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Original Article

Ethnobotanical study of medicinal flora utilised by traditional healers in the management of sexually transmitted infections in Sesheke District, Western Province, Zambia

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ABSTRACT

Since many rural-poor Lozi people of Sesheke District (Western Province, Zambia) that suffer from sexually transmitted infections do not usually access public health facilities; they turn to traditional healers who administer remedies extracted from medicinal plants. However, the medicinal plants used for sexually transmitted infections and data on the usage of plants in Sesheke District in particular and Western Province in general have not been documented. In this study, an ethnobotanical survey was conducted to document the indigenous knowledge of medicinal plants that alleviate symptoms of sexually transmitted infections in Sesheke District, Western Province, Zambia. Using semi-structured interviews and questionnaires, ethnobotanical data were collected from twenty traditional healers that manage patients presenting with sexually transmitted infections. The results showed that 52 plant species in 25 families and 43 genera were used to treat gonorrhoea, syphilis, chancroid, chlamydia, genital herpes, and ano-genital warts. Sexually transmitted infections were frequently managed using the following plants: *Terminalia sericea*, *Strychnos cocculoides*, *Ximenia caffra*, *Cassia abbreviata*, *Cassia occidentalis*, *Combretum hereroense*, *Combretum imberbe*, *Dichrostachys cinerea*, *Boscia albitrunca*, *Momordica balsamina* and *Peltophorum africanum*. Many of these plants have putative antimicrobial activities which may justify their roles as natural remedies for sexually transmitted infections. Further studies are needed to determine the dosages, minimum inhibitory concentrations, biological activities and toxicities, and characterise the plants' chemical compounds.

Introduction

Up to 80% of the African population uses traditional medicine for primary health care (WHO, 2003). In many African countries including Zambia, traditional healers administer plant remedies to patients suffering from sexually transmitted infections (STI). Traditional beliefs, cultural barriers, low socio-economic status, stigma, lack of confidentiality, and inadequate user-friendly facilities are some of the reasons why the traditional healer is usually the first line of care for STI patients (Peltzer et al., 2006).

Other factors for seeking traditional medicine involve challenges surrounding public health care facilities. These include long distances to hospitals, long waiting queues, lack of laboratory facilities, drug shortages, and poor health worker attitudes. The reluctance to disclose information related to genitalia is further reason to initially seek help from traditional healers (Kamatenesi-Mugisha et al., 2008). It is therefore not surprising that among all the diseases treated by African traditional healers, STI are one of the most frequently encountered (Peltzer et al., 2006).

Vermani and Garg (2002) reviewed medicinal plants for treating STI. Van Vuuren and Naidoo (2010), De Wet et al. (2012), Semenya et al. (2013), and De Wet and Ngubane (2014) recorded South African medicinal flora utilised in the treatment of STI. Van Vuuren (2008) and Naidoo et al. (2013) have also shown that African medicinal plants used for the treatment of STI have good antimicrobial activities. Ndubani and Höjer (1999) documented medicinal plants used by traditional healers in the treatment of STI in Chiawa, Zambia.

In the Lozi language of western Zambia, STI are commonly known as 'matuku a sihule' or 'butuku bwa sihule'; meaning 'diseases of prostitutes'. Several demographic and socio-economic factors force patients with STI in western Zambia (Barotseland) to use medicinal plants: lack of formal education, unemployment, lack of health insurance, poverty, low ages of sexual debut, and risky

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sexual behaviours. For instance, men in Western Province had the highest levels of risky sexual intercourse in Zambia at 90.3%; about 3.1% of men reported an STI; 6.8% of women and 5.3% of men had syphilis (Central Statistical Office et al., 2009). Women in Western Province are the most promiscuous in Zambia, with 3.2% having more than two 2 sexual partners and 28.1% having high risk sexual intercourse (Central Statistical Office et al., 2009).

Data in the 2009 Zambia Demographic Health Survey reveal that about 56.7% women and 74.9% of men had never tested for HIV. Over 15.2% of adults aged 15–49 years and 7.7% of young people aged 15–24 years were HIV positive (Central Statistical Office et al., 2009). The Red Cross reported 30% adult HIV prevalence in Sesheke (Integrated Regional Information Networks, 2006). In 1992, quite early in the AIDS epidemic, sero-prevalence figures for HIV were 16% for blood donors and 41% for patients attending the clinic for STI (Van Der Hoek, 1992).

Despite the presence of curable STI, over 25.7% of people in Western Province do not access health care at clinics because drugs and laboratory facilities are not available (Central Statistical Office et al., 2009). Only a third of eligible pregnant women have access to drugs, and 19% had a urine sample test. Public health service delivery in Sesheke is below par, often characterised by inadequate staff at health facilities, poor health worker training and supervision, in addition to patients walking long distances to access care (Chinyama, 2013). Corollary, a lack of community participation in public health services was reported (Chinyama, 2013). In Sesheke, even workers rarely seek public health services related to STI including HIV/AIDS (Chilekwa, 2014).

Given the aforementioned factors and challenges in Western Province in general and Sesheke District in particular, most of the people that suffer from STI use medicinal plants. The use of medicinal plants in Barotseland including Sesheke is also part of the medical pluralism whereby the introduction of allopathic medicines has not really dampened Bulozi beliefs in indigenous diagnosis and therapeutic systems (Chinsembu, 2009). This paper is an inaugural report on medicinal plants used by traditional healers in the management of STI in Sesheke District, Western Province, Zambia.

Materials and methods

Study area

The study was carried out in villages near Lipumpu, Machile, Mwanalisa, Mambova, Mulimambango, Sankolonga and Mwandi in Sesheke District located in Western Province, Zambia. Geographical locations of Zambia in Africa and Sesheke District in Zambia are shown in Fig. 1. Sesheke is a small town on the border with Namibia. It is a major transit point to the small Namibian town of Katima Mulilo served by the Trans-Caprivi highway from Walvis Bay and Windhoek. Drivers on this route are serviced by a booming commercial sex industry that contributes to STI. Most of Sesheke is inhabited by the Lozi ethnic group whose relative socioeconomic status compares poorly to other parts of Zambia.

Sesheke District covers 28,500 km^2 in the south-western corner of Western Province, Zambia. It has an average altitude of 951 metres above sea level (range of 915–1220 m), within latitudes of 15°30′ and 17°50′ S and longitudes 23°00′ and 25°30′ E (Lwando, 2013). The District is divided by the Zambezi River into two parts, mainland Sesheke facing Zambia and Katima Mulilo facing Namibia.

Located in Zambia's agro-ecological region I, Sesheke generally experiences low and scattered rainfall during mid-November to the end of March with a mean of 670 mm per annum; the highest average rainfall of 180 mm is recorded in January (Lwando, 2013). Although temperatures are quite extreme, average temperatures range from 15 to 26 °C. In winter, night radiation from the sand

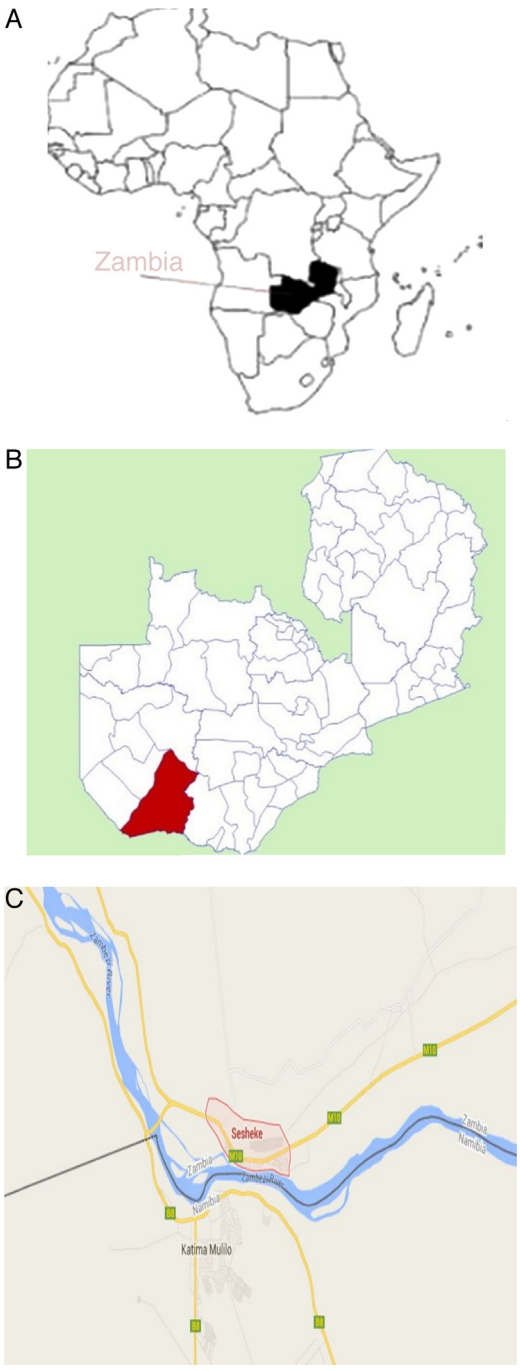

Fig. 1. (A) Geographical position of Zambia in Africa. (B) Location of Sesheke District in Zambia. (C) Sesheke Central.

gives rise to very low night temperatures so that low-lying areas suffer from frigidity (Lwando, 2013). In July, the minimum temperature is 3.6 °C and from September to February the absolute maximum temperature is over 38 °C. During the remainder of the year, temperature is high, over 31 °C.

The terrain in Sesheke District is well vegetated, mostly made up of swamps, floodplains, wetlands, and deciduous woodlands dominated by trees such as the Zambezi teak (Chidumayo, 1987). Sesheke has one of the best-conserved populations of Mukusi (*Baikiaea*) and *Pterocarpus* forests. The remainder of the District is mostly co-dominated by Kalahari woodlands consisting of members of the *Julbernardia*, *Cryptosepalum*, *Ricinodendron* and *Commiphora* (Chidumayo, 1987).