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The use of medicinal plants in self-care in rural central Ethiopia

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Abstract

Medicinal plants are an important element of Ethiopian traditional medicine. This questionnaire survey examined the extent and type of medicinal plants used in self-care by rural Ethiopian community. Six hundred mothers were interviewed using a semi-structured questionnaire. The prevalence of the use of herbal drugs in self-care was found to be 12.5%. Twenty-five plant species belonging to 21 families were reported, each with local names, methods of preparation and parts used. This study showed that self-care using medicinal plants is a major part of health care options in Butajira community.
Author Keywords: Medicinal plants; Self-care; Prevalence; Rural Ethiopia

1. Introduction

The use of plants as medicines predates written human history and almost all cultures in the world have a body of expertise concerned with the therapeutic properties of the local flora ([Houghton, 1995]).
Ethiopian traditional medicine is composed of a number of specific skills, namely, the use of plants, animal products and minerals as well as magic and superstition ([Pankrust, 1976]). The main body, however, is based on the use of ethnobotany ([Vicchiato, 1993]).
Though most practices and treatments in herbal medicine require specialists or professionals which are referred generally to as herbalists, self-care using plants is common in Ethiopia ([Kitaw, 1987 and Gedif, 1995]). Although few studies on the medicinal plant resources of Ethiopia have been conducted ([Abebe and Ayehu, 1993, Tadesse and Demissew, 1992, Abebe, 1986 and Jansen, 1981]), the extent and types of herbs used in self-care by the vast majority of the population particularly in rural areas has not been documented. Knowing factors involved in the selection of different treatment options at household level is also important for health service planning and to incorporate herbal medicine in a country's health care delivery system. Mothers in most rural communities of the developing countries including Ethiopia are the de facto healers of the family treating accidents and ailments with medicinal plants ([Lambert et al]). The present research, therefore, attempted to document the medicinal plants used in self-care in a rural Ethiopian community using mothers as informants.

2. Subjects and methods

2.1. Description of study area

Butajira is a district located 130 km south of Addis Ababa, capital city of Ethiopia (Fig. 1). The population size extrapolated from 1994 census is estimated to be 257,000. Generally the demographic pattern is typical of developing countries where children below the age of 15 constitute the majority ([Berhane, 2000]). The dominant ethnic group is Gurage of meskan dialects. Farming is the main economic activity and the main cash crops being pepper, coffee and khat. The estimated size of the district is 797 km^2 and lies at an average of 2100 m above sea level, ranging from 1750 in the lowlands to 3400 m in mountainous areas ([Berhane et al]). During the study time, the district had 1 health centre, 2 health stations, 11 private clinics, 11 health posts and 8 drug retail outlets. Although the health centre is the highest level of health institutions in the district, it has no capacity to manage surgical and obstetric emergencies ([Berhane, 2000]). Communicable diseases including malaria, ARI, diarrhoeal diseases and tuberculosis are the major public health problems of the district. This study was carried out in villages that are under a continuous demographic surveillance by the Butajira Rural Health Programme (BRHP). There are 10 study communities under BRHP which were selected based on probability proportional to size out of 84 rural and 4 urban kebeles (the lowest administrative units) of Butajira sub-district (Fig. 2). The demographic

surveillance has been going on since 1987 to provide sampling frame for health related researches ([Berhane, 2000 and Shamebo, 1993]).

2.2. Data collection and analysis
Information on demographic characteristics, prevalence of perceived illness, the extent and type of herbs used in self-care; and factors associated with the choice of treatment options were collected by using a semi-structured questionnaires from mothers (or woman who assumed the role of a mother) in 600 households. When mother in a household was absent in the first visit, repeated visits were made up to three times. The 600 households were selected using systematic random sampling technique. Enumerators who are workers of Butajira Rural Health Project were given additional training for two days on the data collection instrument. Before the initiation of the interview, oral consent was obtained from each respondent who participated in the study.
EPI-INFO Version 6.0 statistical software was used for data entry and analyses.
3. Results
3.1. Perceived illness
The distribution of illness and the corresponding action taken against the illness by background factors is presented in Table 1. One hundred thirty-six persons were reported to have an illness episode during a four weeks recall period preceding the interview date. Females were reported to have more morbidity than males. Being illiterate was also associated with high morbidity. Febrile illnesses including malaria, cough/cold, diarrhoea, and skin disorders were the most frequently reported illnesses in the area.

Table 1. Types of action taken by those with perceived illness in four weeks recall period
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3.2. Health care options
The overall action taken for those with reported perceived illness was 89%; out of which 17.4% used herbal medicine and 82.4% modern medicine. There was a relatively higher rate of action taken among males than females. Belief on efficacy (57.2%), and economic (28.5%) and geographical inaccessibility of modern health care (14.3%) were mentioned as reasons for choosing herbal medicine as the first line of health care option in Butajira area. Proportions of those with perceived illness and chose to use herbal medicine in self-care were compared between subgroups (e.g. among different ages, males versus females, illiterate versus literate, etc.) using chi-square tests (Table 2). Females were more likely to use herbal medicine than males but the association was not statistically significant ($P>0.05$). Age was found to have a significant association with the use of herbal medicine ($P<0.0001$). Chi-square for linear trend for age also indicated that the tendency to use herbal medicine increases with age. Illiterates (who are not able to read and write) were significantly more likely to use herbal medicine than literates ($P<0.0001$).

Table 2. Self-care with herbal drugs and factors associated with it in Butajira community, 2000
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3.3. Self-care with herbal drugs
The prevalence of self-care with herbal drugs in Butajira community in four weeks recall period was 12.5%. Twenty-five species belonging to 21 families were claimed to be used in self-care. *Taverniera abyssinica* A. Rich. (Fabaceae), *Ocimum lamiifolium* Hochst. ex Benth (Labiatae), *Allium sativum* (Alliaceae), *Ruta chalepensis* (Rutaceae), *Linum usitatissimum* L. (Linaceae), *Hagenia abyssinica* (Bruce) Gmel (Rosaceae), *Zingiber officinale* Rosc. (Zingiberaceae) and *Lepidum sativum* (Crucifereae) were the most frequently used plants (Table 3). Leaves were the part of the plant commonly used.

Table 3. Medicinal plants used in self-care by Butajira community, south central Ethiopia

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4. Discussion and conclusions
Perceived morbidity is the main initiator for seeking health care. The perception of an illness by a person in a household was, therefore, used as a starting point of our inquiry to reveal the extent and types of herbs taken against illnesses in Butajira community. The morbidity pattern reported in this study concurs with what was reported by [Shamebo et al] and other similar study done in the rift valley ([Kitaw, 1987]). Like other studies, this study showed that the burden of illness is less pronounced in males than females ([Kitaw, 1987 and Gedif, 1995]). This might have a strong association with the status of women in Butajira community. As documented by [Berhane, 2000], women in rural Butajira are in a very disadvantaged position because of very low literacy levels, high workloads and low access

to modern health facilities. This study also showed that perceived efficacy, economic and geographic accessibility are main reasons for popularity of herbal medicine and its practitioners in Butajira community.

Although the association was not statistically significant, females were more likely found to use herbal medicine in self-care than males. This is consistent to the result of previous study done in Hong Kong about the general use of herbal medicine ([Wong et al]). It was also interesting to note that education and age had a significant association with the use of herbal medicine. In this regard, illiterates and older residents are significantly more likely to use herbal medicine than literate and younger people, respectively. A study conducted in rural Tanzania also showed that age and education were the main factors that seemed to influence the choice of health care ([Satimia et al]).

Almost 1/3rd of the medicinal plants reported to be used in self-care in this study have also long been used as food and/or spices in food and widely sold in Ethiopian markets ([Kloos et al]). Recognising their frequent use there is a need to promote phytochemical and pharmacological investigations on these plants.

00860*	Allium sativum L.	Alliaceae	nech-shinkurt	H(008, f), H(051, f),fresh leaves crushed and macerated H2O, VO. - - - H(108) cough, cold, bulb crushed and boiled with tea, VO.
12800*	Vernonia amygdalina Del.	Asteraceae	girawa	H(014) skin rashes, fresh leaves, crushed and macerated H2O, to wash
13260*	Zehneria scabra (L.f.) Sond.	Cucurbitaceae	areg-ressa	H(008), H(018), H(051), fresh squeezed leaves, juice, VO.
08060	Lepidium sativum L.	Brassicaceae	feto	H(008, f), diarrhoea, dysentery, grinded seeds + honey, to make pellet, VO - - - H(014, f) skin disorders, powder of seeds mixed in butter, local application
00730*	Ajuga integrifolia Buch-Ham	Lamiaceae	anamaro, amagussa	H(004, f), pounded leaves in a paste, local application - - - H(008, f), diarrhoea, H(051, f) palu, fresh leaves, decoction, VO.
04180*	Croton macrostachyus Hochst. ex Del.	Euphorbiaceae	bissana	H(014, f) skin disorders, juice of the apical part of the plant, local application
09180*	Ocimum lamiifolium Hochst. ex Benth.	Lamiaceae	damkesse	H(008, f), H(008x, f), H(108, f) cough, cold, to pound fresh leaves in H2O, VO.
05320*	Embelia schimperi Vatke	Myrsinaceae	enkoko	H(068) tape worm, grounded fruits macerated in tela (local alcohol) during 1 night, VO. In an empty stomach
05550*	Eucalyptus globulus Labill.	Myrtaceae	nech-bahirzaf	H(108, f) cough, cold, decoction of fresh leaves, inhalation of steam
09290*	Oryza sativa L.	Poaceae	ruz	H(008), rice water is drunk
10010*	Phytolacca dodecandra L'Hérit.	Phytolaccaceae	endod	H(014) scabies, chopped leaves macerated in H2O, to wash the affected part
06530	Hagenia abyssinica (Bruce) J.F. Gmel.	Rosaceae	kosso	H(068, f) tape worm, local alcoholic extract of flowers, VO. in an empty stomach, or the flowers are pasted with honey and eaten
03470	Coffea arabica L.	Rubiaceae	buna	H(008, f), H(008x, f), roasted and powdered seeds are pasted with honey, VO.
04660*	Datura stramonium L.	Solanaceae	itsefaris, astenagir	H(014) eczema, powder of leaves are mixed with butter or fat, local application
12790*	Verbena officinalis Atuch subsp. africana	Verbenaceae	atuch	H(008), crushed roots macerated in H2O, VO. the extract
13270*	Zingiber officinale Rosc.	Zingiberaceae	zingibel	H(108, f) cough, cold, decoction of the rhizome mixed with tea, VO. - - - H(104, f) stomach ache, the rhizome is chewed