



Consumption of Herbs and the Association with Morbidity Among Women in Embakasi Sub County, Nairobi City County, Kenya

Halima Osman*, Peter Chege, Winfreda Nyamota

Abstract

Herbs have been used as an alternate form of treatment amidst the advent of orthodox therapies for health care. They are used as wellspring of potent remedies and have become an intrinsic part of various autochthonic cultures around the world. World Health Organization indicates that 80% of rural populations residing in developing countries rely on herbal remedies alongside conventional medicine. There are minimal researches on use of herbal medicine and how they relate to morbidity. The aim of this study was to assess the use of herbs and the relationship to morbidity status among women in Embakasi sub county, Nairobi City County, Kenya. A cross-sectional analytical design with a focus on both quantitative and qualitative approach were used among 383 respondents. Multistage sampling technique was used in this study for respondent's identification. Quantitative data was analyzed using SPSS version 26. Proportions, means and standard deviations were used to describe the dataset. Chi-square test was used for relationships and logistic regression was used to estimate adjusted odds ratios while controlling for confounding variables at 0.05 level of significance. Qualitative data was transcribed, translated, coded into themes. Findings indicated that most of the women participating in the study have used herbs for six to ten years, for the management of disease symptoms and to improve the quality of food; with onion, cinnamon, garlic, and mint being the most commonly used types of herbs. A majority of the participating women were knowledgeable about herbs in terms of their usage, and benefits; having derived the information from a variety of sources including the media, peers, and hospital professionals. Majority of the women in Embakasi Sub-County had no morbidities during the study or in the two weeks leading up to the study. The study recommends sensitization on use of herbs especially not to replace conventional medicine and issues of dosage.

Keywords: Consumption of Herbs; Morbidity Status

Introduction

Background of the study

A herb is a part of a plant which is either fresh or dried [1]. From immemorial, populations included the use of herbs as medicine to treat sickness. Herbs have been used due to its medicinal values [2] or for therapeutic purpose [3]. Herbs have been used alongside conventional medicine [4,5]. In China, herbs are highly produced [6]. In Germany, 90% of women use herbs [7]. Approximately 80% of adults in US consume herbs for fragrances weight loss and 50% for therapeutic purposes, however, 17% experience continual weight gain and 24.9% does not experience change with a quite a number experiencing

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additional health concerns. The use of herbal diets is globally on increase [8]. In West Africa, a study on sociological and demographic determinants of herbs consumption with 38.6% of study participants utilized some form of herbs. The study, shows the commonly used herb to be iron weed [9]. The main herbs in Kenya are Neem, Aloe Vera, Moringa, Ginger, Garlic, Sodom Apple, Mexican Marigold, Stinging Nettle, Lemon Grass [10]. The prevalence use of herbs in Kenya is high, with studies in urban centers like Nairobi showing rates exceeding 60%, indicating a common practice of integrating traditional remedies with conventional healthcare, often without full disclosure to medical professionals [11]. Herbs are mainly used for treating common ailments like malaria, gastrointestinal disorders (stomach aches, ulcers), respiratory infections (coughs, colds), skin diseases, and managing chronic conditions such as diabetes and hypertension [12]. Women, particularly those of reproductive age and during pregnancy, are significant users of herbal medicine. Their use is often tied to gender-specific health issues like pregnancy-related discomfort, childbirth, reproductive health, and treating children's common illnesses, which are traditionally within the woman's domain of care in many Kenyan communities [13]. Use of herbs have been associated with reduced illness [14].

Statement of the problem

In Kenya, herbal use is gaining popularity, especially in urban areas. Though the medicinal and nutrition value for herbs is known, there is little information on use of herbs. This is in relation to which herbs, how they are used and who uses them. The usage especially among women is not well documented. Similarly, the reasons to why people adopt the use of herbs is still not well researched upon. Moreover, there exists minimal research on use of herbs and how it affects the morbidity status. Thus, there is need to assess the usage of herbs and relationship to morbidity status among women at Embakasi, Nairobi City County, Kenya.

Objectives

This study aimed to

1. Determine knowledge level on use of herbs among women at Embakasi sub county, Nairobi City County.
2. Assess the types of herbs used, level of consumption and the reasons for the consumption of herbs among women at Embakasi sub-county, Nairobi City County.
3. Establish morbidity status of women at Embakasi sub-county, Nairobi City County

Materials and Methods

This was an analytical cross-sectional study adopting both quantitative methods and qualitative methods. The study focused on women 18 years and above from Embakasi

sub-county. A sample of 383 women was used. Multistage cluster sampling method was used to select the respondents. The qualitative data from FGDs was transcribed, coded and analyzed using NVIVO to identify the emerging themes in the usage of herbs.

Results

Socio-economic status of women consuming herbs at Embakasi Sub-County, Nairobi City County, Kenya

The results of the completed study showed that a majority (40.7%) of the participating women from Embakasi Sub-County were aged between 18-30 years. These findings on the age of the mothers are in tandem with the expectation of the researcher that a majority of the women in Embakasi Sub-County are young adults. Most (73.4%) of the women were married (Table 1).

Table 1: The socio-economic attributes of the participants.

Socio-economic characteristics		N (383)	%
Age (years)	18 -30	156	40.7
	31- 40	137	35.8
	41 – 49	90	23.5
Marital status	Married	281	73.4
	Single	57	14.9
	Separated	27	7
	Widowed	13	3.4
	Divorced	5	1.3
Education level	No formal education	6	1.6
	Primary	31	8.1
	Secondary	203	53
	Tertiary	143	37.3
Occupation	Employed	163	42.6
	Self-employed (business)	123	32.1
	Unemployed (casual)	61	15.9
	Student	34	8.9
	Retired	2	0.5
HH income (KES)	< 10,000	27	7
	10,001-30,000	112	29.2
	30,001-50,000	177	46.2
	> 50,000	67	17.5

Knowledge level on herbs and source of information regarding use of herbs among women

Majority (46.7%) of participating women in Embakasi Sub County indicated that they have received information on herbs use. On the types of the information given, 20.6% indicating that they had information on the medical and nutritional benefits of using herbs while 17.5% have received

information on how to use herbs, while 8.6% were given information on the side effects of using herbs (Table 2). This was confirmed by information from FGD where participants stated that “We consider herbs to have ability to reduce weight. It can burn fat (FGD Embakasi, 2023)”. This was confirmed by information from FGD where participants stated that “Taking herbs, heals conditions like flu, cold (FGD Embakasi, 2023)” “I don’t know what each herb can do, but I know it can prevent and heal some diseases (FGD Embakasi, 2023)”

Table 2: Proportion of women who received information regarding use of herbs.

		n	%
Received information on herbs use (n=286)	Yes	179	46.7
	No	107	27.9
Type of information received (n=179)	How to use herbs	67	17.5
	Side effects of herbs	33	8.6
	Medical and nutrition benefits	79	20.6

On source of information regarding use of herbs among women at Embakasi sub county, results indicate that the source of information was mainly from friends and relatives (47.5%), media and internet (30.7%), health workers (13.4%), and herbs vendors (8.4%) (Figure 1).

Types of herbs used, level of consumption, and the reasons for the consumption of herbs among Women in Embakasi Sub-County

In the analysis of the most commonly used herbs, it was found that a majority of the women (83.8%) in Embakasi sub-county have ever used herbs and while 68.4%. were currently using herbs at the point of the study (Figure 2).

The results on the types of herbs indicated that onion was the most commonly consumed herb, with 80.4% of the study participants indicating that they used it as part of their diets

(Table 3). Other commonly used herbs as were found in the completed study were cinnamon, garlic and mint.

Table 3: Types of herbs used among women in Embakasi Sub-County.

Herb	n	%
Onion	308	80.4
Mint	167	43.6
Chili	102	26.6
Cassia	76	19.8
Celery	50	13.1
Teragon	48	12.5
Turmeric	39	10.2
Ginger	33	8.6

Side effects consumption of herbs among women in Embakasi Sub-County

On side effects, only 17.4% of the respondents who use herbs indicated they had side effects. The most common side effects experienced by consumers of herbs who participated in this study included vomiting, reported by 26.8% of the respondents, dizziness (21.4%), diarrhea (17.8%) and rashes (18.4%). (Figure 4). When they experienced the side effects, most (7.3%) of the respondents sought medical attention, 5.5% (n=21) withdrew the use of herbs and 1.8% (n=7) took no action.

Action taken following side effects of consuming herbs

Most (46.4%; n=26) of those who continued using herbs even after the side effects were motivated by their beliefs in the importance of herbs. 3.4% (n=13) were motivated to keep using herbs because the side effects stopped, while 30.4% (n=17) cited the experiences of others as their motivation to keep consuming herbs, side effects notwithstanding (Table 4).

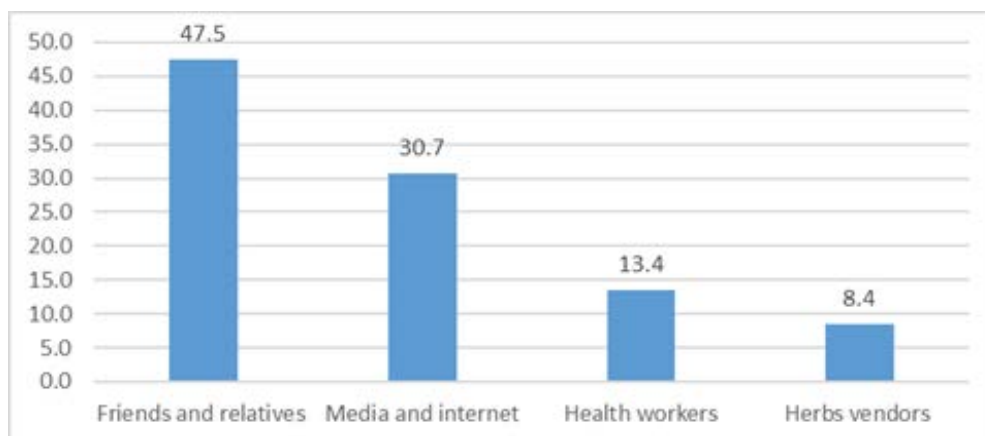


Figure 1: Source of information regarding use of herbs among women.

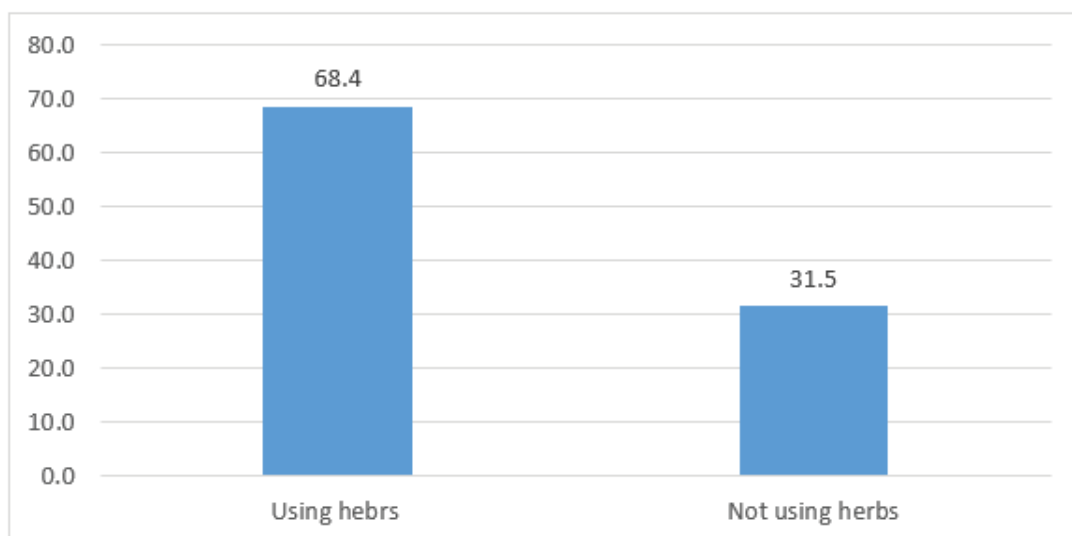


Figure 2: Usage of herbs among women.

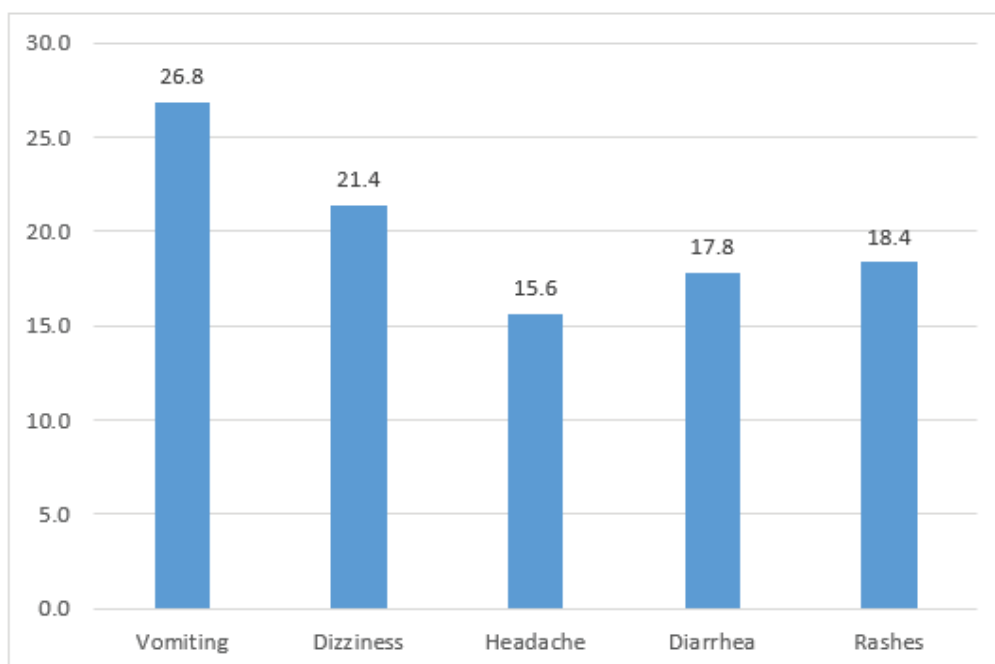


Figure 3: Types of side effects among women consuming herbs.

Table 4: Side effects among Women Consuming Herbs.

Action taken following side effects experience (n=56)	N	%
Sought medical attention	28	50.0
Withdrew the herbs	21	37.5
No action	7	12.5
I believe I herbs	26	46.4
experience of others	17	30.4

Morbidity status of women

The study found that most of the women (68.1%) in Embakasi sub-county were not ill. The women who had morbidities were 17.5%, which translates to low morbidity rates among women in Embakasi Sub-County (Figure 4).

The main symptoms of the diseases were, cough, diarrhoea and fever. The proportion of women in Nairobi using herbs is 68.1%. the woman using herbs and had cough were **18%**, which was significantly lower than those not using herbs, which was **31%**. This shows that those who did not use herbs

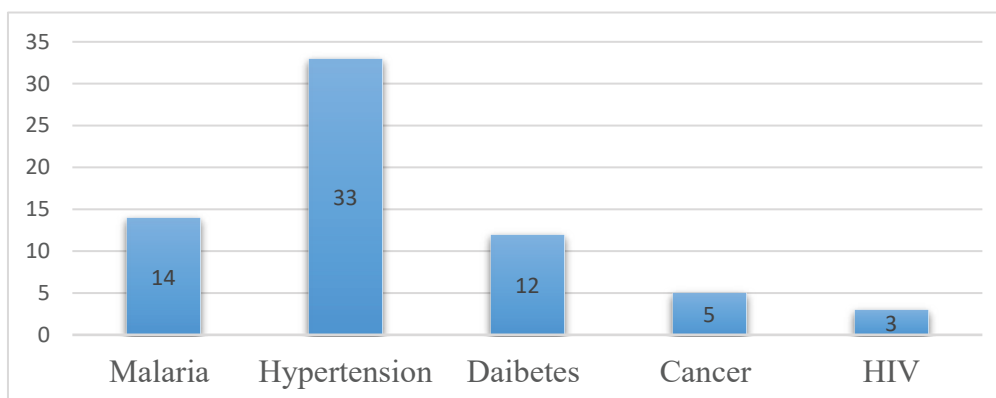


Figure 4: Morbidities among Women.

were **1.72 times** (OR=1.72) more likely to have cough than those who were using herbs. The women using herbs and had diarrhea were **10%**, which was significantly lower than those not using herbs, which was **23%**. This shows that those who did not use herbs were **2.3 times** (OR=2.3) more likely to have diarrhoea than those who were using herbs.

Again, women using herbs and had fever were 15%, which was significantly lower than those not using herbs, which was 21%. This shows that those who did not use herbs were 1.4 (OR=1.4) times more likely have fever than those who were using herbs.

Logistic regression was used to estimate adjusted odds ratios while controlling for confounding variables.

Discussion

The study shows that the combined majority (76.5%) of the participating women were aged between eighteen- and forty-years, findings that were in tandem with the expectation of the researcher that a majority of the women in Embakasi Sub-County are young adults. In agreement with results by [15] majority of the study respondents were younger than 30 years of age (58.0%), 67.3% married and 68.5% had secondary education level or higher. Aligning with these findings another survey by [16] conducted on nutritional status presented the mean age of women living in Embakasi Sub County to be 34.2 ± 3.3 years. Most (73.4%) of the women were married which was in support of another study which found that a majority (67%) of the women visiting health clinics in Embakasi Sub County were aged between twenty and thirty-five years, and 56.3% were married. Household with high income have been found to use herbs more [17].

Majority (46.7%) of participating women in Embakasi Sub County indicated that they have received information on herbs use. According to [18] and [19] consumption of herbs is common in most households in Kenya particularly in food preparation and for other medical and nutritional purposes. Another institutional based cross-sectional research carried

out among pregnant women showed that, 73.1% used herbs [20]. Mostly, the common reason for utilizing herbs was to promote health [21]. Consistently, [22] revealed that 83% of study participants acknowledged efficacy of herbs over conventional medicine believing that herbal medicines are natural and safe to use and that they treated certain diseases and maintained good health. On the other hand, [2] found that women in Tanzania consumed herbs to improve their nutritional status, and pregnancy outcomes. Additionally, 82% of overweight and obese university students in Jordan preferred to use herbal remedies rather than conventional medicine for weight loss. Flaxseed, chamomile, sage, cinnamon, ginger, or alpha-lipoic acid were the commonly used herbs for improving lipid profiles, insulin sensitivity or glucose intolerance while green tea and bromelain enzyme increase energy expenditure [23]. Similar findings were affirmed in [24] where green tea extract and yellow pea fiber had a significant decrease in body weight.

On the types of the information given, 20.6% indicated that they had information on the medical and nutritional benefits of using herbs while 17.5% have received information on how to use herbs, while 8.6% were given information on the side effects of using herbs. Most of the women provided the data on the current and previous studies cite health as their primary reason for using and recommending the use of herbs. According to [25] healthcare workers should be on the forefront in sharing information on herbs, and their medical and nutritional benefits. In a contrasting study investigating the dietary supplement consumption habits of pregnant women, [26] found that a majority (89.8%) of the pregnant women participating in the study in Ethiopia did not have any clinical knowledge nor did they seek any information from medical personnel before using herbs.

The current study found that onion was the most commonly consumed herb, with 80.4% of the study participants indicating that they used it as part of their diets while cinnamon, garlic and mint were other commonly used herbs. These findings were similar with those of [27] where

majority used garlic, ginger, taneedam and eucalyptus. [26] further support these findings, presenting that a majority of the pregnant women using herbs in Ethiopia consume garlic (19%), and ginger (40.7%). This agrees with [28] study where garlic, chili pepper, tamarind, coriander leaves, lemon grass, kaffer lime leaves, hairy basil leaves, mints, Bai-ya-nang (a local vegetable herb), and fennel leaves were the commonly consumed spices/herbs alongside the typical dishes. Further, [29] highlighted that multivitamin/mineral supplements were the common dietary supplements and protein supplements were used by athletics. Their perceptions revealed more efficacy for a variety of conditions.

The most common side effects experienced by consumers of herbs who participated in this study included; vomiting, reported by 25.6% of the respondents, dizziness (20.4%), diarrhea (17.0%) and rashes (17.5%). On the other hand, [3] found that women use a combination of herbs commonly during pregnancy with the intent of handling medical symptoms such as nausea and vomiting. Similar results were mirrored in [30] study which relates reasons for herb consumption among women, was to ease symptoms such as waist pain, abdominal cramping, vomiting and nausea. The action taken after experiencing side effects was medical attention (50.0%) and withdrawal the use of herbs 37.5%. However, most (46.4%) of those who continued using herbs even after the side effects were motivated by their beliefs in the importance of herbs. According to [19] herb consumption was for the reasons of easing medical symptoms, or for beauty purposes. However, in a study investigating the consumption of medicinal herbs in Ghana, [31] found that women in the contemporary age have shied away from herbs that would suggest alternative medicine use, due to the fear that it could inform health complications, or due to personal beliefs in the superior abilities of western medicine.

This study found that most of the women in Embakasi Sub-County were not ill or experiencing any symptoms of potential illness. The respondents with morbidities were less than a quarter (17.5%) of all the participants, which translates to low morbidity rates among women in Embakasi Sub-County. These findings are in line with those of other study by [32] who found that a substantially low number of participants were ill at least two weeks before the studies were conducted. In relation to the use of herbs, these findings are attributable to the significantly high usage of herbs that are associated with disease prevention. According to [27] people who use herbs associated with anti-inflammatory or antioxidant properties frequently tend to have less morbidities and are rarely predisposed to chronic diseases.

Hypertension and Malaria were the most common chronic conditions reported among women. The numerous chronic health conditions influence the use of herbs [33,34].

According to [35] presence of a health condition increases the opportunities of using herbs. This is because herbs are associated with medication. Similarly, [34], found that the presence of a health problem would drive women to use herbs or herbal supplements in a bid to stop the progression of symptoms, or the development of worse symptoms associated with a disease, or poor nutritional status. However, [36] highlighted that herbal products and its usage is usually associated with challenges. Research findings in Africa showed that 48% of the women who consumed herbal supplements for weight loss were underweight and 21% become obese [37,38]. The most common symptoms experienced by the sick people who participated in the study were diarrhea, vomiting and fever. They sought medical assistance from medical facilities, and pharmacies findings that are in tandem with those of [39] who found that most people seek medical intervention from medical facilities when experiencing symptoms.

Conclusion

The study concludes that most of the women in Embakasi Sub-County are married adults, from low to middle-income households. A majority of the participating women were knowledgeable about herbs in terms of their usage and benefits; having derived the information from a variety of sources including the media, peers, and health professionals. The proportion of the women participating in the study who had used herbs or were using herbs was (73.5%). The source of herbs was mainly herbal clinics and open markets. Women used herbs for; preventing illness, management of diseases and diseases symptoms, to improve the quality of food. Onion, cinnamon, garlic, and mint being the most commonly used types of herbs. Use of herbs led to decrease in prevalence of disease symptoms; diarrhoea, fever and cough.

Ethics approval and consent to participate

Ethical clearance was sought from Kenyatta University Ethical Review Committee in accordance with the **declaration of Helsinki (World Medical Association)**; Research permit from National Commissions for Science, Technology and Innovation (NACOSTI). Authority to conduct the study was sought at Nairobi City County. Informed consent was obtained from all the participants which was voluntary and was sought before recruitment of participants to the study. Confidentiality was ensured by not using the participants' names during the research.

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Availability of data and materials

All the relevant data supporting the findings of this article are contained within the document.

Authors' contributions

Halima OSMAN conceived and designed the study, data collection, data analyses and writing the manuscript. Prof Peter CHEGE and Dr. Winfreda NYAMOTA assisted in designing the study. All authors read and approved the final manuscript.

Competing interests

The authors declare that they have no competing interests.

Consent for publication

All the authors have given the consent for publication.

Ethics approval and consent to participate

Before embarking on the data collection process, ethical clearance was obtained from Kenyatta University Ethical Review Committee (PKU/2606/11730) in Kenya. Research permit was also obtained from the Kenya National Council for Science, Research and Innovation (NACOSTI). An informed consent was obtained from each of the study participants and they were at liberty to stop the interview at any time.

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