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INDIGENOUS PLANT-DERIVED MEDICINE USED BY ORDINARY COMMUNITY MEMBERS OTHER THAN TRADITIONAL HEALTH PRACTITIONERS FOR PREVENTIVE HEALTH CARE IN MOHLALETSI COMMUNITY IN LIMPOPO PROVINCE, SOUTH AFRICA

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Abstract

Background: Research on medical ethnobotany shows that ordinary community members in the rural areas have knowledge of self-preventive care which is accomplished through administration of plant medicine to prevent the onset of disease and create a sense of well-being. Several medicinal plants and traditional medicines derived from them have been used to enhance resistance to several disease agents. The present study documented the indigenous plant-derived medicines used by Mohlaletsi community members to minimize the chances of contracting disease thus promoting good health and well-being.
Materials and Methods: Structured interviews were used to collect data among 80 respondents purposely sampled to share knowledge about the use of indigenous plant-derived medicine for preventive health care.
Results: The results of the study revealed six indigenous plant species belonging to six families identified as sources of medicine administered for preventive care of primary health care. Preventive medicine is prepared from the mixture of plant parts administered to limit susceptibility to disease and improve the general well-being. The medicine is repeatedly reported to promote good health and well-being of the children by limiting the children's vulnerability to disease and promote their welfare.
Conclusion: Ordinary community members use plant-derived medicine to prevent attack by disease in an effort to promote good health and well-being. This type of preventive care may form the basis for community participation towards the achievement of primary health care needs in the rural areas.

Key words: Preventive health care, health promotion, preventive medicine, well-being, Limpopo Province.

Introduction

Research on medical ethnobotany proves that ordinary community members in the rural areas use self-preventive care to limit the onset of disease and create a sense of well-being (Dahlberg and Trygger, 2009). Preventive health care is aimed at preventing illness and disease before they occur. This type of health care consists of measures taken to prevent the disease as opposed to treatment of disease (Katz and Ather, 2009). Goldstone (1987) attests that disease prevention relies on anticipatory actions that can be referred to as primary prevention. Primary prevention involves avoidance of the occurrence of disease by eliminating disease agents or increasing resistance to disease. This type of disease prevention is accomplished through health promotion which involves non-clinical life choices such as eating nutritious meals and exercising daily (Last, 2010; Sofowora et al., 2013). In biomedical practices, preventive health care is accomplished through vaccination, immunization and early testing and screening for illness and disease (Patterson and Chambers, 1995). Preventive medicine is administered to reduce opportunities for contagious diseases to spread. In traditional medical practices, this preventive health care is accomplished through administration of plant-derived medicine (Idehen and Oshodin, 2007) and observance of norms and traditions adopted by local communities to limit the onset of disease (Singer, 1990).

Medicinal plants have been used by humans for centuries for health promotion (Adnan et al., 2014). African herbal remedies derived from indigenous plant resources have contributed to the reduction of excessive mortality, morbidity and disability brought about by diseases such as HIV and AIDS, malaria and tuberculosis (Walwyn and Maitshotlo, 2010; Lawal et al., 2014; Semenya and Potgieter, 2014). Several traditional plant-derived medicines have been used to enhance resistance to several disease agents (Di Pierro et al., 2012; Ramakrishna et al., 2011). De Wet and Ngubane (2014) observe that among the Zulu of South Africa, knowledge of medicinal plant use in health promotion is sustainable because it is passed verbally throughout generations from parents to offspring and relatives. Lawal et al. (2014) and Semenya and Potgieter (2014) attest that the most common sources of this knowledge are parents and grandparents who passed it orally from generation to generation (Sofowora et al., 2013). Through the Tannahill's Health Promotion Model, Downie et al. (1990) observe that preventive care at the family level is learnt as part of culture where disease prevention is maintained efficiently and cost-effectively to enhance the quality of life from birth to death.

Medical ethnobotanical research in the rural areas in South Africa is extensively explored among traditional health practitioners, but ordinary community members' knowledge of medicinal plant preparation and application for preventive health care is rarely explored. However, research on medical ethnobotany show that ordinary community members in the rural areas collect and use medicinal plants for own use (Dahlberg and Trygger, 2009). For Rankoana (2014), ordinary community members have knowledge of medicinal plant use for self-medication. The goal of the present study was to explore the indigenous plant-derived medicines used by ordinary community members other than traditional health practitioners for non-medical use. The study examined the use of plant-derived medicine to render family members less susceptible to disease and promote good health and well-being. The plant-derived medicines dispensed and used for preventive care could be tested of their safety and efficacy, validated and used to

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enable community members have control of their lives and well-being. This type of preventive care may form the basis for community participation towards the achievement of primary health care needs in the rural areas.

Materials and Methods

Study Area

Mohlaletsi community falls within Fetakgomo Local Municipality in Sekhukhune District in Limpopo Province, South Africa. Sekhukhune is a place of majestic beauty with legal mountains, lush valleys and meandering rivers. The climate is fairly typical of the Savanna Biome with warm, moist summers and cool, dry winters. The mean annual rainfall ranges from 400 mm in the valleys to 600 mm on the mountain slopes and mean summer temperatures from 25°C. The area is home to more than 2200 indigenous species of vascular plants, making it an area of exceptionally high biodiversity that is globally recognized. Many plants used in traditional medicine are slow-growing and, once lost, are unlikely to return to the area. Their presence depends on sustainable harvesting as well as the maintenance of vegetation condition. Medicinal plant species in degraded grasslands also occur in pristine grasslands (Sekhukhune District Municipality Integrated Development Plan [IDP], 2014/2015).

A small number of community members depend on staple crops as their major food source which they have to supplement with indigenous plants which are harvested to provide the additional dietary requirements of a balanced intake. A large amount of biomass is harvested green and cooked for everyday requirements. Many indigenous species have potential as food, but they have to be sufficiently abundant and accessible to come into everyday use. Community members have relatively easy access to health care facilities. Primary health care is obtained in the clinic and hospital. HIV/AIDS strategy is developed and implemented to guide public interventions in the area. The Sekhukhune HIV/AIDS Council is launched to make awareness raising, support for people living with HIV/AIDS and care for children in distress (Statistics South Africa, 2011).

Ethnobotanical Survey

Fieldwork was carried out between January and December 2014. Data were collected through interactions with a sample of 80 respondents (36 men and 44 women) randomly selected in Mohlaletsi community. The respondents were ordinary community members aged between 65 and 90 years. This sample was purposely constituted to examine the extent of indigenous plant-derived medicine use for preventive health care. Selection of the respondents was informed by observations that ethnobotanical knowledge and indigenous systems of health care are held by elderly members of the community (Lawal et al. (2014; Semenya and Potgieter, 2014). The interview schedule was developed and validated by botanists in the host institution to collect information about the indigenous plant species used by ordinary community members to make preventive medicine. The research questions included the local name of the plant species, part of the plant used, method of preparation and administration for preventive care. The questions were developed in English and translated to *Sepedi* by a language translation expert. Medicinal plant species identified by the respondents were collected from the local wild. The voucher specimens of the species were collected and submitted to the host institution herbarium for identification. The voucher specimens are deposited in the herbarium for future reference. Microsoft Excel 2007 version was used to generate data. The information collected during the study and the identities of the respondents remained anonymous.

Results and Discussion

Indigenous Plant-Derived Medicines Administered for Preventive Care

The study revealed six plant species belonging to six families which are source of medicine administered to prevent susceptibility to disease. The list of the species is presented in Table 1. The table presents each species' scientific name, family name, habit and the part used to make the medicine administered for preventive care. The species are alphabetically arranged by scientific names. Of the six species, three were identified by respondents of age 78 and above only. This observation is attributed to the observation that parents and grandparents are reluctant to pass their knowledge of medicinal plant use to their offspring because they shun traditional medicine (York et al., 2011; De Wet and Ngubane, 2014). The respondents reported that they have learnt to use plant-derived preventive medicine from their parents and relatives. Of the respondents, 22 reported that being born into a family where self-care was experienced from an early age, and the fact that a family member in the household provides health care to the people; knowledge about the disease and how it could be avoided, is known to almost all family members. Thirty four elderly women mentioned that they administer plant-based preventive medicine to maintain the well-being of their family members and in rare instances, they offer help to other people particularly when requested to assist. This knowledge is derived from community members' extensive knowledge of the ecology and medicinal properties of the local flora (Negi and Palyal, 2007). Furthermore, this knowledge is derived from centuries of use within families; and every community member had their own lists of medicinal plants for prevention of particular disease or disorder (Ahmed and Azam, 2014). De Wet and Ngubane (2014) observe that among the Zulu of South Africa, this type of knowledge is passed verbally and through practice to the offspring.

Table 1: List of plant species harvested as sources of preventive medicine

Scientific name	Family name	Habit	Part
Amaranthus hybridus (*sebjane*)	Amaranthaceae	herb	root
Berchemia discolour (monoko)	Rhamnaceae	shrub	root
Cadaba aphylla (monna-motsho)	Capparaceae	herb	root/leaf
Drima robusta (phaya-bašimane)	Hyancinthaceae	herb	bulb/leaf
Rhoicissus tridentate (mopidikwa)	Vitaceae	herb	tuber
Siphonochilus aethiopicus (*serokolo*)	Zingberaceae	herb	bulb

The growth forms of plant species identified are five herbs and one shrub. The plant parts used are leaf, root, bulb and tuber. The roots are the most frequently used in three instances – the leaves and bulb in two instances each. These findings are corroborated by Dogan and Ugulu (2013), Akbulut and Bayramogul (2014), Lawal et al. (2014), Menale and Muoio (2012) who observe that the most commonly used parts of plants harvested for medicine are the roots and leaves.

Preventive Health Care

The respondents reported the use of plant-derived medicine to limit susceptibility to disease in small children and adults. Knowledge of the use of plant-derived preventive medicine for preventive care was observed among the respondents. The roots of *Amaranthus hybridus* and the tubers of *Rhoicissus tridentata* are grounded and rubbed on the body to render children immune to infectious diseases. When the outbreak of whooping cough and measles is announced, the same medicine is applied on the child's body to decrease the chances of contracting the disease.

The bulb of *Siphonochilus aethiopicus*, the leaves and bulb of *Drima robusta* and the root of *Cadaba aphylla* are crushed, grounded and mixed together and applied on all body parts to limit attack by measles.

Preventive medicine is also prepared from the root of *Berchemia discolor*, the leaves of *Cadaba aphylla* and the roots of *Amaranthus hybridus*. The different plant parts are burnt, mixed with animal fat and rubbed into the body to render a new born baby immune and strengthen its well-being. Another health promotion medicine is derived from a mixture of the roots of *Berchemia discolor* and *Cadaba aphylla* and the bulb of *Siphonochilus aethiopicus*. The plant parts are crushed and wrapped into a piece of cloth which is sewn and put around the neck of a child to render it less susceptible to disease.

The bulb of *Siphonochilus aethiopicus* makes a strong preventive medicine. The bulb is chewed and the resulting medicine is rubbed on the body parts for prevention against defilement which is the most common cause of disease such as stomach-ache, roaming stomach, diarrhoea and headache. Lawal et al. (2014) reported this type of preventive health care practice as the most prevalent throughout Africa.

The methods of making plant-derived preventive medicine range from crushing, grounding and burning of plant parts. These methods find support in Abera's (2014) observation that among the Omoro people of Ethiopia, crushing, grounding and burning of plant parts are effective for complete extraction of the potential content of the plant and increase the power of the medicine or its efficacy. The study revealed a combination of the plant parts to prepare preventive medicine. York et al. (2011), De Wet et al. (2013), Ahmed and Azam (2014) prove that plant part mixtures increase the quality and efficacy of medicines.

Conclusion

Ordinary community members use plant-derived preventive medicine to limit the chances of contracting disease to promote good health and well-being. Preventive medicine is mostly used to promote good health and well-being of the children. The medicine is applied to limit the children's susceptibility to disease to promote their welfare. Most importantly, the study reflects continued reliance on indigenous plant-derived medicine which implies that knowledge of the use of indigenous plant medicine is transmitted throughout generations as part of the community's cultural heritage. The indigenous plant-derived medicines used for preventive care could be tested of their safety and efficacy, and validated and used to enable community members have control of their lives and well-being. This type of preventive care may form the basis for community participation towards the achievement of primary health care needs in the rural areas.

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References

1. Abera B. (2014). Medicinal plants used in traditional medicine by Oromo people, Ghimbi District, Southwest Ethiopia. Journal of Ethnobiology and Ethnomedicine, 10:40.
2. Adnan M, Tariq A, Murad W, Azizullah A, Khan A, Ali N. (2014). Ethnomedicine use in the war affectednregion of Northwest Pakistan. Journal of Ethnobiology and Ethnomedicine, 10:16.
3. Ahmed N, Azam NK. (2014). Traditional knowledge and formulations of medicinal plants used by the traditional medical practitioners of Bangladesh to treat schizophrenia like psychosis. Schizophrenia Research and Treatment, Volume 2014.
4. Akbulut S, Bayramoglu MM. (2014). Reflections of socio-economic and demographic structure of urban and rural on the use of medicinal and aromatic plants: The sample of Trabzon Province. Ethnomedicine, **8**:89-100.
5. Dahlberg AC, Trygger SB. (2009). Indigenous medicine and primary health care: the importance of lay knowledge and use of medicinal plants in rural South Africa. Human Ecology, **37**:79-94.
6. De Wet H, Ngubane SC. (2014). Traditional herbal medicine used by women in a rural community in northern Maputaland (South Africa) for the treatment of gynecology and obstetrics complains. South African Journal of Botany, **94**: 120-139.
7. De Wet H, Nicki S, Van Vuuren SF. (2013). Medicinal plants used for the treatment of various skin disorders by a rural community in northern Maputaland, South Africa. Journal of Ethnobiology and Ethnomedicine, 9:51.
8. Di Pierro F, Rapacioli G, Ferrara T, Togni S. (2012). Use of a standardized extract from *Echinacea angustifolia* (Polinaceae) for the prevention of respiratory tract infections. Alternative Medicine Reviews, **17**, 1:36-41.

http://dx.doi.org/10.4314/ajtcam.v3i3.14

9. Dogan Y, Ugulu I. (2013). Medicinal plants used for gastrointestinal disorders in some Districts of Izmir Province, Turkey. Ethnomedicine, **7**:149-161.
10. Downie RS, Fyfe C, Tannahill A. (1990). Health Promotion Models and Values. Oxford: Oxford Medical Publications.
11. Goldstone, S.E. (1987). Concepts of Primary Prevention: A Framework for Programme Development. Sacramento: California Department of Mental Health.
12. Idehen CO, Oshodin OG. (2007). Insights into Benin traditional methods of disease prevention. Journal of Pan African Studies, 1, 8.
13. Katz D, Ather A. (2009). Preventive Medicine, Integrative Medicine and the Health of the Public. Commissioned for IOM Summit on Integrative Medicine and the Health of the Public. Retrieved from www.iom.edu. Accessed January 2016.
14. Lawal IO, Grierson DS, Afolayan A. (2014). Evidence-Based Complementary and Alternative Medicine, Vol. 2014.
15. Menale B, Muoio R. (2012). Use of medicinal plants in the South-Eastern area of the Partenio Regional Park (Campania, Southern Italy). Journal of Ethnopharmacology, **153**: 297-307.
16. Negi CS, Palyal VS. (2007). Traditional uses of animal and animal products in medicine and rituals by the Shoka tribes of District Pithoragarh, Uttaranchal, India. Ethnomedicine, **1**.1:47-54.
17. Patterson C, Chambers LW. (1995). Preventive health care. The Lancet, **345**:11611-11615.
18. Ramakrishna Y, Goda H, Baliga MS, Munsh AK. (2011). Decreasing cariogenic bacteria with a natural alternative prevention therapy using phytochemistry (plant extracts). Journal of Clinical, Paediatric and. Dental Medicine, **36**, 1:55-63.
19. Rankoana SA. (2014). Preventive and protective health care provided by traditional health practitioners in Dikgale community, Limpopo Province, South Africa. *African Journal for Physical, Health* Education, Recreation and Dance (AJPHERD) Supplement 1:1 (September), **2014**, 128-133.
20. Sekhukhune District Integrated Development Plan [IDP] 2014/2015, Limpopo Province.
21. Semenya SS, Potgieter MJ. (2014). Bapedi Traditional healers in the Limpopo Province, South Africa: Their socio-cultural profile and traditional healing practice. Journal of Ethnobiology and Ethnomedicine, 10:4.
22. Singer M. (1990). Postmodernism and medical anthropology: words of caution. Medical Anthropology, **12**: 289-304.
23. Sofowora A, Ogunbodede E, Onayade A. (2013). The role and place of medicinal plants in the strategies for disease prevention. *African Journal of Traditional, Complementary and Alternative Medicines*, **10**, 5:210-229. http://dx.doi.org/10.4314/ajtcam.v10i5.2
24. Statistics South Africa. (2011). Community Survey. Available at www.statssa.gov.za. Accessed August 2014.
25. Walwyn D, Maitshotlo B. (2010). The role of South African traditional health practitioners in the treatment of HIV/AIDS: A study of their practices and use of herbal medicines. Ethiopian Journal of HIV Medicine, 11-16.
26. York T, De Wet H, Van Vuuren SF. (2011). Plants used for treating respiratory infections I rural Maputaland, KwaZulu-Natal, South Africa. Journal of Ethnopharmacology, **135**: 696-710.