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Original Article

Parallel Use of Traditional and Allopathic Medicine: Pathways to Integrative Healthcare

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Abstract

Background: The concurrent use of traditional and allopathic medicine, termed parallel treatment, is prevalent in Ghana and other low- and middle-income countries. This study examined the prevalence, determinants, and implications of parallel treatment among adult patients in Accra, Ghana, and assessed attitudes toward integrating traditional medicine into formal healthcare. **Methods:** A cross-sectional survey was conducted at Agbeve Herbal Hospital and Weija-Gbawe Municipal Hospital, Accra. Using convenience sampling and Cochran's formula, 188 adult patients (≥18 years) were enrolled. Data were collected via structured questionnaires and analyzed using descriptive statistics and chi-square tests (SPSS v26.0; α = 0.05). Reporting adhered to the STROBE checklist for observational studies. **Results:** 27.2% of participants engaged in parallel treatment. Key determinants included cost-effectiveness (21.3%), easy access (16.0%), and perceived superior efficacy (14.9%). Only 11.6% of dual users disclosed their combined treatment to their allopathic physician. Gender ($p = 0.034$), religious affiliation ($p = 0.033$), and residence ($p < 0.001$) were significantly associated with reasons for parallel use; age and education were not. 82.4% of participants supported integrating traditional medicine into public hospitals. **Conclusions:** Parallel treatment is widespread and shaped by cultural, economic, and social factors rather than demographic characteristics alone. Patient non-disclosure and regulatory gaps remain significant barriers. Evidence-based policy reforms, practitioner training in herbal medicine, and strengthened regulatory oversight are needed to facilitate safe, integrated healthcare delivery in Ghana.

Keywords: *Allopathic Medicine; Ghana; Healthcare Integration; Parallel Treatment; Traditional Medicine*

Introduction

Across the globe, an estimated 80% of people in developing countries rely on traditional medicine for their primary healthcare needs, often alongside allopathic (Western) medicine (Ekor, 2014). This pattern of concurrent use, termed parallel treatment, is particularly prevalent in Ghana, where herbal medicine has been formally integrated into primary healthcare delivery since 2012 (Asante & Avornyo , 2013; Kwame, 2021). While allopathic medicine remains the benchmark for evidence-based practice, traditional medicine persists owing to its cultural significance, relative affordability, and perceived therapeutic efficacy (Ampomah *et al*., 2024).

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Despite widespread prevalence, the determinants and consequences of parallel treatment remain underexplored in specific regional contexts. The World Health Organisation (WHO) recognizes its growing significance for patient safety and healthcare policy (Al-Worafi & Ming, 2022; Gumede, 2026), yet systematic evidence on its drivers remains limited (Al-Worafi & Ming, 2022). Of particular concern is the low rate of patient disclosure to allopathic practitioners, which elevates the risk of adverse herb - drug interactions and compromises patient safety. Recent evidence from South Africa underscores that non-disclosure is driven by cultural stigma, fear of physicians' judgment, and f ragmented healthcare systems (Gumede, 2026).

This study addresses this evidence gap by examining the prevalence and determinants of parallel treatment among adult patients in Accra, Ghana. Specific objectives were to: (1) determine the prevalence of parallel treatment; (2) identify sociodemographic and motivational determinants of concurrent medicine use; (3) assess patient-physician communication regarding dual therapy; and (4) evaluate community attitudes toward integrating traditional medicine into Ghana's formal healthcare system.

Methodology

Study Design and Setting

A cross-sectional survey was employed, an appropriate design for estimating the prevalence and distribution of health behaviors at a single point in time (Grimes & Schulz, 2002; Sedgwick, 2010). The study was conducted at two purposively selected healthcare facilities in Accra, Ghana: Agbeve Herbal Hospital (traditional medicine setting) and Weija-Gbawe Municipal Hospital (allopathic setting). This dual-site approach ensured diverse perspectives from both healthcare systems. Reporting adhered to the Strengthening Reporting of Observational Studies in Epidemiology (STROBE) guidelines.

Sample Size and Sampling

The required sample size was calculated using Cochran's formula for an unknown population (Cochran, 1977):

$$n = Z^2pq/e^2,$$

where $Z = 1.96$ (95% confidence), $p = 0.50$, $q = 0.50$, and $e = 0.072$ (7.2% margin of error), yielding $n = 188$.

A margin of error of 7.2% was adopted in place of the conventional 5% due to resources and time constraints inherent in field-based cross-sectional surveys. This was a simple convenience sample without clustering or stratification; a design effect correction was therefore not applicable. All 188 participants consented and completed the questionnaire, yielding a 100% response rate; therefore, no non-response adjustment was applied. These have been acknowledged as limitations.

Study Population and Eligibility

The study population comprised adult patients (≥18 years) seeking care at the selected facilities for chronic, reproductive, musculoskeletal, or infectious conditions. Patients unwilling to participate were excluded. All 188 approached participants consented and completed the questionnaire.

Data Collection and Statistical Analysis

Data was collected using structured questionnaires administered in-person and via Google Forms. Variables included sociodemographic characteristics, treatment modality, reasons for parallel use, physician communication, and attitudes toward integration. Data were analyzed using SPSS version 26.0. Descriptive statistics summarized f indings, and Pearson chi-square tests assessed associations between sociodemographic factors and reasons for parallel use at a 5% significance level.

Ethical Considerations

Ethical approval was obtained from the Ethical and Protocol Review Committee of the Family Health Medical School, Family Health University College, Ghana with reference number FHMS -CHD-EP RC-

18/2024-B in April 2024. Written informed consent was obtained from all participants before data collection. Confidentiality and anonymity were maintained throughout.

Results

Sociodemographic Characteristics

Of 188 participants, the majority were female (55.3%), aged 30–39 years (30.9%), and Christian (74.5%). Educational attainment was broadly distributed, with 28.7% holding tertiary qualifications. Most were privately employed or self-employed (56.4%), 31.9% earned less than GHS 1,000 per month, and 89.9% resided in urban areas (Table 1).

Table 1: Sociodemographic Profile of Participants (N = 188)

Variable	Frequency (n)	Percentage (%)
Gender:		
Female	104	55.3
Male	84	44.7
Age Groups		
18–29 years	48	25.5
30–39 years (modal)	58	30.9
40–49 years	37	19.7
≥50 years	45	23.9
Religion:		
Christianity	140	74.5
Islamic	45	23.9
Education		
No formal education	38	20.2
Basic education	51	27.1
Secondary/Vocational	45	23.9
Tertiary	54	28.7
Income:		
<1,000 GHS/month	60	31.9
Residence:		
Urban	169	89.9

Prevalence of Parallel Treatment and Patterns of Use

Of the 188 participants, 27.2% (n = 51) reported concurrent use of both traditional and allopathic medicine. The largest proportion (52.1%, n = 98) used Western medicine only, while 20.7% (n = 39) used herbal medicine exclusively. Among parallel treatment users, 67.0% had been doing so for 1–3 months. Overall, 56.9% (n = 107) reported using herbal medicine in some form, of whom 30.3% were occasional users (1-3 times per month) and 15.4% regular users (on daily basis) and 21(11.2%) rarely used herbal medicine (less than once per month or only during acute illness episodes) (Figure 1). Cost (21.3%), minimal side effects (17.0%), and accessibility (16.0%) were the leading reasons for preferring herbal medicine. Among dual users, better treatment outcomes (41.2%) and past positive experience (27.5%) were the most cited reasons for combining therapies (Table 2).

Table 2: Prevalence, Duration, And Reasons for Parallel Treatment Use (N = 188)

Category	Frequency (n)	Percentage (%)
Treatment type:		
Western medicine only	98	52.1
Herbal medicine only	39	20.7
Both (parallel treatment)	51	27.2
Duration of parallel use:		
1–3 months	27	52.9
4–6 months	12	23.5
7–12 months	6	11.8
>1 year	6	11.8
Total	51	100
Reason for herbal use:		
Less expensive	40	21.3

Minimal side effects	32	17.0
Easy access	30	16.0
Better treatment outcomes	21	41.2
Past positive experience	14	27.5

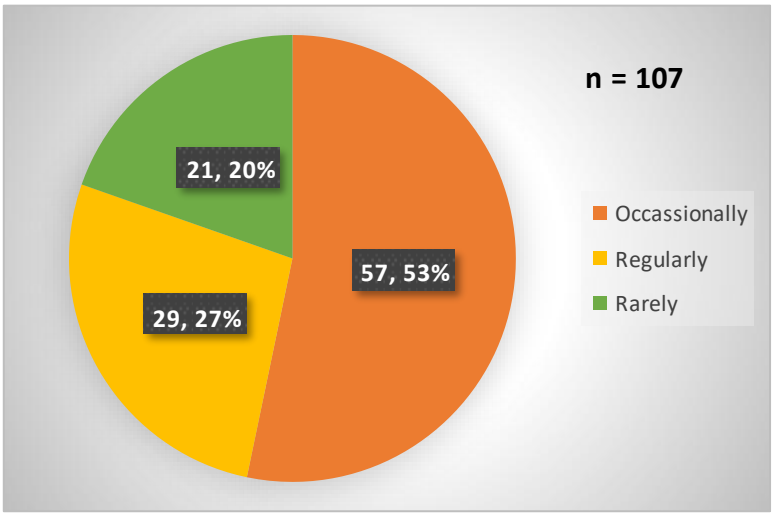

Figure 1: Frequent use of Herbal Medicine

Health Condition Profile

Infectious diseases (malaria, STI, typhoid) were the most common presenting conditions (29.3%), followed by chronic conditions such as diabetes and hypertension (24.0%), skin diseases (22.3%), musculoskeletal conditions (13.8%), and reproductive conditions including infertility and fibroids (10.6%). The majority (62.8%) had been living with their condition for less than one year. Decision-making was most influenced by professional healthcare recommendation (37.8%) and prior positive treatment experience (17.0%).

Table 3: Current Health Condition of Participants (N = 188)

Current condition	Frequency	Percentage (%)
Infective (STI, malaria, typhoid fever)	55	29.3
Chronic (Diabetes, hypertension, stroke)	45	24.0
Skin diseases	42	22.3
Musculoskeletal conditions	26	13.8
Reproductive (Infertility, fibroid)	20	10.6

Patient-Physician Communication and Attitudes Toward Integration

Among the 155 concurrent users, only 11.6% reported that their allopathic physician was aware of their dual therapy, and only 10.6% had discussed potential herbal–drug interactions with their doctor. Comfort in disclosing herbal use to physicians was low; 4.8% reported feeling very comfortable. Despite this, 66.7% agreed that allopathic practitioners should receive additional herbal medicine education, and 82.4% (n = 128) supported integrating traditional medicine into public hospitals (Table 4). The leading reasons for supporting integration were cost-effectiveness (21.8%), improved accessibility (18.6%), and better health outcomes (16.0%). These findings are consistent with recent evidence documenting systemic barriers to patient disclosure of traditional medicine use.

Table 4: Patient-physician Communication and Integration Attitudes (n = 155 dual users)

Indicator	Frequency	Percentage (%)
Doctor aware of combined treatment	18	11.6
Doctor expressed concern about herbal use	10	6.5
Doctor discussed herbal–drug interactions	16	10.6
Agree doctors need herbal medicine education	103	66.7

Support integration into public hospitals	128	82.4

Sociodemographic Associations with Parallel Treatment

Chi-square analysis revealed significant associations between reasons for parallel use and gender (χ^2 = 13.668, *df* = 6, *p* = 0.034), religious affiliation (χ^2 = 22.387, *df* = 12, *p* = 0.033), and place of residence (χ^2 = 28.352, *df* = 6, *p* < 0.001). Age (χ^2 = 32.392, *df* = 30, *p* = 0.350) and educational qualification (χ^2 = 22.494, *df* = 18, *p* = 0.211) were not significantly associated with treatment choices (Table 5).

Table 5: Chi-square Associations between Sociodemographic Factors and Reasons for Parallel Treatment Use

Sociodemographic Variable	Pearson χ^2	*df*	*p*-value
Gender	13.668	6	0.034*
Age group	32.392	30	0.350
Religious affiliation	22.387	12	0.033*
Residence (urban/rural)	28.352	6	<0.001*
Educational qualification	22.494	18	0.211

**Significant at p < 0.05*

Discussion

A major finding of this study is a 27.2% prevalence of parallel treatment among patients attending both traditional and allopathic healthcare facilities in Accra, Ghana, a finding consistent with the broader evidence base from sub-Saharan Africa. The female preponderance (55.3%) observed in this study aligns with previous literature (Ameade *et al*., 2018), indicating that women are more likely to utilize traditional and complementary medicine services, reflecting established gender patterns in healthcare-seeking behavior (Weeks *et al*., 2014). Age distribution differed from (Ameade *et al*., 2018), where older adults (40–55 years) predominated; here, the modal group was 30–39 years, consistent with the growing use of traditional remedies among working-age urban populations (Weeks *et al*., 2014; Balneaves *et al*., 2008).

The predominance of short-duration illness in the present study contrasts with studies of complementary and alternative medicine (CAM) users, where chronic and longer-standing illnesses were more common (Moebus *et al*., 2006). However, 24.0% of participants in this study used herbal medicine to manage chronic conditions, mirroring (Lunyera *et al*., 2016), who reported a 77.1% prevalence of traditional medicine use among diabetes patients in northern Tanzania. This underscores the significant role of herbal medicine in chronic disease self-management, even in settings with available allopathic care.

Treatment decisions were predominantly guided by healthcare professional recommendations (37.8%), replicating the pattern observed by (Udonwa & Ogbonna, 2012). Cost-effectiveness and accessibility were among the most cited practical determinants of herbal medicine use, findings consistent with previous literature indicating that affordability, availability, and ease of access strongly influence CAM utilization (Aziato & Antwi, 2016; Hughes *et al*., 2015). The perceived therapeutic benefit of herbal medicine for rheumatological and metabolic conditions, as reported by Chahrour *et al*., 2025 and Xia *et al*., 2020, further contextualizes why 41.2% of dual users cited better treatment outcomes as their primary motivation.

A critical public health concern revealed by this study is the very low rate of patient disclosure to allopathic physicians (11.6%), compounded by minimal provider-initiated discussion of herbal–drug interactions (10.6%). These findings align with previous literature indicating low disclosure rates of herbal medicine use among patients and highlighting limited consultation time and poor clinician–patient communication as barriers to such conversations (Robinson & McGrail, 2004; Shelley *et al*., 2009). A study provided contemporary qualitative evidence that non-disclosure is perpetuated by physicians' dismissive attitudes toward traditional medicine and the absence of institutionalized communication frameworks, findings that directly resonate with the present study's Ghanaian context (Gumede, 2026). Adherence challenges further compound this picture (Nezenega *et al*., 2013).

The 82.4% endorsement of integration into public hospitals reflects strong community demand for an inclusive healthcare model. This exceeds comparable support levels reported by Kwame (2021) and is

consistent with the view, held by 56% of clinicians (Al-Worafi & Ming, 2022), that integration can be beneficial when appropriately structured. However, physician resistance remains a structural impediment that policy frameworks must directly address (Van Rooyen *et al*., 2015; Ampomah *et al*., 2022). The significant associations of parallel use with gender, religion, and residence, but not age or education, indicate that cultural and environmental factors are more salient predictors of treatment behavior than demographic characteristics alone, with implications for targeted health communication strategies.

Limitations

This study has several limitations. The convenience sampling approach and a 7.2% margin of error reduce the generalizability of findings. Response bias may have been introduced by the researcher's presence during questionnaire completion. The cross-sectional design precludes causal inference. The relatively small sample size from two Accra facilities limits applicability to rural or peri-urban populations. Future research should employ random sampling, longitudinal designs, and validated herb-drug interaction disclosure instruments.

Future Scope

Future research should address the methodological limitations of this study by employing probability-based sampling designs to enhance generalizability across urban, peri-urban, and rural Ghanaian populations. Longitudinal studies are needed to track changes in parallel treatment behavior over time and to assess the impact of emerging integration policies on patient–physician communication and disclosure rates. Validated, standardized instruments for measuring herb–drug interaction disclosure should be developed and tested in the Ghanaian context. Qualitative inquiry would complement these findings by exploring the lived experiences and decision-making processes of patients and practitioners navigating dual healthcare systems. Comparative multi-site studies across West African countries with similar traditional medicine policy environments, such as Nigeria, Côte d'Ivoire, and Togo, would strengthen the regional evidence base. Finally, health economic analyses of integrated traditional and allopathic care models are needed to inform cost-effectiveness arguments for policy reform, particularly regarding the inclusion of herbal medicine services within Ghana's National Health Insurance Scheme.

Conclusion

Parallel treatment is prevalent in Accra, Ghana, driven by cost, accessibility, cultural beliefs, and perceived treatment efficacy. Patient non-disclosure to allopathic physicians represents a significant patient safety gap. Gender, religious affiliation, and place of residence are significant sociocultural determinants of treatment choice. Strong public support exists for integrating traditional medicine into formal healthcare. Evidence-based policy action is required across three domains: regulatory strengthening of herbal medicine standards and practitioner accreditation; mandatory herbal medicine competency training within allopathic medical and pharmacy curricula; and national public education campaigns on herb–drug interactions. These measures, aligned with Ghana's TCIM integration agenda and WHO's global traditional medicine strategy would meaningfully advance safe, patient-centred, and equitable healthcare delivery.

CRediT Authorship Contribution Statement

G.W.B: Conceptualization; Data Curation; Investigation; Writing – Original Draft. R.M: Methodology; Software; Formal Analysis; Validation; Visualization; Writing – Original Draft; Writing – Review & Editing. B.O.Y: Conceptualization; Project Administration; Resources; Supervision; Writing – Review & Editing. K.B: Project Administration; Resources; Supervision; Writing – Review & Editing.

AI Assistance Declaration

The authors declare that, during the preparation of this manuscript, AI tools, specifically ChatGPT and Claude, were used to assist with grammar review and coherence of the text. Following the use of these tools, the authors thoroughly reviewed and revised the content and took full responsibility for the final version of the manuscript, ensuring its accuracy and adherence to required academic standards.

Conflict of Interest

The authors declare that they have no conflicts of interest.

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