other parts of South Africa.

Singh et al. (1984) studied folk medicine used for obstetric and gynaecological conditions and disorders by the Tongalese. The specific gynaecological conditions included: vaginal bleeding or discharge, infertility, menstrual problems (e.g. dysmenorrhoea, menorrhagia), dysuria (painful urination), breast disorders and false pregnancy. *Bidens pilosa* and *Cassytha filiformis* are the only two plant species used by both the Tongalese and South African traditional healers. However, in Tonga leaf infusions of both *B. pilosa* and *C. filiformis* are used to treat postpartum haemorrhage while in South Africa these plants are both used to treat

Table 1
Medicinal plants and their gynaecological uses in South Africa

| No. | Botanical family and species | Local name ^a | Plant part | Therapeutic indications | Reference |
|-----|--|--|---------------|---|---|
| | Acanthaceae | | | | |
| 1 | <i>Barleria randii</i> S. Moore | Not recorded No English name known | Root/leaves | Infertility Antiabortifacient | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| | Amaranthaceae | | | | |
| 2 | <i>Amaranthus caudatus</i> L. | Not recorded No English name known | Leaves | Abortifacient | Van Wyk and Gericke (2000) |
| 3 | <i>Pupalia</i> sp. | Isinama esibomvu sehlathi (Z) | Flowers | Infertility | Bryant (1966) |
| | Amaryllidaceae | | | | |
| 4 | <i>Clivia miniata</i> (Lindl.) Regel. | Umayime (Z) Orange lily (E) | Bulb | Infertility | Broster (1982) |
| | Anacardiaceae | | | | |
| 5 | <i>Lannea discolor</i> (Sond.) Engl. | Isiganganyane (Z) Muvhumbu (V) Live-long (E) | Root | Menorrhagia Infertility | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000), Arnold and Gulumian (1984) |
| 6 | <i>L. edulis</i> (Sond.) Engl. | Wild grape (E) | Root | Antiabortifacient Dysmenorrhoea | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| 7 | <i>Sclerocarya birrea</i> A. Rich. Hochst. | Mufula (V) Marula (E) | Bark | Infertility | Mabogo (1990) |
| | Annonaceae | | | | |
| 8 | <i>Artabotrys brachypetalus</i> Benth. | Mudzidzi (V) No English name known | Root | Infertility | Arnold and Gulumian (1984) |
| 9 | <i>Xylopia parviflora</i> (A. Rich.) Benth. | Muvhulavhusiku (V) No English name known | Root | Menorrhagia Dysmenorrhoea | Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| | Apocynaceae | | | | |
| 10 | <i>Acokanthera oppositifolia</i> (Lam.) Codd | Mutsilili (V) Common poison bush (E) | Root-bark | Menorrhagia Irregular menstruation | Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| 11 | <i>Catharanthus roseus</i> (L.) G. Don. | Isishushlungu (Z) Madagascar periwinkle (E) | Leaves | Breast cancer Uterine cancer | Van Wyk et al. (1997) Van Wyk et al. (1997) |
| 12 | <i>Holarrhena pubescens</i> (Buch. Ham.) Wall. | Makhuluwamuhatu (V) Fever pod (E) | Root | Infertility Amenorrhoea Abortifacient | Arnold and Gulumian (1984) Arnold and Gulumian (1984) Van Wyk and Gericke (2000) |
| 13 | <i>Tabernaemontana elegans</i> Stapf. | Mahatu (V) No English name known | Root | Menorrhagia Infertility | Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| | Araceae | | | | |
| 14 | <i>Zantedeschia aethiopica</i> (L.) Spreng. | Ndalunwepi (V) White arum lily (E) | Root | Infertility | Arnold and Gulumian (1984) |
| | Arecaceae | | | | |
| 15 | <i>Hyphaene coriacea</i> Gaertn. (previously known as <i>Hyphaene natalensis</i>) | Mulala (V) No English name known | Pith of trunk | Dysmenorrhoea | Arnold and Gulumian (1984) |
| | Aristolochiaceae | | | | |
| 16 | <i>Aristolochia heppii</i> Merxm. | Not recorded No English name known | Root | Abortifacient | Van Wyk and Gericke (2000) |
| | Asclepiadaceae | | | | |
| 17 | <i>Asclepias fruticosa</i> L. | Mutshulwa (V) Milkweed (E) | Root | Infertility | Mabogo (1990) |
| 18 | <i>Xysmalobium undulatum</i> (L.) Aiton F. | Ishongwe (Z; X) Milkwort (E) | Root | Dysmenorrhoea | Van Wyk and Gericke (2000), Van Wyk et al. (1997) |
| | Asparagaceae | | | | |
| 19 | <i>Asparagus buechananii</i> Bak. | Lufahlazamakole (V) No English name known | Leaves | Amenorrhoea | Arnold and Gulumian (1984) |
| | Asphodelaceae | | | | |
| 20 | <i>Aloe</i> sp. | | Unspecified | Contraceptive | Hutchings et al. (1996) |
| 21 | <i>Aloe chabaudii</i> Schon. | Inkalane (Z) Chabaud's aloe (E) | Leaves | Abortifacient | Van Wyk and Gericke (2000) |
| 22 | <i>A. christianii</i> Reyn. | Not recorded No English name known | Leaves | Abortifacient | Van Wyk and Gericke (2000) |
| 23 | <i>A. ferox</i> Mill. | Umhlaba (Z; X) Bitter aloe (E) | Leaves | Abortifacient | Van Wyk and Gericke (2000) |
| 24 | <i>A. rupestris</i> Bak. | Uphondonde (V) Rock aloe (E) | Root | Dysmenorrhoea | Bryant (1966) |

Table 1 (Continued)

| No. | Botanical family and species | Local name ^a | Plant part | Therapeutic indications | Reference |
|-----|--|---|----------------------|--|--|
| 25 | <i>Kniphofia uaria</i> (L.) Oken | Icacane (Z) Red-hot poker (E) | Rhizome/root | Dysmenorrhoea | Pujol (1990), Watt and Breyer-Brandwijk (1962) |
| | Asteraceae | | | | |
| 26 | <i>Artemisia afra</i> Jacq. ex Willd. | Umhlonyane (Z; X) African wormwood (E) | Unspecified | Dysmenorrhoea | Van Wyk and Gericke (2000) |
| 27 | <i>Aspilia pluriseta</i> Schweinf. | Not recorded No English name known | Root | Amenorrhoea | Van Wyk and Gericke (2000) |
| 28 | <i>Bidens pilosa</i> L. | Mushidzhi (V) Common black-jack (E) | Leaves | Menorrhagia Infertility | Mabogo (1990) Mabogo (1990) |
| 29 | <i>Callilepis laureola</i> DC. | Impila (Z) Ox-eye daisy (E) | Tuber | Infertility | Hulme (1954) |
| 30 | <i>Dicoma anomala</i> Sond. | Umuna (Z) Inyongana (X) No English name known | Root | Infertility | Watt and Breyer-Brandwijk (1962) |
| 31 | <i>D. zeyheri</i> Sond. | Tshitoni (V) Toy sugarbush (E) | Flowers/fruit | Infections related to infertility | Mabogo (1990) |
| 32 | <i>Helichrysum foetidum</i> (L.) Moench | Isicwe (Z) Everlastings (E) | Unspecified | Dysmenorrhoea | Hutchings et al. (1996) |
| 33 | <i>Schkuhria pinnata</i> (Lam.) Cabrera | Ruhwahwa (Z) Dwarf mexican marigold (E) | Whole plant | Abortifacient Contraceptive | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| 34 | <i>Vernonia amygdalina</i> Del. | Not recorded No English name known | Root | Infertility Amenorrhoea | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| 35 | <i>V. glabrerrima</i> (Steetz) Vatke | Not recorded No English name known | Root | Dysmenorrhoea | Van Wyk and Gericke (2000) |
| 36 | <i>V. myriantha</i> Hook. F. (previously known as <i>V. stipulacea</i>) | Mululudza (V) No English name known | Root | Contraceptive | Mabogo (1990) |
| 37 | <i>V. tigna</i> Klatt (previously known as <i>V. corymbosa</i>) | Phathaphathane (V) Umzane-wehlati (Z) No English name known | Leaves/root | Abortifacient Infertility Irregular menstruation | Mabogo (1990), Watt and Breyer-Brandwijk (1962) Bryant (1966) Watt and Breyer-Brandwijk (1962) |
| | Boraginaceae | | | | |
| 38 | <i>Ehretia rigida</i> (Thunb.) Druce | Mutepe (V) Puzzlebush (E) | Root | Infertility | Arnold and Gulumian (1984) |
| | Capparaceae | | | | |
| 39 | <i>Boscia foetida</i> Schinz | Umvithi (Z) Stink-bush (E) | Unspecified | Amenorrhoea | Van Wyk and Gericke (2000) |
| 40 | <i>Capparis tomentosa</i> Lam. | Umqoqolo (Z) Muoba-dali (V) | Root | Menorrhagia Infertility | Arnold and Gulumian (1984) Van Wyk and Gericke (2000), Arnold and Gulumian (1984), Bryant (1966), Hutchings et al. (1996) |
| 41 | <i>Maerua cafra</i> (DC.) Pax | Wooly caper-bush (E) Mukundulela (V) No English name known | Root | Antiabortifacient Menorrhagia Infertility | Van Wyk and Gericke (2000) Arnold and Gulumian (1984), Mabogo (1990) Arnold and Gulumian (1984) |
| | Celastraceae | | | | |
| 42 | <i>Elaeodendron transvaalense</i> (Burt Davy) R.H. Archer (previously known as <i>Cassine transvaalensis</i>) | Umgugudo (Z) No English name known | Bark | Dysmenorrhoea | Van Wyk (1972) |
| | Clusiaceae | | | | |
| 43 | <i>Garcinia livingstonei</i> T. Anderson | Muphiphi (V) Livingstone's garcinia (E) | Root | Contraceptive | Mabogo (1990) |
| | Colchicaceae | | | | |
| 44 | <i>Gloriosa virescens</i> Lindl. | Ihlamvu (Z) Flame lily (E) | (a) Root (b) Bulb | Infertility Infertility | Bryant (1966), Broster (1982) Bryant (1966) |

Table 1 (Continued)

| No. | Botanical family and species | Local name ^a | Plant part | Therapeutic indications | Reference |
|------------------|---|--|------------------------|--|--|
| Combretaceae | | | | | |
| 45 | <i>Combretum erythrophyllum</i> (Burch.) Sond. | Muvuvhu (V) Bushveld willow (E) | Bark | Infertility Antiabortifacient | Mabogo (1990) Mabogo (1990) |
| 46 | <i>C. imberbe</i> Wawra | Mudzwiri (V) Leadwood (E) | Root | Infertility | Mabogo (1990) |
| 47 | <i>C. molle</i> R. Br. ex G. Don. | Mugwiti (V) Velvet bush willow (E) | Root | Infertility | Mabogo (1990) |
| 48 | <i>C. paniculatum</i> Vent. | Mukopo-kopo (V) Flame creeper (E) | Root | Infertility Menorrhagia | Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| 49 | <i>Terminalia sericea</i> Burch. ex DC. | Mususu (V) Silver cluster leaf (E) | (a) Root (b) Leaves | Infertility Menorrhagia | Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| Commelinaceae | | | | | |
| 50 | <i>Commelina africana</i> L. | Ucolane (Z) | Root | Infertility | Watt and Breyer-Brandwijk (1962) |
| | | Lekzotswana (X) Yellow Commelina (E) | | Dysmenorrhoea | Van Wyk and Gericke (2000) |
| 51 | <i>C. benghalensis</i> L. | Idangabane (Z) Uhlotsane (X) Benghal Commelina (E) | Unspecified | Infertility | Van Wyk and Gericke (2000) |
| 52 | <i>Cyanotis speciosa</i> (L. F.) Hassk. | Ingonga (Z) Umagoswana (X) Doll's powderpuff (E) | Root | Infertility Dysmenorrhoea | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| Cupressaceae | | | | | |
| 53 | <i>Widdringtonia nodiflora</i> (L.) Powrie (previously known as <i>W. cupressoides</i>) | Thaululo (V) Mountain cypress (E) | Root | Menstruation: unknown | Mabogo (1990) |
| Cyperaceae | | | | | |
| 54 | <i>Cyperus esculentus</i> L. | Indawo (Z) Yellow nut sedge (E) | Root | Amenorrhoea Infertility | Bryant (1966) Bryant (1966) |
| Dennstaedtiaceae | | | | | |
| 55 | <i>Pteridium aquilinum</i> (L.) Kuhn | Umhlahoshana (Z) Bracken fern (E) | Root | Irregular menstruation Abortifacient | Watt and Breyer-Brandwijk (1962) Watt and Breyer-Brandwijk (1962) |
| Dipsacaceae | | | | | |
| 56 | <i>Scabiosa columbaria</i> L. | Igwalaza (Z) Makgha (X) Wild scabious (E) | Root | Infertility Dysmenorrhoea | Watt and Breyer-Brandwijk (1962), Pooley (1998) Hutchings et al. (1996), Pooley (1998) |
| Ebenaceae | | | | | |
| 57 | <i>Diospyros lycioides</i> Desf. | Umbulwa (Z) Bluebush (E) | Root | Infertility | Stayt (1968) |
| 58 | <i>D. whyteana</i> (Hiern) F. White | Umtimatane (Z) Black bark (E) | Unspecified | Dysmenorrhoea Infertility | Bryant (1966) Bryant (1966) |
| 59 | <i>Euclea crispa</i> Thunb. Gürke | Umgwali (Z) Blue guarri (E) | Leaves | Dysmenorrhoea | Jacot Guillarmod (1971) |
| 60 | <i>E. natalensis</i> A. DC. | Mutangule-thavha (V) Umzimane (Z) Natal guarri (E) | Root | Infertility Abortifacient Amenorrhoea Dysmenorrhoea | Arnold and Gulumian (1984) Arnold and Gulumian (1984) Arnold and Gulumian (1984) Pujol (1990) |
| 61 | <i>E. schimperi</i> (A. DC.) Dandy | Idungamuzi (Z) Bush guarri (E) | Bark | Dysmenorrhoea | Watt and Breyer-Brandwijk (1962) |
| Equisetaceae | | | | | |
| 62 | <i>Equisetum ramosissimum</i> Desf. | Isikhumukele (Z) Horsetail-fern (E) | Rhizome | Infertility | Jacot Guillarmod (1971) |
| Erioseptaceae | | | | | |
| 63 | <i>Erioseptum flagelliforme</i> (Baker) J.C. Manning (previously known as <i>E. abyssinicum</i>) | Insulansula (Z) No English name known | Tuber | Antiabortifacient | Van Wyk and Gericke (2000) |

Table 1 (Continued)

| No. | Botanical family and species | Local name ^a | Plant part | Therapeutic indications | Reference |
|------------------|--|--|----------------------|---|---|
| Euphorbiaceae | | | | | |
| 64 | <i>Acalypha villicaulis</i> Hochst. ex A. Rich. (previously known as <i>A. petiolaris</i>) | Umpendulo (Z) | Root | Abortifacient | Watt and Breyer-Brandwijk (1962) |
| | | Heart-leaved brooms and brushes (E) | | Contraceptive | Watt and Breyer-Brandwijk (1962) |
| 65 | <i>Antidesma venosum</i> E. Mey. ex Tul. | Mupalakhwali (V) Tassle berry (E) | Root | Infertility Menorrhagia Dysmenorrhoea | Arnold and Gulumian (1984) Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| 66 | <i>Bridelia micrantha</i> (Hochst.) Baill. | Munzere (V) Coastal golden-leaf (E) | Bark | Abortifacient | Van Wyk and Gericke (2000), Arnold and Gulumian (1984) |
| 67 | <i>Monadenium lugardae</i> N. E. Br. | Umhuwa (Z) Monadenium (E) | Tuber | Abortifacient | Hutchings et al. (1996) |
| Fabaceae | | | | | |
| 68 | <i>Albizia brevifolia</i> Schinz | Mutsilari (V) No English name known | Root | Amenorrhoea | Arnold and Gulumian (1984) |
| 69 | <i>Bauhinia galpinii</i> N. E. Br. | Umhuwa (Z) Mutswiriri (V) Pride of the Cape (E) | (a) Root (b) Seed | Infertility Amenorrhoea | Arnold and Gulumian (1984) Van Wyk and Gericke (2000) |
| 70 | <i>B. petersiana</i> Bolle | Not recorded No English name known | Root | Infertility Dysmenorrhoea | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| 71 | <i>B. thonningii</i> Schumach | Picture-frame tree (E) | Leaves | Menorrhagia | Van Wyk and Gericke (2000) |
| 72 | <i>Burkea africana</i> Hook. | Wild seringa (E) | Bark | Menorrhagia | Van Wyk and Gericke (2000) |
| 73 | <i>Cassia abbreviata</i> Oliver | Isinyembane (Z) Long-pod Cassia (E) | Root | Abortifacient Menorrhagia | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| 74 | <i>Dichrostachys cinerea</i> (L.) Wright & Arn. | Murenzhe (V) Sickle bush (E) | Root | Infertility | Arnold and Gulumian (1984) |
| 75 | <i>Elephantorrhiza burkei</i> Benth. | Musesevhuva (V) Umdabu (Z) No English name known | Root | Abortifacient | Arnold and Gulumian (1984), Hutchings et al. (1996), Watt and Breyer-Brandwijk (1962) |
| 76 | <i>Eriosema cordatum</i> E. Mey. | Uqontsi (Z) Heart-leaved Eriosema (E) | Root | Infertility | Bryant (1966) |
| 77 | <i>Indigofera antunesiana</i> Harms | Not recorded No English name known | Root | Dysmenorrhoea | Van Wyk and Gericke (2000) |
| 78 | <i>I. arrecta</i> Hochst. ex A. Rich. | Isiphungo (Z) African indigo (E) | Root | Infertility Dysmenorrhoea | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| 79 | <i>I. rhynchoarpa</i> Welw. ex Bak. | Not recorded No English name known | Unspecified | Dysmenorrhoea | Van Wyk and Gericke (2000) |
| 80 | <i>Peltophorum africanum</i> Sond. | Musese (V) Weeping wattle (E) | Root | Menorrhagia Infertility | Arnold and Gulumian (1984) Palmer and Pitman (1972) |
| 81 | <i>Pterocarpus angolensis</i> DC. | Mutondo (V) Wild teak (E) | (a) Bark (b) Root | Amenorrhoea Menorrhagia Amenorrhoea | Mabogo (1990) Mabogo (1990) Arnold and Gulumian (1984) |
| 82 | <i>Senna petersiana</i> (Bolle) Lock (previously known as <i>Cassia petersiana</i>) | Muembenembe (V) No English name known | Root | Infertility | Mabogo (1990) |
| 83 | <i>Vigna unguiculata</i> (L.) Walp. | Isikhwali (Z) Wild cow pea (E) | (a) Seed (b) Root | Amenorrhoea Dysmenorrhoea | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| Flacourtiaceae | | | | | |
| 84 | <i>Dovyalis caffra</i> (Hook. F. & Harv.) Hook. F. | Mutunu (V) Kei apple (E) | Thorns | Amenorrhoea | Arnold and Gulumian (1984) |
| 85 | <i>Oncoba spinosa</i> Forssk. | Mutuzwu (V) No English name known | Root | Infertility | Arnold and Gulumian (1984) |
| Geraniaceae | | | | | |
| 86 | <i>Geranium incanum</i> Burm. F. | Isikhwali (Z) No English name known | Leaves | Menstruation unspecified | Van Wyk and Gericke (2000), Van Wyk et al. (1997) |
| Haloragaceae | | | | | |
| 87 | <i>Gunnera perpensa</i> L. | Uxobo (Z; X) River pumpkin (E) | Root | Dysmenorrhoea Infertility | Van Wyk and Gericke (2000) Bryant (1966) |
| Heteropyxidaceae | | | | | |
| 88 | <i>Heteropyxis natalensis</i> Harv. | Mudedede (V) Lavender tree (E) | Root | Menorrhagia | Arnold and Gulumian (1984) |

Table 1 (Continued)

| No. | Botanical family and species | Local name ^a | Plant part | Therapeutic indications | Reference |
|-----|--|---|-------------|---|--|
| 89 | Hyacinthaceae <i>Bowiea volubilis</i> Harv. ex Hook. F. | Ugibisisila (Z) Umgaqana (X) Climbing potato (E) | Bulbs | Infertility Abortifacient | Pujol (1990), Batten and Bokelmann (1966) Hutchings et al. (1996) |
| 90 | Hypoxidaceae <i>Hypoxis colchicifolia</i> Bak. (previously known as <i>H. latifolia</i>) | Ingcobo (Z) Broad-leaved Hypoxis (E) | Corms | Infertility | Bryant (1966), Pooley (1998) |
| 91 | Icacinaeae <i>Pyrenacantha scandens</i> Planch. ex Harv. | Unginakile (Z) No English name known | Root | Antiabortifacient Infertility | Bryant (1966) Bryant (1966), Watt and Breyer-Brandwijk (1962) |
| 92 | Iridaceae <i>Crocoshia paniculata</i> (Klatt) Goldblatt | Undwendweni (Z) Falling stars (E) | Corms | Infertility | Hutchings et al. (1996) |
| 93 | <i>C. pottsii</i> (Macnab ex Baker) N. E. Br. | Undwendweni (Z) Slender Crocosmia (E) | Corms | Infertility | Hutchings et al. (1996) |
| 94 | <i>Gladiolus ludwigii</i> Pappe ex Baker | Isidwa (Z) No English name known | Root | Infertility Dysmenorrhoea | Bryant (1966) Bryant (1966) |
| 95 | <i>G. sericeovillosus</i> Hook. F. | Umlunge (Z) | Root | Dysmenorrhoea | Bryant (1966), Hutchings et al. (1996), Pujol (1990) |
| 96 | <i>Moraea spathulata</i> (L. F.) Klatt | Large speckled Gladiolus (E) Ingqunda (Z) Large yellow Moraea (E) | Corms | Infertility Infertility | Hutchings et al. (1996) Hulme (1954) |
| 97 | Lamiaceae <i>Leonotis nepetifolia</i> (L.) R. Br. | Umunyane (Z) No English name known | Leaves | Abortifacient | Van Wyk and Gericke (2000) |
| 98 | <i>L. leonorus</i> (L.) R. Br. | Imunyamunya (Z) Wild dagga (E) | Unspecified | Amenorrhoea | Watt and Breyer-Brandwijk (1962) |
| 99 | Lauraceae <i>Cassytha filiformis</i> L. | Luangalala (V) False dodder (E) | Root | Menorrhagia Infertility | Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| 100 | <i>Cryptocarya latifolia</i> Sond. | Umthungwa (Z) Wild quince (E) | Bark | Dysmenorrhoea | Hutchings et al. (1996) |
| 101 | Maesaceae <i>Maesa lanceolata</i> Forssk. | Muunguri (V) False assegai (E) | Root | Infertility | Arnold and Gulumian (1984) |
| 102 | Malpighiaceae <i>Sphedamocarpus galphimifolius</i> Szyszyl. | Tsimambe (V) No English name known | Root | Menorrhagia Infertility | Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| 103 | Malvaceae <i>Hibiscus vitifolius</i> L. | Muhwidzi (V) Hibiscus (E) | Root | Infertility | Arnold and Gulumian (1984) |
| 104 | Meliantaceae <i>Bersama lucens</i> (Hochst.) Szyszyl. | Undiyaza (Z) Glossy bersama (E) | Bark | Dysmenorrhoea Infertility | Bryant (1966) Bryant (1966) |
| 105 | Menispermaceae <i>Cissampelos mucronata</i> A. Rich. | Umbombo (Z) Heart-leaved vine (E) | Root | Dysmenorrhoea Infertility Menorrhagia | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| 106 | Moraceae <i>Ficus sur</i> Forssk. | Umkhiwane (Z) Broom cluster fig (E) | Root | Antiabortifacient Infertility | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| 107 | Myricaceae <i>Morchella serrata</i> Lam. (previously known as <i>Myrica serrata</i>) | Umlulama (Z) No English name known | Unspecified | Dysmenorrhoea | Watt and Breyer-Brandwijk (1962) |
| 108 | Myrtaceae <i>Syzygium cordatum</i> Hochst. ex Sond. | Mutu (V) Waterberry (E) | Root | Amenorrhoea | Arnold and Gulumian (1984) |

Table 1 (Continued)

| No. | Botanical family and species | Local name ^a | Plant part | Therapeutic indications | Reference |
|-----|---|--|------------|------------------------------------|--|
| | Nymphaeaceae | | | | |
| 109 | <i>Nymphaea nouchali</i> Burm. F. (previously known as <i>N. capensis</i>) | Shamboda (V) Water lily (E) | Root | Infertility | Arnold and Gulumian (1984) |
| | Ochnaceae | | | | |
| 110 | <i>Brackenridgea zanguebarica</i> Oliver | Mutavhatsindi (V) No English name known | Root | Amenorrhoea | Arnold and Gulumian (1984) |
| 111 | <i>Ochna natalitia</i> (Meinsn.) Walp. | Umshelele (Z) Cape plane (E) | Root | Infertility | Palmer and Pitman (1972) |
| | Olacaceae | | | | |
| 112 | <i>Ximenia americana</i> L. | Mutanzwa-tanzwane (V) Blue sourplum (E) | Root | Menorrhagia | Arnold and Gulumian (1984) |
| 113 | <i>Ximenia caffra</i> Sond. | Umthunduluka (Z) Mutanzwa (V) Sourplum (E) | Root | Infertility Menorrhagia | Van Wyk and Gericke (2000), Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| | Orchidaceae | | | | |
| 114 | <i>Disa aconitoides</i> Sond. | Umashushu (Z) No English name known | Root | Infertility | Hulme (1954) |
| 115 | <i>Eulophia arenaria</i> Lindl. | Undwendweni (Z) No English name known | Root | Infertility | Bryant (1966) |
| 116 | <i>E. clavicornis</i> Lindl. | Eluhlaza (Z) No English name known | Tubers | Infertility | Pooley (1998) |
| 117 | <i>E. cucullata</i> (Afzel. ex Swartz) Steudel | Undwendweni (Z) Bell orchid (E) | Root | Infertility | Hulme (1954) |
| 118 | <i>E. ovalis</i> Lindl. | Iphamba (Z) No English name known | Tubers | Infertility | Hutchings et al. (1996) |
| 119 | <i>E. tenella</i> Reichb. F. | Untongazibomvana (Z) No English name known | Tubers | Infertility | Hutchings et al. (1996), Watt and Breyer-Brandwijk (1962) |
| | Passifloraceae | | | | |
| 120 | <i>Adenia gummifera</i> (Harv.) Harms | Bopha (V) No English name known | Root | Infertility Menorrhagia | Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| | Pedaliaceae | | | | |
| 121 | <i>Ceratotheca triloba</i> (Bernh.) Hook. F. | Udonqabathwa (Z) Wild foxglove (E) | Leaves | Abortifacient Dysmenorrhoea | Van Wyk and Gericke (2000) Watt and Breyer-Brandwijk (1962), Pooley (1998) |
| 122 | <i>Harpagophytum procumbens</i> (Burch.) DC. | Devil's claw (E) | Tubers | Infertility Dysmenorrhoea | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| | Phytolaccaceae | | | | |
| 123 | <i>Phytolacca dodecandra</i> L. Hér. | Umahedeni (Z) No English name known | Root | Infertility | Hutchings et al. (1996) |
| | Piperaceae | | | | |
| 124 | <i>Piper capense</i> L. F. | Mulilwe (V) Wild pepper (E) | Bark | Infertility | Arnold and Gulumian (1984) |
| | Poaceae | | | | |
| 125 | <i>Cenchrus ciliaris</i> L. | Indungulu (Z) Buffalo grass (E) | Runners | Dysmenorrhoea | Pujol (1990) |
| 126 | <i>Eragrostis plana</i> Nees. | Umvithi (Z) Ox grass (E) | Root | Menorrhagia | Bryant (1966) |
| | Polygalaceae | | | | |
| 127 | <i>Securidaca longipendunculata</i> Fresen. | Mpesu (V) Violet tree (E) | Root | Dysmenorrhoea Contraceptive | Van Wyk and Gericke (2000), Watt and Breyer-Brandwijk (1962) Arnold and Gulumian (1984), Netshungani (1981) |
| | Polygonaceae | | | | |
| 128 | <i>Rumex lanceolatus</i> Thunb. | Idololenkonyane (Z) Idolonyana (X) Smooth dock (E) | Rhizome | Infertility | Watt and Breyer-Brandwijk (1962) |
| | Rhamnaceae | | | | |
| 129 | <i>Berchemia discolor</i> (Klotzsch) Hemsl. | Munyee (V) Wild almond (E) | Root | Infertility Menorrhagia | Arnold and Gulumian (1984) Arnold and Gulumian (1984) |

Table 1 (Continued)

| No. | Botanical family and species | Local name ^a | Plant part | Therapeutic indications | Reference |
|-----|---|--|-------------|--|--|
| 130 | <i>Ziziphus mucronata</i> Willd. | Mukhalu (V) Buffalo thorn (E) | Root | Menorrhagia Infertility | Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| | Rubiaceae | | | | |
| 131 | <i>Kohautia amatymbica</i> Eckl. & Zeyh. | Umlungulo (Z) Labantwana (X) Tremble tops (E) | Unspecified | Infertility | Hutchings et al. (1996), Watt and Breyer-Brandwijk (1962) |
| 132 | <i>Pentanisia prunelloides</i> (Klotzch ex Eckl. & Zeyh.) Walp. | Icimamilo (Z; X) | Root | Dysmenorrhoea | Van Wyk and Gericke (2000) |
| | | Broad-leaved <i>Pentanisia</i> (E) | | | |
| 133 | <i>Rubia cordifolia</i> L. | Umalibombo (Z) Sticky-leaved <i>Rubia</i> (E) | Root | Menorrhagia Amenorrhoea | Hutchings et al. (1996), Pooley (1998) Watt and Breyer-Brandwijk (1962), Pooley (1998) Bryant (1966) |
| 134 | <i>Vangueria infausta</i> Burch. | Muzwilu (V) Wild medlar (E) | Root | Infertility Infertility Menstruation: unknown | Mabogo (1990) Watt and Breyer-Brandwijk (1962) |
| | Rutaceae | | | | |
| 135 | <i>Agathosma betulina</i> (P.J. Bergius) Pillans | Round-leaf Buchu (E) | Unspecified | Dysmenorrhoea | Van Wyk and Gericke (2000) |
| 136 | <i>Vepris lanceolata</i> (Lam.) G. Don. | Muhondwa (V) Ironwood (E) | Root | Infertility Menorrhagia | Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| 137 | <i>Zanthoxylum capense</i> (Thunb.) Harv. | Umlungumabele (Z; X) Small knobwood (E) | Root | Infertility | Hutchings et al. (1996) |
| | Santalaceae | | | | |
| 138 | <i>Osyris lanceolata</i> Hochst. & Steudel | Mpetu (V) No English name known | Root | Menorrhagia Infertility | Arnold and Gulumian (1984) Arnold and Gulumian (1984) |
| | Sapotaceae | | | | |
| 139 | <i>Englerophytum magalismontanum</i> (Sond.) T.D. Penn. (previously known as <i>Bequaerti dendron magalismontanum</i>) | Munombelo (V) Transvaal milkplum (E) | Unspecified | Contraceptive | Mabogo (1990) |
| | Scrophulariaceae | | | | |
| 140 | <i>Graderia scabra</i> (L. F.) Benth. | Ugweje (Z) Wild penstemon (E) | Unspecified | Abortifacient Dysmenorrhoea | Watt and Breyer-Brandwijk (1962) Watt and Breyer-Brandwijk (1962) |
| 141 | <i>Jamesbrittenia kraussiana</i> (Bernh.) Hilliard (previously known as <i>Sutera kraussiana</i>) | Usikisiki omhlophe (Z) No English name known | Leaves | Dysmenorrhoea | Hulme (1954) |
| 142 | <i>Sutera floribunda</i> (Benth.) Kuntze. | Usikisiki Iwehlathi (Z) No English name known | Leaves | Dysmenorrhoea | Hulme (1954) |
| | Solanaceae | | | | |
| 143 | <i>Solanum hermannii</i> Dun. | Umthuma (Z) No English name known | Root-bark | Infertility | Bryant (1966) |
| 144 | <i>S. mauritanum</i> Scop. | Umtotovane (Z) Bug tree (E) | Root | Menorrhagia | Hutchings et al. (1996) |
| | Sterculiaceae | | | | |
| 145 | <i>Dombeya rotundifolia</i> (Hochst.) Planch. | Tshiluvhari (V) Wild plum (E) | Root | Infertility | Mabogo (1990) |
| | Strychnaceae | | | | |
| 146 | <i>Strychnos henningsii</i> Gilg. | Umqaloti (Z) Umnonono (X) Natal teak (E) | Bark | Dysmenorrhoea | Hutchings et al. (1996) |
| 147 | <i>S. madagascariensis</i> Poiret | Mukwakwa (V) Black monkey orange (E) | Bark | Dysmenorrhoea | Arnold and Gulumian (1984) |
| | Tiliaceae | | | | |
| 148 | <i>Grewia flavescens</i> Juss. | Muparatsheni (V) No English name known | Root | Infertility | Mabogo (1990) |

Table 1 (Continued)

| No. | Botanical family and species | Local name ^a | Plant part | Therapeutic indications | Reference |
|---------------|---|--|-------------|---------------------------------------|--|
| 149 | <i>G. microthyrsa</i> K. Schum. ex Burret | Mupfuka (V) No English name known | Root | Infertility | Arnold and Gulumian (1984) |
| 150 | <i>G. occidentalis</i> L. | Iklolo (Z) Cross-berry (E) | Unspecified | Infertility | Bryant (1966) |
| Typhaceae | | | | | |
| 151 | <i>Typha capensis</i> (Rohrb.) N. E. Br. | Ibuma (Z) Bullrush (E) | Rhizome | Dysmenorrhoea Infertility | Van Wyk et al. (1997), Van Wyk and Gericke (2000), Van Wyk et al. (1997) Van Wyk et al. (1997) |
| Urticaceae | | | | | |
| 152 | <i>Pouzolzia mixta</i> Solms | Udekane (Z) Soap-nettle (E) | Root | Infertility Contraceptive | Van Wyk and Gericke (2000) Van Wyk and Gericke (2000) |
| 153 | <i>Urtica urens</i> L. | Imbhabazane (Z) Stinging nettle (E) | Unspecified | Infertility | Bryant (1966) |
| Viscaceae | | | | | |
| 154 | <i>Viscum capense</i> L. F. | Iphakama (Z) Cape mistletoe (E) | Root | Irregular menstruation Menorrhagia | Laidler (1926), Kling (1923) Laidler (1926), Kling (1923) |
| Vitaceae | | | | | |
| 155 | <i>Rhoicissus tridentata</i> (L. F.) Wild & R.B. Drumm. | Umthwazi (Z) Mutumbula mbudzana (V) Wild grape (E) | Tuber | Infertility Dysmenorrhoea | Van Wyk and Gericke (2000), Arnold and Gulumian (1984), Bryant (1966), Pujol (1990) Van Wyk and Gericke (2000), Bryant (1966) |
| Zingiberaceae | | | | | |
| 156 | <i>Siphonochilus aethiopicus</i> (Schweinf.) B.L. Burt | Isiphephetho (Z) Wild ginger (E) | Rhizome | Amenorrhoea Dysmenorrhoea | Pujol (1990) Van Wyk and Gericke (2000) |

^a Local name: Z, Zulu; V, Vhavenda; X, Xhosa; E, English.

menorrhagia and infertility (Singh et al., 1984; Arnold and Gulumian, 1984). Other similarities included the genera *Diospyros*, *Hibiscus*, *Syzygium* and *Piper*, however, there were differences in the species used for treatment. Interestingly, the overlap in the medicinal plants are specifically between the Vhavenda and Tongalese and not the Zulu people. Other similarities in use of genera (*Amaranthus*, *Aloe*, *Artemisia*, *Leonotis*, *Urtica*, *Viscum*) can be found between the Dominican healing system in New York City and South Africa (Ososki et al., 2002). There are however differences in the species and the specific women's condition treated. *Harpagophytum procumbens* and *Ximenia caffra* are used to enhance fertility in both South Africa and Botswana (Anderson and Staugard, 1986). The genera *Antidesma*, *Hibiscus* and *Piper* are used in both Malaysia and South Africa for treating gynaecological disorders (Ling and Ng, 1998). However, once again the species and the specific disorder treated differ.

Plants belonging to 73 plant families are used as treatment for gynaecological disorders. As expected based on the family size and abundance, the most common plant families reported are the Fabaceae (14 species) and Asteraceae (12 species). The chemistry of each family has been documented in detail by Hutchings et al. (1996). The plants which are potentially toxic are listed in Table 2. It is important that the correct part of the plant is collected since a specific part may be toxic whilst another may have no

harmful effect due to a difference in the concentration of active ingredients in different parts of the plant. Roots are used in 57% of cases to prepare the remedy, leaves in 11% of cases and bark in 9% of cases. Some remedies are prescribed by healers as mixtures. Two plants are identified to genus, *Aloe* sp. and *Pupalia* sp., since various species are used in treatment but are not specified by the particular author.

Dosage form as well the method of preparation and administration are very important. The Vhavenda most often prepare a decoction of the plant part in the form of a soft porridge (Arnold and Gulumian, 1984). *Adenia gumifera* (Passifloraceae), *Xylopi parviflora* (Annonaceae) and *Elephantorrhiza burkei* (Fabaceae) are used as vaginal douches and *Kniphofia uvaria* (Asphodelaceae) and *Euclea schimperi* (Ebenaceae) are administered as enemas. The genitals are steamed with *Artemisia afra* (Asteraceae) to relieve menstrual cramps. In eight instances the plant part is burnt and the smoke directed into either the vagina (*Barleria randii*) or the vulva (*Tabernaemontana elegans*, *Acokanthera oppositifolia*, *Asparagus buchananii*, *Capparis tomentosa*, *Maerua caffra*, *Berchemia discolor*, *Osyris lanceolata*). Powdered plant material is also applied to underwear: *Albizia brevifolia*, *Brackenridgea zanguebarica* and *P. angolensis*, all for the treatment of amenorrhoea. The rest of the medicinal plants are prepared as either infusions or decoctions which are taken orally.

Table 2
Potentially toxic plants used in traditional remedies taken for gynaecological disorders and complaints^a

| Botanical family and species | Toxic compounds | Features of poisoning |
|----------------------------------|--|--|
| Amaryllidaceae | | |
| <i>Clivia miniata</i> | Lycorine (isoquinoline alkaloid) | Paralysis, collapse |
| Apocynaceae | | |
| <i>Acokanthera oppositifolia</i> | Acovenoside A Cardenolide (cardiac glycoside) | Heart failure due to cardiac abnormalities |
| <i>Catharanthus roseus</i> | Catharanthine (indole alkaloid) Vinblastine | Hypoglycaemia, neurotoxic |
| Araceae | | |
| <i>Zantedeschia aethiopica</i> | Proanthocyanidin polymers | Toxic in rabbits |
| Asclepiadaceae | | |
| <i>Asclepias fruticosa</i> | Cardenolide (cardiac glycoside) Gomphoside, afroside | Respiratory problems, weak heartbeat |
| Asteraceae | | |
| <i>Callilepis laureola</i> | Atractyloside (diterpenoid) | Hypoglycaemia, strychnine-like symptoms |
| <i>Vernonia</i> sp. | Vernonin (glycoside) | Cardiotonic action in dogs |
| Capparaceae | | |
| <i>Boscia foetida</i> | Unidentified (? hydrocyanic acid) | Toxic to sheep: haemorrhagic diarrhoea |
| Colchicaceae | | |
| <i>Gloriosa virescens</i> | Colchicine (alkaloid) | Respiratory failure, renal failure, convulsions |
| Combretaceae | | |
| <i>Combretum erythrophyllum</i> | Unidentified | Abdominal pain, vomiting, confusion |
| Dennstaedtiaceae | | |
| <i>Pteridium aquilinum</i> | Ptaquiloside (sesquiterpenoid) Thiaminase (enzyme) | Carcinogenic and mutagenic: destroys bone marrow leading to internal bleeding |
| Equisetaceae | | |
| <i>Equisetum ramosissimum</i> | Palustrine (macrocyclic alkaloid) Thiaminase (enzyme) | Toxic to sheep, cattle, horses: leads to vitamin deficiency, i.e. nervousness, lack of co-ordination |
| Euphorbiaceae | | |
| <i>Antidesma venosum</i> | Unidentified | |
| <i>Bridelia micrantha</i> | ? Delphinidin, ? methyl salicylate | Death occurred within 4 h of ingestion |
| <i>Monadenium lugardiae</i> | Latex: compound unidentified | Haemorrhagic gastroenteritis, cirrhosis of the liver, hallucinations |
| Fabaceae | | |
| <i>Indigofera</i> sp. | Hydrocyanic acid, indican | Toxic to cattle |
| Hyacinthaceae | | |
| <i>Bowiea volubilis</i> | Bufadienolide (cardiac glycoside) Bovoside A | Irregular heart palpitations |
| Iridaceae | | |
| <i>Moraea spathulata</i> | Bufadienolide (cardiac glycoside) | Heart failure |
| Melianthaceae | | |
| <i>Bersama lucens</i> | Bufadienolide (cardiac glycoside) | Not given. Led to death |
| Olaceae | | |
| <i>Ximenia americana</i> | Hydrocyanic acid | Not given. Led to death |
| Passifloraceae | | |
| <i>Adenia gummifera</i> | Modeccin | Acute centrilobular necrosis, hypoglycaemia |
| Phytolaccaceae | | |
| <i>Phytolacca dodecandra</i> | Oleanoglycotoxin A (triterpenoid) Lemmatoxin ? Lectins | Abdominal swelling, acceleration of pulse, inebriation |
| Solanaceae | | |
| <i>Solanum hermannii</i> | Solanine (steroid alkaloid) | Fever, dizziness, hallucinations |
| Strychnaceae | | |
| <i>Strychnos</i> sp. | Strychnine (indole alkaloid) | Strychnine-like effects |
| Vitaceae | | |
| <i>Rhoicissus tridentata</i> | Unidentified | Paralysis of central nervous system leading to respiratory arrest |

^a Based on Watt and Breyer-Brandwijk (1962), Hutchings et al. (1996), Van Wyk et al. (1997), Van Wyk et al. (2002).

Varied usage of plants is found in a specific plant family. The exception being the families Orchidaceae and Tiliaceae where all representing species are used to treat infertility. Sixty one plants have multiple uses in gynaecology. All the *Aloe* sp., with the exception of *A. rupestris* are used as abortifacients due to the purgation induced by anthroquinones (Van Wyk and Gericke, 2000). The Zulu use various *Bauhinia* sp. (Fabaceae) for the treatment of different gynaecological disorders. A decoction of the seed of *B. galpinii* is taken orally to stimulate menstruation in amenorrhoea whereas a root infusion of *B. petersiana* is taken orally for menstrual cramps and infertility and leaf infusions of *B. thonningii* are taken for heavy menstruation (Van Wyk and Gericke, 2000). A number of *Vernonia* sp. (Asteraceae) and *Indigofera* sp. (Fabaceae) are used in treating women's health problems. Root infusions of the latter are taken orally for the treatment of menstrual cramps.

This review indicates that a wide spectrum of remedies are used by women to regulate the menstrual cycle, enhance fertility, ameliorate menopausal symptoms, as abortifacients and/or as antiabortifacients. From the literature it seems unlikely that an universal plant exists for treatment of a specific gynaecological disorder. These plants have yet to be scientifically evaluated and investigated.

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References

- Anderson, S., Staugard, F., 1986. Traditional Medicine in Botswana. Traditional Midwives. Ipelegeng Publishers, Gabarone, Botswana.
- Arnold, H.-J., Gulumian, M., 1984. Pharmacopoeia of traditional medicine in Venda. Journal of Ethnopharmacology 12, 35–74.
- Batten, A., Bokelmann, A., 1966. Wild Flowers of the Eastern Cape. Books of Africa, Cape Town.
- Belsey, M.A., 1976. The epidemiology of infertility: a review with particular reference to sub-Saharan Africa. Bulletin of the World Health Organization 54, 319–341.
- Brandt, H.D., Muller, G.J., 1995. Traditional medicines and acute poisoning. CME 13 (9), 1053–1060.
- Broster, J., 1982. Amagqirha. Via Africa, Cape Town.
- Bruneton, J., 1995. Pharmacognosy, Phytochemistry, Medicinal Plants. Intercept, Hampshire.
- Bryant, A.T., 1966. Zulu Medicine and Medicine-men. C Struik, Cape Town.
- Hoffman, M., de Pinho, H., Cooper, D., Sayed, R., Dent, D.M., Gudgeon, A., van Zyl, J., Rosenberg, L., Shapiro, S., 2000. Breast cancer incidence and determinants of cancer stage in the Western Cape. South African Medical Journal 90, 1212–1216.
- Hulme, M.M., 1954. Wild Flowers of Natal. Shuter and Shooter, Pietermaritzburg.
- Hutchings, A., 1989. Observations in plant usage in Xhosa and Zulu medicine. Bothalia 19, 223–235.
- Hutchings, A., Scott, A.H., Lewis, G., Cunningham, A., 1996. Zulu Medicinal Plants: An Inventory. University of Natal Press, Pietermaritzburg.
- Jacot Guillarmod, A., 1971. Flora of Lesotho. Cramer, Lehr.
- Kaido, T.L., Veale, D.J., Havlik, I., Rama, D.B., 1997. Preliminary screening of plants used in South Africa as traditional herbal remedies during pregnancy and labour. Journal of Ethnopharmacology 55, 185–191.
- Katsoulis, L.C., 2000. The pharmacological activity of *Rhoicissus tridentate* subsp. *cuneifolia* in relation to parturition. Ph.D. thesis, University of the Witwatersrand.
- Katsoulis, L.C., Veale, D.J., Havlik, I., 2000. The pharmacological action of *Rhoicissus tridentate* on isolated rat uterus and ileum. Phytotherapy Research 14, 460–462.
- Kling, H., 1923. Die Sieketrooster. Van de Sandt de Villiers, Cape Town.
- Krige, E.J., 1957. The Social System of the Zulus. Shuter and Shooter, Pietermaritzburg.
- Laidler, P.W., 1926. The magic medicine of the Hottentots. South African Journal of Science 25, 433–447.
- Ling, S.K., Ng, L.T., 1998. Medicinal plants used for treating female diseases in Malaysia: a review. American Journal of Chinese Medicine XXVI, 211–222.
- Mabogo, D.E.N., 1990. The ethnobotany of the Vhavenda. M.Sc. thesis, University of Pretoria.
- Netshungani, E.N., 1981. Notes on the uses of indigenous trees in Venda. Journal of Dendrology 1, 12–17.
- Ososki, A.L., Lohr, P., Reiff, M., Balick, M.J., Kronenberg, F., Fugh-Berman, A., O'Connor, B., 2002. Ethnobotanical literature survey of medicinal plants in the Dominican Republic used for women's health conditions. Journal of Ethnopharmacology 79, 285–298.
- Palmer, E., Pitman, N., 1972. Trees of Southern Africa. Balkema, Cape Town.
- Pooley, E., 1998. A Field Guide to Wild Flowers Kwazulu-Natal and the East Region. Natal Flora Publications Trust, Durban.
- Pujol, J., 1990. Natur Africa: The Herbalist Handbook. Jean Pujol Natural Healers Foundation, Durban.
- Singh, Y.N., Ikahihifo, T., Panuve, M., Slatter, C., 1984. Folk medicine in Tonga. A study of the use of herbal medicines for obstetric and gynaecological conditions and disorders. Journal of Ethnopharmacology 12, 305–329.
- Stayt, H., 1968. The Bavenda. Frank Cass and Co. Ltd., London.
- Van Wyk, P., 1972. Trees of the Kruger National Park. Purnell, Cape Town.
- Van Wyk, B.-E., Gericke, N., 2000. People's Plants. A Guide to Useful Plants of Southern Africa. Briza Publications, Pretoria.
- Van Wyk, B.-E., Van Oudtshoorn, B., Gericke, N., 1997. Medicinal Plants of South Africa. Briza Publications, Pretoria.
- Van Wyk, B.-E., Van Heerden, F.R., Van Oudtshoorn, B., 2002. Poisonous Plants of South Africa. Briza Publications, Pretoria.
- Veale, D.J.H., Furman, K.I., Oliver, D.W., 1992. South African traditional herbal medicines used during pregnancy and childbirth. Journal of Ethnopharmacology 36, 185–191.
- Walker, A.R., Walker, B.F., Ncongwane, J., Tshabalala, E.N., 1984. Age of menopause in black women in South Africa. British Journal of Obstetrics and Gynaecology 91, 797–801.
- Watt, J.M., Breyer-Brandwijk, M.G., 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. 2nd ed. London, Livingstone.