

Factors Influencing Facility-Based Herbal Medicine Use Among Adults at Outpatient Department of the Eastern Regional Hospital, Koforidua

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Abstract

World Health Organization estimates that eighty percent of populations in developing countries and over three-quarters of Ghanaians depend on herbal medicine (HM) for primary healthcare. Studies on factors that influence HM use among patients in hospital-based treatment system is rare, especially in Ghana. This study sought to determine factors influencing HM use among adults at the Eastern Regional Hospital (ERH) - which offers both conventional and HM services in Ghana. Findings of this research contribute to knowledge on factors associated with HM use in hospital setting, for better HM integration by policymaking and interventions and a holistic healthcare towards the achievement of universal health coverage. Descriptive cross-sectional study was conducted among 413 adults who sought healthcare at adult outpatient department of ERH. Semi-structured questionnaire was used to collect data on socio-demographic background and factors influencing HM use. Data were analyzed using Stata Version 16. Factors associated with HM use was determined using simple and multiple logistic regression, with statistical significance set at 5%. The HM utilization at ERH was 5.6%. Radio (4.8%) and poster (4.8%) were major media factors accounting for HM use. Likewise, friends/family recommendation (23.8%) and effectiveness of HM (21.4%) were major individual factors. Major health system factors were less waiting time (14.3%) and easy access to herbal practitioners (9.5%). The odds of using HM was high among higher monthly income earners ($p < 0.01$), and after adjusting for confounders was found to be 3.94 (95% CI: 1.01-15.40) times higher than lower income earners.

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In conclusion, there was low prevalence of HM utilization at ERH, with high income earners being more likely to use HM. There is urgent need to reduce or remove barriers, including cost, hindering access and utilization of HM in integrated facilities, especially, for low-income earners.

Keywords: adult; alternative medicine; Ghana; herbal medicine; hospital-based; outpatient department.

1. Introduction

Herbal medicines have been used by mankind since ancient times for treatment of diseases [1], with quite many conventional drugs having their root from herbs [1,2]. Traditional medicine (TM) is broad and encompasses HM in addition to other forms of practices such as; psychic healing, soothsaying and spiritism, etc. [3] as well as; Ayurveda, chiropractic, homeopathy, naturopathy, etc. [4]. Dealing with diseases (both communicable and non-communicable (NCD) has remained a burden globally, more especially in developing countries [5]. The upsurge of Conventional Medicine (CM), made a great contribution in dealing with disease burdens [2]. In Ghana, as well as some other parts of the world, HM is the most commonly known [6] and the most utilized among all other forms of CAM practices and treatments [7,8,9].

Herbal medicine appeared as the second commonest form of TM practice among all other TM practices in WHO member states [10].

The Traditional Medicine Practice Council (TMPC) of Ghana registered 25,000 HM providers in the year 2009 [10]. Traditional Medicine practices in most developing countries are highly patronized and 80% of the population of such countries utilize TM for primary healthcare needs [1,4]. The situation is not so different in Ghana as WHO (2019) [10] indicates that, 60-79% of the Ghanaian population utilize indigenous TM. Traditional medicine integration is therefore recognized as key to promoting universal health coverage [4], considering the greater proportion of populations that rely on it for health care needs. There are two major medical systems practiced in Ghana. These are; Traditional and Conventional (or Biomedical or Orthodox) systems [11,12].

Although the traditional system had existed many years before the upsurge of the conventional system, the conventional system enjoyed more support from the state and became the formal form of medical practice provided with all the required resources [13,14]. This might be due to scarcity of research data on TM [4], and officials of Ministry of Health (MOH) being conventional practitioners not so interested in the pluralistic medical system [11]. Nonetheless, despite the many years of 'seeming neglect' (lack of allocation of enough resources by the state) of the traditional system, it continued to thrive through the persistence of private individuals and practitioners [13]. Ghana government has over the years attempted to improve upon the practice of TM. Key among such efforts include: (1) the establishment of the Centre for Scientific Research into Plant Medicine, currently, Centre for Plant Medicine Research (CPMR) to produce and conduct research into herbal medicines; (2) the passage of the Food and Drugs Law, 1992 (PNDCL 305B) also certify herbal medicines before they are sold; and (3) the enactment of the Traditional Medicine Practice Act, 2000 (Act 575) which establishes the TMPC charged with the responsibility to regulate TM practices in Ghana and the establishment

of the Traditional and Alternative Medicine Directorate (TAMD) as one of the directorates of the MOH [10,13]. Other efforts include; the four-year Bachelor of Science program in HM introduced in the year, 2001 at the Kwame Nkrumah University of Science and Technology (KNUST) [10,13] and quite recently, the integration of HM practice into mainstream health care delivery system which led to the setting up of 17 pilot HM centers in government hospitals in Ghana [14], some of which started operating in 2011 while others followed from 2012 [15].

Despite reported challenges associated with HM use [16,17], 60-79% of Ghanaians still depend on it [10]. Studies by Agyei-Baffour, Kudolo, Quansah, & Boateng (2017) [18] reported 42.2% HM usage among urban dwellers. Previous studies have reported factors influencing HM use as; recommendation by family and friends, expectation of benefit from herbal use and safety of herbs [19], better efficacy and low side effect [20,21], less waiting time at herbal clinics, ready availability of herbal practitioners and cost effectiveness of HM [21], radio, television and newspapers [7,22].

However, most of those studies were not carried out in Ghana nor in health facilities providing both herbal and CM services as this study seeks to do. Furthermore, information on factors that influence HM use among patients in hospital-based treatment system in Ghana is scanty.

The only cited similar published study conducted in Ghana [18], took place in facilities that largely provide primary healthcare services. However, the dynamics of HM use at facilities that provide primary healthcare may differ from secondary level facilities, and since secondary level facilities in Ghana also offer HM services, it was necessary to conduct the study at a secondary level referral facility like ERH where the piloting of HM integration in hospitals in the Eastern Region of Ghana started, so as to gather broad base information on the subject matter to inform appropriate policy interventions. This study sought to determine factors associated with HM use among adults at the outpatient department in (a secondary level) hospital-based treatment system.

The findings of this study would provide information for policymaking and interventions on the HM integration in order to meet the needs of the greater proportion of the population who use HM, through a hospital-based HM care system. Furthermore, it would contribute to knowledge on factors associated with HM for holistic healthcare towards the achievement of universal health coverage.

2. Methods

2.1 Study design

This study was a hospital-based cross-sectional descriptive study, conducted among patients who received healthcare at the main adult Outpatient Department (OPD) of the Eastern Regional Hospital (ERH).

2.2 Study area

The ERH is a 340-bed capacity hospital, established in 1926, that serves as a secondary referral health facility for about sixteen (16) district hospitals within the region and also doubles as a municipal hospital for the New

Juaben South Municipality. The hospital provides both in-patient and out-patient services.

Out-patient services are provided at different locations within the premises of the hospital by various clinics and units. In the hospital, there is the main adult OPD where clinics/ units including; herbal, medical, urology, gynaecology, HIV and surgical provide out-patient services in different consulting rooms. There are 13 consulting rooms at the main adult OPD, one of which is used as the Herbal Clinic. Other OPDs at different locations in the hospital include; Dental OPD, Eye and Ear, Nose and Throat (ENT) OPD, Kids OPD and Hypertension/ Diabetes OPD. Total average daily patient attendance in 2019 per the hospital's annual report was 927 and total annual OPD attendance in the entire hospital was 266,296.

The ERH was one of the government hospitals used for the piloting of the HM integration, and also the first in Eastern Region of Ghana to pilot the said integration. The HM unit (located at consulting room 12 at the main adult OPD of the hospital) was established in the year 2012. There are currently, two Herbal Medical Practitioners and one Intern Medical Herbalist working at the HM Unit. All patients who seek care at the Herbal clinic in the ERH, first go to the same Records Department at the main adult OPD of the hospital, like their orthodox counterparts, and request to be given service to attend the Herbal Clinic. Patients who seek care at the hospital have the liberty to self-select HM service and be seen by the Herbal Medical Practitioner(s) at the Herbal clinic if they so desire.

Herbal medicines prescribed to patients by Herbal Practitioners in the ERH are stocked and dispensed at the main pharmacy of the hospital where the orthodox medicines are also stocked and dispensed by the same pharmacy staff. The herbal medicines stocked at the facility are used to treat/ manage a wide range of diseases/conditions that usually present at the adult OPD of the hospital such as; Malaria, Musculoskeletal pain, Gastritis, Hypertension, Upper Respiratory Tract Infections, Urinary Tract Infections, Skin diseases, Benign Prostatic Hyperplasia, Haemorrhoids, Erectile dysfunction, etc. Most of these diseases often appear among the top ten diseases seen at the main adult OPD in the hospital's annual reports. Currently, as is the situation in the entire country, herbal medications are not covered by the NHIS, patients therefore pay for the herbal medicines prescribed to them at the hospital out of their own pockets, unlike the orthodox medicines that are largely covered by the NHIS. The integration now offers patients who seek care at the ERH the option to choose between herbal and conventional forms of treatment.

2.3 Study population

The study population were all patients who sought care at the main adult OPD of the ERH. The study included patients 18 years and above who came to the main adult OPD to receive healthcare and consented to be part of the study.

2.4 Sample size determination

Calculation of the sample size was based on probability sampling formula developed by Cochran (1977). A similar study done in Ghana, found the rate of utilization of HM at the facilities to be 42.2% [18]. Hence:

$$n = \left(\frac{z^2 p(1-p)}{e^2} \right)$$

where z is 1.96 for 95% confidence level, p is prevalence rate (42.2%) and e is error margin is 5%. This gives a total of 375 approximately, with 10% non-response rate, the sample size was 413.

2.5 Sampling Procedure

Non-probability consecutive sampling approach was used to select eligible participants for the interview. The sampling frame included all adults that sought OPD healthcare at ERH in April 2020. The participants were selected at the point of exiting the OPD. On each day of data collection, patients who had gone through the entire consulting process at the main adult OPD and received prescribed medication at the hospital's pharmacy were sampled for participation in the study after giving consent. This process continued until 413 obtained.

2.6 Data collection tool and technique

Data were collected using semi-structured questionnaire administered by interviewer. The questionnaire was divided into three sections: 1. socio-demographic characteristics of participants, 2. participants' use of HM, 3. factors (i.e. Individual, health system and media) influencing HM use.

2.7 Data analysis

All analysis was done using Stata version 16. Equal variance and normality assumption of continuous variables were tested using the Bartlett test and Shapiro-Wilk respectively. Estimation of proportion of adult outpatients at ERH using HM was obtained by dividing the number of study participants who were currently utilizing HM at ERH at the time of the interview by the total number of participants of the study and expressed as a percentage. Determination of factors (i.e. individual, health system and media) influencing HM use was analyzed using simple and multiple logistic regressions. Bivariate analysis using Chi-square or Fisher's exact test was done to assess association between HM use and individual, health system and media factors. Statistical significance was set at p -value less than 0.05.

3. Results

3.1 Socio-demographic characteristics and relationship with herbal medicine use

A total of 413 were enrolled in this study, representing a 100% response rate, of which majority (62.2%) were females. The mean age was 44 years ($SD \pm 15$). As shown in Table 1, higher proportion of participants (22.7%) were between the age group 25–34 years. Christians formed the majority of the participants (87.2%).

Majority were married (56.4%) and most participants had acquired secondary/vocational education (34.9%). Mean income was USD114.35 ($SD \pm 96.70$).

Majority of the participants (90.6%) were active NHIS card bearers. Statistically significant association was

found only between HM use and participants' income ($p < 0.01$).

Table 1: Socio-demographic characteristics and association with herbal medicine use.

Variable	HM use at ERH			p-value
	Users N (%)	Non-users N (%)	Total N (%)	
Sex				
Male	9 (39.1))	147 (37.7)	156 (37.8)	0.890 ^a
Female	14 (60.9)	243 (62.3)	257 (62.2)	
Age groups (years):				
<25	1 (4.4)	32 (8.2)	33 (8.0)	0.982 ^b
25-34	5 (21.7)	89 (22.8)	94 (22.7)	
35-44	5 (21.7)	87 (22.4)	92 (22.3)	
45-54	6 (26.1)	84 (21.5)	90 (21.8)	
55-64	4 (17.4)	53 (13.6)	57 (13.8)	
>64	2 (8.7)	45 (11.5)	47 (11.4)	
Religion:				
Christian	22 (95.7)	338 (86.7)	360 (87.2)	0.474 ^b
Muslim	1 (4.4)	48 (12.3)	49 (11.8)	
Traditional	0	4 (1.0)	4 (1.0)	
Marital status				
Single	9 (39.1)	171 (43.9)	180 (43.6)	0.658 ^a
Married	14 (60.9)	219 (56.1)	233 (56.4)	
Monthly income (USD**)				
<100.00	8 (34.8)	261 (66.9)	269 (65.1)	0.001 ^{*a}
100.00-200.00	6 (26.1)	75 (19.2)	81 (19.6)	
>200.00	9 (39.1)	54 (13.9)	63 (15.3)	
Level of education:				
No formal education	2 (8.7)	27 (6.9)	29 (7.0)	0.055 ^b
Primary	0	46 (11.8)	46 (11.1)	
Middle/ JSS	5 (21.7)	102 (26.2)	107 (25.9)	
Secondary/ Vocational	6 (26.1)	138 (35.4)	144 (34.9)	
Tertiary	10 (43.5)	77 (19.7)	87 (21.1)	
NHIS card bearer:				
Non-active card bearers	1 (4.4)	38 (9.7)	39 (9.4)	0.712 ^b
Active card bearers	22 (95.6)	352 (90.3)	374 (90.6)	
Total	23 (100%)	390 (100%)	413 (100%)	

* Statistical significance at $p < 0.01$; ^aChi-square test; ^bFischer's Exact test

**Inter-bank Exchange rate was USD1.00 equivalents to GHS5.72 (April, 2020).

3.2 Proportion of adult outpatients using HM

Figure 1 shows that, of the total of 413 participants, 5.6% use HM services at the ERH. Majority of the study participants (92.3%) had ever used HM, while among those who had ever used HM, 6.6% had ever used HM at the ERH.

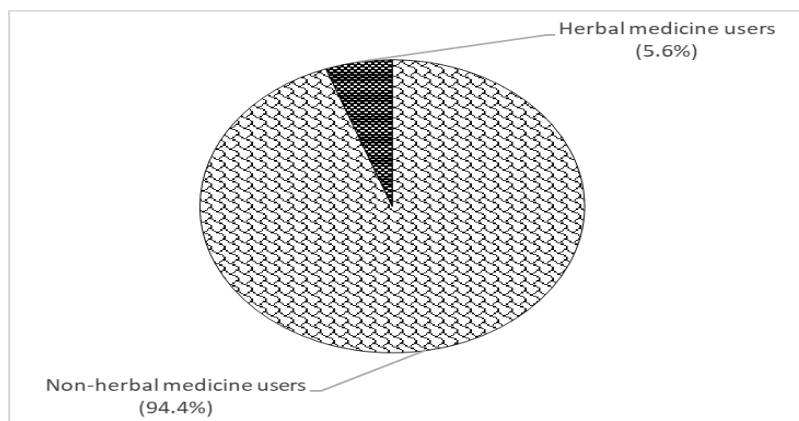


Figure 1: Current treatment option used at ERH by study participants.

3.3 Factors accounting for HM use at ERH

As shown in Table 2, the factors accounting for HM use were classified as media, individual and health system factors. A sub-analysis of the data on the 6.6% (25) participants who had ever used HM from the ERH, found that, radio (4.8%) and posters (4.8%) were the major media factors that accounted for use of HM at ERH herbal clinic, while friends’/family’s recommendation (23.8%) and effectiveness of HM (21.4%) were the major individual factors accounting for HM use at ERH. Less waiting time at herbal clinic (14.3%) and easy access to herbal practitioners (9.5%) were the major health system factors that accounted for HM use at ERH among participants, while few reported low cost of HM (2.4%) as accounting for use of HM.

Table 2: Factors accounting for HM use at ERH.

Variable	Number	Percentage (%) **
Media factors*		
<i>Radio</i>	2	4.8
<i>Television</i>	1	2.4
<i>Flyer</i>	1	2.4
<i>Posters</i>	2	4.8
<i>Hospital OPD Announcement</i>	1	2.4
Individual factors*		
<i>Personal preference</i>	1	2.4
<i>Effectiveness of HM</i>	9	21.4
<i>Herbs are natural</i>	1	2.4
<i>Low side effect of HM</i>	3	7.1
<i>Friends / family recommendation</i>	10	23.8
Health system factors*		
<i>Low cost of HM</i>	1	2.4
<i>Less waiting time at Herbal clinic</i>	6	14.3
<i>Easy access to Herbal Practitioners</i>	4	9.5
Total	42	100.0

*Participants selected only one most preferred option from each category, however, some categories were not applicable to some participants so no selection in such categories was made by such participants, **percentages were calculated based on the total number of responses in all categories

Of the 25 participants who had ever used HM at the ERH herbal clinic, majority indicated that, individual factors (60%) influenced them most to use HM, 24% indicated that, media factors influenced them most, while 16% indicated that, health system factors influenced them most as shown in Figure 2.

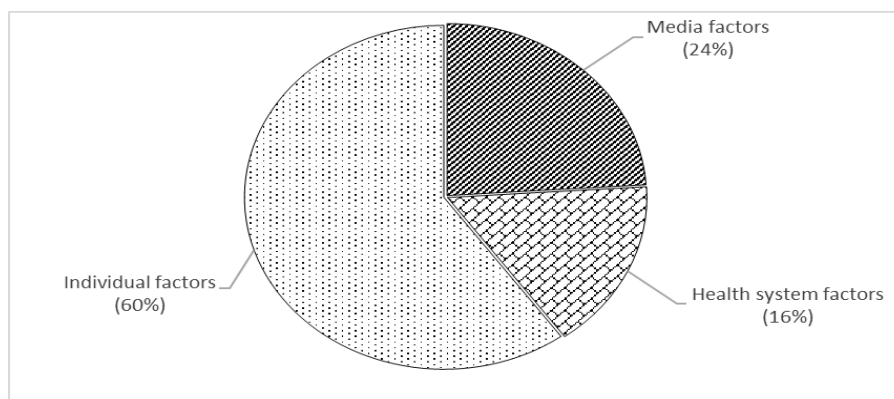


Figure 2: Most influencing factors of HM use at ERH.

3.4 Relationship between HM use and media, individual and health system factors

This result focus on only participants who had ever used HM, either present or in the past. As shown in Table 3, there was no significant association between HM use and media factors ($p=0.574$) and individual factors ($p=0.469$). However, statistically significant association was found between HM use and health system factors ($p<0.05$).

Table 3: Association between media, individual and health system factors, and HM use.

Variable	HM use at ERH			p-value
	Current users N (%)	Non-current users N (%)	Total N (%)	
Media factor:				
No media influence	18 (78.3)	261 (72.9)	279 (73.2)	0.574 ^a
Media influence	5 (21.7)	97 (27.1)	102 (26.8)	
Individual factor:				
No individual influence	9 (39.3)	114 (31.8)	123 (32.3)	0.469 ^a
Individual influence	14 (60.8)	244 (68.2)	258 (67.7)	
Health system factor:				
No health system influence	19 (82.6)	341 (95.3)	360 (94.5)	0.030*^b
Health system influence	4 (17.4)	17 (4.7)	21 (5.5)	
Total	23 (100%)	358 (100%)	381 (100%)	

* Statistical significance at $p < 0.05$; ^aChi-square test; ^bFischer’s Exact test

3.5 Association between HM use and patients’ factors

As shown in Table 4, a univariate logistic regression found a statistically significant association between HM use at ERH and patients’ monthly income ($p<0.01$). However, after controlling for the observed confounding factors, multivariate logistic regression analysis found no significant association between the two variables.

Patients with bigger incomes had higher odds of using HM compared to those in lower incomes brackets. Patients whose health seeking behavior was influenced by health system factors had 4.22 (95% CI:1.29-13.79) times odds of using HM from ERH herbal clinic compared with their counterparts who were not influenced by health system factors, which was statistically significant (p<0.05) in univariate analysis. However, multivariate logistic regression analysis found no association between HM use at ERH and health system factors.

Table 4: Logistic regression analysis of HM use association with patients’ factors.

Variable	Unadjusted analysis		Adjusted analysis	
	OR ^u (95% CI)	p-value	OR ^a (95% CI)	p-value
Sex:				
Male	ref	0.890	ref	0.702
Female	0.94 (0.40-2.23)		1.21 (0.46-3.18)	
Age groups (years):				
<25	ref	0.957	ref	0.969
25-34	1.80 (0.20-15.98)		0.93 (0.09-9.58)	
35-44	1.84 (0.21-16.35)		1.44 (0.14-14.84)	
45-54	2.29 (0.26-19.74)		1.76(0.17-17.82)	
55-64	2.42 (0.26-22.57)		1.54 (0.15-16.34)	
>64	1.42 (0.12-16.36)		1.14 (0.09-14.50)	
Religion:				
Christian	ref	0.191	ref	0.342
Muslim	0.32 (0.04-2.43)		0.36 (0.04-2.96)	
Traditional	1		1	
Marital status:				
Single	ref	0.656	ref	0.711
Married	1.21 (0.51-2.87)		0.83 (0.30-2.25)	
Monthly income (USD):				
<100.00	ref	0.004**	ref	0.127
100.00-200.00	2.61 (0.88-7.76)		2.66 (0.75-9.36)	
>200.00	5.44 (2.01-14.73)		3.94 (1.01-15.40)	
Level of education:				
No formal education	ref	0.169	ref	0.677
Primary	1		1	
Middle/ JSS	0.66 (0.12-3.60)		0.51 (0.09-3.00)	
Secondary/ Vocational	0.59 (0.11-3.06)		0.37 (0.06-2.24)	
Tertiary	1.75 (0.36-8.51)		0.64 (0.09-4.56)	
NHIS card bearer:				
Non-active card bearers	ref	0.343	ref	0.933
Active card bearers	2.38 (0.31-18.12)		1.10 (0.13-9.25)	
Media factor:				
No media influence	ref	0.566	Ref	0.120
Media influence	0.75 (0.27-2.07)		0.29 (0.06-1.38)	
Individual factor:				
No individual influence	ref	0.476	Ref	0.115
Individual influence	0.73 (0.31-1.73)		0.33 (0.09-1.31)	
Health system factor:				
No health system influence	ref	0.034*	ref	-
Health system influence	4.22 (1.29-13.79)		1	

* Statistical significance at **p<0.01 and *p < 0.05; OR^u= Crude Odds Ratio, OR^a= Adjusted Odds Ratio

4. Discussion

The study found that, 5.6% of patients were currently utilizing HM, and 92.3% of the participants had ever used HM. The finding of 5.6% current HM utilization at the facility level, was lower than the 42.2% reported in a study carried out in Ashanti Region of Ghana [18]. This variation could be due to differences in geographical settings and the nature and level of healthcare offered at the facilities. Unlike the facilities in Ashanti Region that largely offered primary health care services, the ERH being secondary level referral facility, has been providing conventional medical services for many years for referred medical conditions which are usually not treatable with herbal medicines – well-known for their use at the primary health care delivery level. Hence, (although the ERH also offers some primary healthcare services), quite a number of patients who visit the hospital, might already have predetermined mindset to seek conventional treatment or present with diseases that are not treatable with herbal medication or might have the notion that, their disease condition may not be treatable/ manageable with herbal medication, and so do not seek herbal remedy. In this regard, it is important to explore more avenues of awareness creation to educate the general population especially, residents of New Juaben South Municipality (where the hospital is located) on the various disease conditions that are treatable/ manageable with herbal medication at the integrated herbal clinic in order to enhance utilization of HM at the facility.

The finding of 92.3% of the participants having ever used HM, was however, similar to the 98.4% reported by Agyei-Baffour et al. (2017) [18] in the Ashanti Region of Ghana and the 96.8% reported by Mbada et al. (2015) [19] in Nigeria. It was however, higher than the 54.3% found in Northern Uganda by Nyeko et al. (2016) [23]. The slight variation could be as a result of differences in study population, geographical location and diverse health systems. It is worthy of note that, although the study found a high prevalence of HM used from all sources among study participants, only less than one-tenth had ever used HM from the ERH Herbal Clinic. This calls for further studies to identify any other challenges that impede utilization of HM at the facility. A study by Appiah et al. (2018) [24] however, attributed low prevalence of HM use at integrated hospitals to non-coverage of herbal medicines by the NHIS and low publicity.

4.1 Factors accounting for HM use

4.1.1 Media factors

This study found that, media factors that account for HM use at the ERH were; radio, poster, television, flyer and hospital OPD announcements, with the major factors among these being; radio (4.8%) and poster (4.8%). Other studies have reported similar media factors as accounting for reasons for use and source of information about HM [7,21,22,25]. This indicates the important role that the media play in the use of HM. Once people become aware of the availability of HM services, they get to the hospital already informed and prepared, and so, straight away, self-select herbal treatment option at the hospital. The finding of radio and poster as major media factors accounting for HM use at the facility implies that use of those avenues must be intensified to ensure effective awareness creation. However, steps should also be taken to enhance the use of the other media factors (such as; television, flyer, hospital OPD announcements) identified in this study to augment the scope of

awareness creation avenues to enhance HM utilization at the facility.

4.1.2 Individual factors

This study found individual factors that account for HM use at ERH to be; recommendation by friends/family, effectiveness of HM, low side effect of HM, personal preference and the fact that herbs are natural. The major factors among these were; Friends/family recommendation (23.8%) and effectiveness of HM (21.4%). Other studies have also found similar factors influencing HM use [19,20,23,26,27]. When people get sick, they seek treatment that will heal them and recommend for others to use if they find that remedy to be effective.

The fact that friends'/family's recommendation and effectiveness of HM were the two major individual factors that accounted for HM use at the ERH, could be a reflection of the Ghanaian culture and tradition where people tend to recommend remedy that worked for them to their friends and family. Hence, it could be postulated that, the high percentage of friends'/family's recommendation accounting for HM use at the ERH could be a reflection of the effectiveness of herbal remedy prescribed at the facility. It was noted in a study by Gyasi et al. (2015) [28] that, the upsurge in HM utilization across the world is mainly due to the recognition that, HM is effective. The finding of this study seems to be in support of this assertion. This means that, to continue to sustain interest in the use of HM, especially, at integrated hospitals, stringent measures should be instituted to continually ensure that herbal products procured for use in such facilities are effective for treatment of ailment.

4.1.3 Health system factors

Health system factors found by this study to account for HM use at ERH include; less waiting time at herbal clinic, easy access to herbal practitioners and low cost of HM, with the major factors being; less waiting time (14.3%) and easy access to herbal practitioners (9.5%). Other studies have also found similar health system related factors as accounting for HM use [21,23]. Patients who seek care at the herbal clinic spend relatively less time to receive health care because, the low prevalence (5.6%) of current HM use found in this study gives an indication that, patients do not join long queues at the clinic to see Herbal Medical Practitioners at ERH. Additionally, since Herbal Practitioners at the hospital are not overwhelmed with many patients, they are somehow easily accessible by patients.

Agyei-Baffour et al. (2017) [18] reported that, patient satisfaction is a factor that influence HM use. This means that, favorable health system factors such as; less waiting time and easy access to Herbal Practitioners found in this study which contribute to patient satisfaction, tend to motivate their use of herbal remedy in the hospital.

4.2 Factors influencing HM use

The study found monthly income to be associated with HM use at the ERH, with increase in monthly income having higher odds of HM use at the facility. This study outcome is contrary to findings of some other studies that reported a rather higher odds of HM use among low-income earners [28,29,30]. This difference could be as a result of variations in study site, sampling population and sources of herbal remedy used by study participants. While most of those studies were conducted among general populations with the source of herbal remedy being

non-specific, this particular study was conducted at a hospital with herbal remedy sourced specifically from the hospital's herbal unit. Currently, NHIS does not cover herbal medicines in Ghana [24,26], while orthodox medicines are covered [14]. Hence, patients who patronize HM pay for the full cost of their medication out of their pockets. In discussing the findings of a similar study conducted in a hospital-based setting [18], the researchers expressed the view that, NHIS subscribers were likely to consider the services of herbal practitioners as expensive. It could therefore be the explanation for the finding of this study that, those who use HM from the hospital's herbal clinic, are the high monthly income earners because, they have the ability to bear the cost of the herbal medications prescribed to them.

This finding buttresses the need for government to take immediate steps to include herbal medications on the NHIS, as low-income earners, due to inability to pay for herbal medications out of pocket, could be disadvantaged in terms of seeking herbal remedies from credible healthcare facilities. This consequently, affect patronage, a view which was also shared by Aziato & Antwi (2016) [26] in their study. Introducing NHIS coverage for HM could therefore increase utilization of HM at the integrated herbal clinics, as reported by Lim (2013) [31].

4.3 Study limitations

It is important to take note that, the limitations of this study affect the extent to which the results of the study can be generalized. First, this study took place in only one integrated hospital, which is a regional hospital, hence, the outcome may not be representative of the situation that pertains in the entire country. Second, the sampling procedure used could have introduced sampling bias, because some of the patients who completed the consultation process in the hospital, may have absconded through an exit point different from the designated point for the study (which was the hospital's main pharmacy area). Last, since the study took place at a facility that was dominated by conventional practitioners, it is possible that, responses of some participants could have been biased by the setting. Some participants, in their attempt to be identified with the majority opinion dictated in an orthodox-practitioner dominated facility, may have given biased responses. These limitations of the study, thus hampers generalization of the findings of the study.

5. Conclusion

There was low prevalence of HM utilization at the ERH, with high income earners being more likely to use HM. More people are likely to use HM from the hospital because of favorable health system factors including less waiting time and easy access to Herbal Medical Practitioners. Hence, to contribute towards the drive aimed at achieving universal health coverage, efforts must be made to safeguard the public from using HM from unaccredited facilities and unqualified practitioners. To this end, MOH must introduce policies to help reduce or remove barriers, including cost, hindering access to HM in integrated facilities, especially, for low-income earners. This can be in a form of subsidy for herbal products and expansion of NHIS coverage to cover herbal medicines. Ministry of Health through TAMD should develop policy to standardize advertisement on HM and spearhead awareness creation and promotion of HM use from hospitals with integrated herbal clinics through the media, especially television and radio.

Ethical consideration

Ethics approval was sought and obtained from Ghana Health Service Ethics Review Committee, with the given approval number: GHS-ERC031/01/20. Furthermore, approval was sought from the Medical Director of Eastern Regional Hospital, Koforidua, before data collection began. Informed consent was acquired from participants, and they were assured of confidentiality and privacy before they participated in the study.

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List of abbreviations

CAM=Complementary and Alternative Medicine; CM=Conventional Medicine; CPMR=Center for Plant Medicine Research; ENT=Ear, Nose and Throat; ERH=Eastern Regional Hospital; HIV=Human Immunodeficiency Virus; HM=Herbal Medicine; KNUST=Kwame Nkrumah University of Science and Technology; MOH=Ministry of Health; NCD=Non-communicable Disease; NHIS=National Health Insurance Scheme; OPD=Outpatient Department; SD=Standard Deviation; TAMD=Traditional and Alternative Medicine Directorate; TM=Traditional Medicine; TMPC=Traditional Medicine Practice Council; WHO=World Health Organization.

Authors contribution

PL and MA made a substantial contribution to conception and design. PL made significant contributions to data collection. SA, PL and MA significantly contributed to analysis and interpretation of data. All the authors contributed substantially to article drafting, revision for crucial intellectual content, and approval of the final version to be published.

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