



Herbal medicine use among hypertensive patients attending public and private health facilities in Freetown Sierra Leone

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ABSTRACT

Objective: This study aimed to determine the prevalence, determinants and pattern of herbal medicine use among hypertensive patients in Freetown.

Methods and materials: We conducted a cross-sectional study among hypertensive patients attending public and private health facilities in Freetown, Sierra Leone between August and October 2016. We analyzed the data using SPSS version 24. We used Chi-square, Fisher exact two-tailed test and regression analysis for data analysis. A p-value less than 0.05 was considered statistically significant.

Results: Out of 260 study participants, over half (n = 148, 56.9%) reported using herbal medicine for the treatment of hypertension alone or together with comorbid condition(s). The most commonly used herbal medicine among users were honey (n = 89, 33.3%), moringa (n = 80, 30.0%) and garlic (n = 73, 27.3%). No significant difference existed between users and non-users of herbal medicine with regards to socio-demographic and health-related factors. The majority (n = 241, 92.7%) of respondents considered herbal medicine beneficial if it was recommended by a healthcare provider yet 85.1% (n = 126) did not disclose their herbal medicine use to their health care provider.

Conclusion: There is a high use of herbal medicines among hypertensive patients in Freetown, Sierra Leone. It is essential for healthcare providers to take heed of the findings of this study and routinely ask their patients about their herbal medicine use status. Such practice will provide the opportunity to discuss the benefits and risks of herbal medicine use with the aim of maximizing patient desired therapeutic outcomes.

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1. Background

The prevalence of hypertension (HTN) - a significant risk factor for cardiovascular disease [1] - is increasing in Africa [2]. The current number of hypertensive patients in the continent is estimated

at 74.7 million, and is projected to increase by 68% (125.5 million) by 2025 [3]. Recent studies in West Africa indicate that this region is significantly affected. Awad and colleagues [4] estimated that more than 40% of adults in Gambia and Sierra Leone are hypertensive, with females being at greater risk than males. A Sierra Leonean study reported diagnosed hypertension in 27.1% of individuals above the age of 20 years [5]. This prevalence rate increases in older age groups and is more common in males compared to females in the southern part of the country [5]. Changes in lifestyle habits in the local population alongside rural and urban migration are among the factors posited to explain this increased prevalence [6]. Hypertension-related complications such as stroke, heart and kidney failure are also increasingly common in Africa [7,8].

The effective management of hypertension in Africa is

Abbreviations: COMAHS-USL, College of medicine and Allied health sciences, University of Sierra Leone; HTN, Hypertension.

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hampered by the high cost, perceived ineffectiveness and safety concerns of antihypertensive medications and associated treatments, as well as cultural values and practices [9,10]. These challenges have made traditional medicine a popular option as a complementary therapy among hypertensive patients [11–13]. A recent review of the literature in Africa estimated the prevalence of herbal medicine use among hypertensive patients to be at 25–65% (average 38.6%). Close to half (47.5%) of herbal medicine users are practicing pluralistic health care, while an increase in age, being male, family history of hypertension and belief in the non-medical cause of hypertension are predictors of herbal medicine use [14].

As in most African countries, traditional medicine remains a major source of health care in Sierra Leone [15–21]. Although non-communicable diseases such as hypertension are increasing in Sierra Leone [4,5,22], there is a paucity of data on traditional medicine utilization in the general population around non-communicable diseases. Such scarcity of data is particularly true for conditions such as hypertension, which is associated with recent changes in lifestyle and demographics. However, international research suggests that traditional and complementary medicine use is common among patients with non-communicable diseases [23–25], with rates of utilization ranging from 12% to 54.5% [23,26,27]. In Sierra Leone the major form of traditional medicine used by the population is herbal medicine [15,16]. It is therefore imperative to explore the use of traditional medicine to manage new emerging public health priorities like hypertension in Sierra Leone. It is against this background that this study was conducted to help understand how herbal medicine use interfaces with cardiovascular health using hypertension as an example. The purpose of the study was to determine the prevalence, pattern as well as associated determinants of herbal medicine use among hypertensive patients seeking care at hypertensive clinics in Freetown, Sierra Leone.

2. Methods

2.1. Study design and setting

We conducted a quantitative cross-sectional study between August and October 2016 among hypertensive patients attending outpatient clinics in four public health facilities and two private health facilities. We chose these health facilities because they provide cardiovascular care to most patients in Freetown, and as such allows a fair representation of respondents and a better generalization of study results.

2.2. Study participants

We sampled a total of two hundred and sixty hypertensive outpatients from the six (6) health facilities in Freetown, Sierra Leone. The clinical records of patients were used to identify those with hypertension. Sierra Leonean male and female patients diagnosed as hypertensive or hypertensive with other co-morbid condition(s), who were at least eighteen years old and reported for treatment at the six health facilities were recruited into the study. We excluded inpatients, severely ill, patients presenting with psychosis and those that refused to participate. The target sample size was determined using the formula for sample size calculation for cross-sectional study i.e. $n = Z^2Pq / d^2$ where n = sample size, d = degree of accuracy or standard error, $q = 1 - P$, Z = value of the test statistics = 1.96, P = the estimated proportion of use of complementary/herbal medicine. We used $19.5\% = 0.195 = P$ based on a similar study conducted in Ghana [28]. The minimum sample size was rounded up to 260 outpatients after the final calculation below, to make up for non-response. $n = Z^2Pq/d^2$

$$n = (3.8416 \times 0.195 \times 0.805) / 0.0025. n = 241.21 \approx 241$$

Two hundred and sixty hypertensive patients from the six health facilities that met the inclusion criteria were recruited into the study. We determined the number of hypertensive patients in each health facility to be recruited by proportional representation based on the estimated percentage attendance per week of hypertensive outpatients visiting each health facility. We recruited outpatients in each health facility that met the inclusion criteria and consented to participate into the study using a simple random sampling method until the targeted number of participants for that facility was attained. In cases where some patients declined to participate, an additional number of patients were invited to obtain the required number in each facility. In this study, herbal medicines include herbs, herbal materials, herbal preparations and finished herbal products that contain active ingredients, parts of plants, or other plant materials, or a combination [48]. We also included honey in this definition since it is a common complementary medicine product used to manage hypertension [29].

2.3. Study questionnaire

A standardized questionnaire was used and designed based on the available literature on herbal medicine use among hypertensive patients, especially in the African region [12,13,28,30]. A cardiac physician, an epidemiologist and a pharmacologist reviewed the questionnaire to ensure face and content validity. To ensure reliability, we piloted the questionnaire among 20 hypertensive patients who were excluded from the final analysis of the study data. Feedbacks from these experts and the pilot study helped to inform the final draft of the questionnaire. The questionnaire consisted of three (3) sections. The first part looked at patient demographic characteristics and health-related factors such as age group, sex, religion, alcohol consumption, smoking status and the presence of co-morbid conditions. The second section consisted of questions on the pattern of use of herbal medicine such as herbal medicine use status, types of herbal medicine use and sources of herbal medicine use. A botanist at the biological science department of the University of Sierra Leone confirmed the common and botanical names of the medicinal plants identified in this study. We further validated the identity of the medicinal plants mentioned by respondents by using two textbooks on medicinal plants in Sierra Leone. These were Medicinal plants of Sierra Leone: a compendium [31] and Medicinal Plants and Traditional Medicine in Sierra Leone [16]. We considered a patient as a user of herbal medicine if they had used herbal medicine for hypertension alone or together with a comorbid condition(s) within the past 12 months preceding the conduct of this study. The third section looked at sources of information and general perception of herbal medicine.

2.4. Data collection

Structured questionnaires were self-administered to consenting participants via trained data collectors. For participants who were illiterate an interviewer-administered format was used (face to face interview). The survey tool was administered together with a consent form to all consented participants. We asked patients to fill and return the questionnaires in the healthcare facilities prior to them leaving for their homes to ensure compliance and higher response. A consent form was issued to study participants explaining the importance of the survey. The consent form also had statements that assured participants that all information provided would remain confidential and use strictly for research purposes only. The participants were informed that they have the right to opt out of the study at any time when completing the questionnaire.

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