THE ROLE OF TRADITIONAL MEDICINE IN THE TREATMENT OF DIABETES MELLITUS

Many people in South Africa turn to traditional medicine to treat their chronic diseases.

About 80% of the people in southern Africa use traditional medicine, often in conjunction with conventional medications, raising the possibility of synergistic or antagonistic drug interactions. It is clearly important that we evaluate the safety, efficacy, and quality of traditional medicines. Standardisation of active ingredients is also required. The World Health Organization (WHO) defines traditional medicine as including diverse health practices, approaches, knowledge and beliefs incorporating plant, animal and/or mineral-based medicines, spiritual therapies, manual techniques and exercises applied singularly or in combination to maintain well-being, as well as to treat, diagnose or prevent illness. This article focuses mainly on plant-based medicines (herbs).

Herbal medicines have been used for thousands of years in many different cultures. The high cost of modern medication has also contributed to an increased use of herbal medicines. This has stimulated research into the various uses and applications of herbal medicines.

South Africa is blessed with a vast variety of medicinal herbs and plants, resulting in a rich heritage of traditional remedies still in use today. Traditional herbal remedies from other parts of the world, particularly the East Asian countries, are widely used. This is not as true of herbal remedies from Africa. However, many people in southern Africa use these remedies daily, for illnesses ranging from fatigue to diabetes and HIV/AIDS.

Aloe ferox

Aloe ferox (Ikhala), indigenous to South Africa and prolific in the eastern parts of the country, is a commonly used natural ingredient (Fig. 1). Extracts from various parts of the plant are included in laxatives and treatments for arthritis, eczema, conjunctivitis, hypertension, diabetes and stress. It is also used in cosmetics and in livestock medicines.
African potato

Another reputed immune booster is the infamous African potato, Hypoxis hemerocallidea, commonly known as Inkomfe (Fig. 2).

Fig. 2. The African potato. (Photo: Graham Duncan.)

Regularly featured in the media as the focus of a debate regarding the Department of Health’s position on traditional remedies, the unassuming tuber has become the representative of all African traditional remedies.

Customarily used as a treatment for complaints of the urinary and reproductive systems, including prostatic hypertrophy and testicular tumours, it is also prescribed as a tonic and mood enhancer. An extract of African potato corms produced dose-dependent, significant reductions in the blood glucose concentrations of fasted normal and diabetic rats.

Cancer bush

Sutherlandia frutescens (Umnwele) has been described as one of the most valuable of southern Africa’s medicinal plants. The properties of the cancer bush were originally recognised by the Khoi and San peoples (Fig. 3).

Tinctures, infusions and decoctions of the leaves and stems of Sutherlandia frutescens have been used for generations for a host of ailments including poor appetite, dysentery, diabetes, influenza, kidney and liver conditions, heart failure and anxiety. Several highly active compounds including canavine, pinitol and the amino acid GABA are present in the plant, suggesting that there may be a scientific basis for its use in treatment of chronic illnesses.

Shoot extracts of Sutherlandia frutescens were found to have analgesic and anti-inflammatory effects and caused significant hypoglycaemia in diabetic rats.

Buchu

The San and Khoi were also fond of buchu (Agathosma betulina) (Fig. 4) for both cosmetic and antibiotic applications. These practices were later adopted by the migrant Dutch.

Fig. 3. Sutherlandia frutescens. (Photo: Graham Duncan.)

Stomach ailments and kidney and urinary tract diseases were most commonly treated with buchu, which is now also used as a diuretic.

Boegeo-brandewyn, a potent combination of the plant with brandy, was a popular Cape remedy for stomach afflictions of every description. Occasionally, buchu is applied externally to wounds and bruises.

Fig. 4. Buchu (Photo: REK.)
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Wild dagga
Numerous traditional uses have been attributed to Leonotis, or wild dagga (Fig. 5). Interestingly, this includes the relief of epilepsy.

Since there is no cure for diabetes, maintaining good health requires a lifelong commitment to blood sugar control. The self-care requirements of diabetes, or any chronic disease, can be psychologically difficult to adjust to, and many patients resist the necessity to follow a regular, day-in and day-out care plan. The result is that some people seek alternative treatments, if not outright ‘miracle cures’ that seem easier or more natural and that allow them to avoid dealing with the realities of a chronic disease.
with a decrease in conventional drug dosages required. Some patients were able to discontinue conventional drugs and even maintain their blood glucose homeostasis with extracts alone. In insulin-dependent patients, prolonged administration of a water-soluble extract of leaves of G. sylvestre produced a reduction in insulin requirements, improved blood glucose homeostasis, better controlled hyperlipidaemia, and reduced serum amylose activity.

Among the spices, fenugreek seeds (*Trigonella foenumgraecum*), garlic (*Allium sativum*), onion (*Allium cepa*), and turmeric (*Curcuma longa*) have been experimentally documented to possess antidiabetic potential. In a limited number of studies, cumin seeds (*Cuminum cyminum*), ginger (*Zingiber officinale*), mustard (*Brassica nigra*), curry leaves (*Murraya koenigii*) and coriander (*Coriandrum sativum*) have been reported to be hypoglycaemic.

*Trigonella foenumgraecum* seeds have been reported to possess hypoglycaemic and hypolipidaemic properties in animal experiments, as well as in humans. Basil, *Ocimum sanctum* and *O. album* have been observed to decrease fasting and postprandial blood and urinary glucose levels in type 2 diabetic patients. The dried powder of these leaves also mildly reduced cholesterol levels.

Unfortunately evidence from well-conducted, rigorous human clinical trials is not sufficient to allow the comparison of traditional medicines with conventional drugs. There is also inadequate regulation of traditional remedies, particularly as their use is growing. Product standardisation, efficacy, safety and therapeutic risk/benefit trials are urgently needed. The increasing use of traditional medicines means that it is important that family practitioners keep abreast of developments in this field and, where possible, include traditional practitioners in the health care team.

**Further reading**


**IN A NUTSHELL**

Diabetes mellitus is a chronic metabolic disorder in which every bodily cell is compromised by impaired access to essential nutrients.

The aim of treatment is to relieve symptoms, overcome ketoacidosis and catabolism, and restore nutrient reserves and natural resistance to infection.

About 80% of the people in Africa use traditional medicine.

The World Health Organization has recognised the contribution and value of herbal medicines used by a large segment of the world’s population.

The is a vast amount of anecdotal evidence surrounding the efficacy of African remedies for various conditions including diabetes.

Traditional remedies may lead to successful medical treatments for a disease which is soaring in Africa in large part due to the ills of modern life, including urbanisation, processed westernised food and a lack of physical activity.