# HERBAL MEDICINES: SOCIO-DEMOGRAPHIC CHARACTERISTICS AND PATTERN OF USE BY PATIENTS IN A TERTIARY OBSTETRICS AND GYNAECOLOGY UNIT

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**ABSTRACT**
***Herbal medicines are used by patients, mostly without the knowledge of their Doctors and other Health providers. The presentation, course and outcomes of the patient's condition may thus be affected. There has been a lot of concern recently about the use of herbal medicines. The Ghana Food and Drugs Board has come out with a strong campaign aimed at regulating the advertisement of medicinal products, especially herbal medicines. Unfortunately, little is known about the pattern of use of herbal medicines by patients attending our hospitals. This cross-sectional descriptive survey with in depth interviews was carried out to determine the socio-demographic characteristics and the pattern of herbal medicine use by patients in the Obstetrics and Gynaecology Department in Komfo Anokye Teaching Hospital. More than 50% of those interviewed said they used herbal medicines with liquid preparations being the most frequently used. About 25% of these preparations were administered orally and the rectal and vaginal routes were also used. It is recommended that documentation of herbal medicine use is done whenever patients are seen in health institutions. Further studies are needed to find out about the use of herbal medicines in the general population since it would play a major role in the Ghana Ministry of Health's goals of integrating herbal medicine use into health delivery and providing comprehensive health services for all. There is also the need for collaboration between the Department of Herbal Medicine and other Departments in the College of Health Sciences at the Kwame Nkrumah University of Science and Technology.***

**Keywords:** *Herbal medicine, Komfo Anokye Teaching Hospital*

## INTRODUCTION

Herbal medicines are plant derived materials or preparations with therapeutic or other health benefits which contain either raw or processed ingredients from one or more plants. In some traditions, materials of inorganic or animal origin may also be present (WHO, 2005).Herbal medicines of various kinds are used by patients attending the Obstetrics and Gynaecology Department of the Komfo Anokye Teaching Hospital

(KATH). The main routes of administration are oral, rectal, vaginal or combinations of these. Media liberalization, especially of the airwaves has provided avenues for widespread advertising of herbal medicines. Invariably, non-proven benefits and potency are attributed to these products which are available nation-wide. In addition to those from traditional medicine practitioners and herbalists, herbal medicines can be bought in many places including open markets, local shops, on commercial vehicles and from itinerant hawkers.

The public concerns about the efficacy and safety of herbal medicines have been highlighted by various researchers (Niggemann and Grüber, 2003; Barnes, 2003; Adewunmi and Ojewole, 2004; Salia, 2006; Clay, 2006). Use of herbs may have side effects some of which may be toxic. Patients who may need surgical intervention may also have peri-operative implications (Hodges and Kam, 2002). The use of herbal medicines in obstetrics may affect the course and outcome of pregnancy (Ernst, 2002). In gynaecology, the situation can be even more alarming since their use may worsen pathology including those of infertility, uterine fibroids and malignancies. The prevalence of prior and current herbal medicine use among patients admitted to most hospitals is unknown and documentation is hardly done. This study was carried out to determine the socio-demographic characteristics and pattern of use of herbal medicines by women admitted to the Obstetrics and Gynaecology Department in the Komfo Anokye Teaching Hospital (KATH), a teaching hospital serving the Northern part of Ghana.

## PATIENTS AND METHODS

Over a four month period (1st May to 31st August, 2006), patients admitted to the Obstetrics and Gynaecology Unit in KATH were invited to participate in the study. Patients were selected by systematic random sampling (Dunn and Everitt B; 1995). Standardized structured pretested questionnaires were administered by Doctors after explaining the study objectives and obtaining patients' consent. This study was partially interrupted for three weeks due to an industrial action by health workers. Demographic details and use of herbal medicines constituted items in the questionnaire. Further details concerning types and routes of administration were obtained from those who used herbal medicines prior to their current admission. Herbal medicines were not used whilst on admission. The questionnaires were checked and omissions corrected prior to discharge of the patients. The data were analyzed on a personal computer using Microsoft Works version 7.0 and Office 2003. Chi square and Fisher exact tests, and odds ratios were used to compare differences between categorical variables; the Kruskal-Wallis H test was used to compare continuous variables. Differences were taken as significant if the P value was less than 0.05 or if the 95% confidence interval of the odds ratio (OR) did not enclose 1.

## RESULTS

During the study period, the total number of admissions in the Obstetrics and Gynaecology wards was 2,143. Six hundred and eleven of this number were randomly selected, counselled and interviewed. No patient refused to participate in the study. The data for fourteen patients were incomplete and could not be corrected prior to discharge .They were therefore excluded from analysis. In the end, data on 597 randomly selected subjects out of the total population of 2143 (27.8%) were analysed. Three hundred and eighty-three of the 597 (64.2%) were pregnant or had delivered whilst on admission (obstetrics subjects), whereas 214 of 597 (35.8%) had gynaecological conditions (gynaecology subjects). Of the 597 subjects, 336 (56.3%) had ever used herbal medicines before their admission to hospital.

### *Socio-demographic characteristics*

The age range for the obstetrics patients who used herbal preparations was 17 to 45 years as compared to 17 to 62 years for the gynaecology pa-

tients. The mean ages of the obstetrics subjects and gynaecology subjects were 31.5±4.5yrs and 30.5±8.8yrs, respectively. There was no significant difference between the two groups. The mean parities were essentially similar in the obstetrics and gynaecology patients.

Table 1 shows further socio-demographic characteristics of the subjects. Herbal medicine use was more common among those with primary or no education (59.9% ever-users) than in those who had completed secondary or tertiary education (49.9% ever-users). The difference was statistically significant (P<0.02, OR 1.55, 95% CI 1.04-1.44). Similarly, occupation type showed a significant association with ever-use. Among the unskilled, semi-skilled and skilled groups, the proportions that had used herbal medicine were 64.3%, 47.9% and 40.9%, respectively (p<0.000). The proportion of ever-users in the semi-skilled and skilled groups taken together was 45.5%. The difference between this combined group and the unskilled group was significant (p<0.000, OR 2.16, 95% CI 1.53-3.05). Marital status and religious denomination had no significant association with ever-use.

**Table 1: Socio-demographic characteristics by herbal medicine ever-use**

| Patients' characteristics | Herbal Medicine Ever-Use | | | P value, Odds Ratio, 95% CI of OR | |
|---|---|---|---|---|---|
| | Yes | No | Total | | |
| | 336(56.3%) | 122 | 597 | | |
| **Occupation** | | | | | |
| Unskilled | 220(64.3) | 122 | 342 | P<0.000 | S |
| Semi-skilled | 80(47.9) | 87 | 167 | | |
| Skilled | 36(40.9) | 52 | 88 | | |
| Unskilled | 220(64.3) | 122 | 342 | P<0.000; OR=2.16, 95% CI=1.53-3.05 | S |
| Semi-skilled + skilled | 116(45.5) | 139 | 255 | | |
| **Education** | | | | | |
| Nil | 17(73.9) | 6 | 23 | P<0.004 | S |
| Primary | 223(59.0) | 155 | 378 | | |
| Secondary | 78(53.8) | 67 | 145 | | |
| Tertiary | 18(35.3) | 33 | 51 | | |
| Nil + Primary | 240(59.9) | 161 | 401 | P<0.02; OR=1.55, 95% CI=1.04-1.44 | S |
| Secondary + Tertiary | 96(49.0) | 100 | 196 | | |
| **Marital Status** | | | | | |
| Single | 71(53.0) | 63 | 134 | P=0.38; OR=0.84, 95% CI=0.56-1.26 | NS |
| Married | 265(57.2) | 198 | 463 | | |
| **Religious Denomination** | | | | | |
| Christian | 302(55.8) | 239 | 541 | P=0.58; OR=0.82, 95% CI=0,45-1.48 | NS |
| Moslem | 34(60.7) | 22 | 56 | | |

**OR=odds ratio; CI=confidence interval; S=significant; NS=Not significant**

***Pattern of use***

Table 2 and figures 1 and 2 summarize the pattern of use of herbal medicines.

The frequencies of routes of administration were oral, rectal and vaginal in decreasing preference among both the obstetrics and gynaecology patients. When it came to combinations of two routes, oral plus rectal was the most popular. The frequency of use of all three routes together was low.

Liquid preparations (e.g. suspensions, mixtures, solutions, syrups, decoctions) constituted more than 70% in both obstetrics and gynaecology groups, whereas solid preparations (e.g. tablets, capsules) were least used, with semi-solids (e.g. pastes, creams, ointments) occupying an intermediate position.

***Diagnosis at time of survey***

Table 3 shows the diagnoses of obstetrics patients who had ever used herbal medicines during the study period. Among this group of patients, PROM (pre-mature rupture of membranes), anaemia and the hypertensive disorders occupied the top three positions. In the gynaecology patients (Table 4), herbal medicine ever use was commonest in those with abortions

**Table 3: (OBSTETRICS): Diagnoses of patients ever used herbal medicines (N = 222)**

| Obstetrics patients | N | % |
|---|---|---|
| **Pregnant (**n = 152**)** | | |
| Antepartum haemorrhage | 14 | 9.2 |
| Unestablished labour | 24 | 15.8 |
| Premature rupture of membranes | 35 | 23.0 |
| Hypertensive disorders | 25 | 16.4 |
| Anaemia | 26 | 17.1 |
| Others | 28 | 18.4 |
| **Puerperal (**n = 70**)** | | |
| Vaginal | 55 | 78.3 |
| Caesarean section | 15 | 21.7 |

**Table 2: Routes of administration of herbal medicines**

| | Obstetrics Patients N (%) | Gynaecology Patients N (%) |
|---|---|---|
| Oral | 67(30.2) | 27(24.2) |
| Enema | 46(20.7) | 21(18.4) |
| Douche | 20(9.0) | 17(15.0) |
| Oral + enema | 42(18.9) | 20(17.3) |
| Oral + douche | 22(9.9) | 13(11.0) |
| Enema + douche | 15(6.8) | 10(9.0) |
| Oral + enema + douche | 6(2.7) | 5(4.1) |
| Other (e.g. topical, scarification) | 4(1.8) | 1(1.0) |

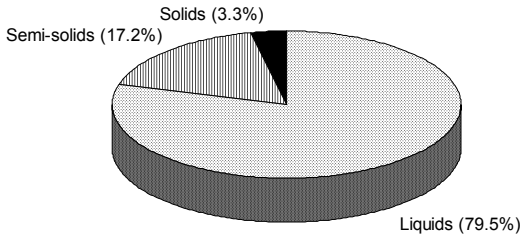


**Figure 1 : Herbal preparations (obstetrics)**

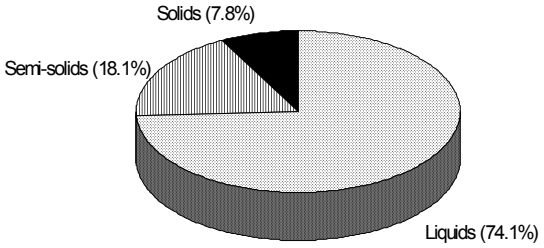


**Figure 2: Herbal preparations (gynaecology)**

**Table 4: (GYNAECOLOGY): Diagnoses of patients ever used herbal medicines (N = 114)**

| Gynaecology patients | N | % |
|---|---|---|
| Abortions | 31 | 27.2 |
| Pelvic inflammatory disease (PID) | 16 | 14.0 |
| Ectopic pregnancy | 26 | 22.8 |
| Fibroid uterus | 16 | 14.0 |
| Menorrhagia (excluding fibroid) | 5 | 4.4 |
| Cancers (cervix, endometrium, ovary) | 6 | 5.3 |
| Others | 14 | 12.3 |

(threatened, incomplete, complete and septic) followed by ectopic pregnancies. Pelvic inflammatory disease (PID) and fibroid uterus had the same prevalence.

## DISCUSSION

Herbal medicines form a major component of traditional medicine in Africa.

The World Health Organization (WHO) recognizes the value of plant medicines in healthcare delivery and endorses use of those preparations proven scientifically to be safe, efficacious and of good quality (WHO, 1998). Unfortunately, most countries in sub-Saharan Africa have no regulation, safety-monitoring or pharmacovigilance centers for the pharmaceuticals or herbal products sold on their markets (WHO, 2004)

This study show that more than 50% of the patients used herbal medicines which were mostly unknown to the attending health workers. Additionally, the less educated as well as the unskilled/semi-skilled used herbal medicines more frequently compared to their more skilled and educated counterparts. Herbal medicine use is thus more prevalent in the groups who usually have poor socio-economic facilities and carry most of the burden of social deprivation. It is possible that their disease conditions may be adversely affected.

Approximately two-thirds of the patients were pregnant or were in the puerperium. Doctors and other health workers who attend to pregnant women will confirm that some of their clients use herbal medicines. Herbal drugs are often promoted as 'natural' and 'safe' and these claims may especially attract pregnant women who are often concerned about their unborn child's well-being. In some instances, patients seek advice on whether to use herbal preparations recommended by their older relations (mother, grandmother, in-laws) or friends. In fact, quite a number feels these are essential for their unborn babies to develop well. Few studies have assessed the use of herbal drugs in pregnancy and the factors related to this use. The adverse effects of these native herbs are not known. Their contribution to poor pregnancy outcome like abortions, intrauterine growth restriction, preterm delivery and low birth weight may be high (Ernst, 2004). Anaemia constituted 26% of the pregnant population in this study. Whist it is known that malnutrition and parasitic infections and infestations contribute significantly to anaemia in the tropics, it will still be educative if further research is carried out to find out the possible effects of herbal medicine use. Another area, which was not part of this study, is the use of herbal preparations by puerperal women, in which among others the effects on lactation and on the babies could be studied.

Pelvic inflammatory disease (PID) and Ectopic pregnancies together accounted for 36.8% of the gynaecological admissions using herbal medicines. In our environment, tubal disease following

PID is the commonest cause of infertility and contributes significantly to ectopic pregnancies (Idrisa, 2005). Although infertility is one of the commonest primary complaints of patients attending our gynaecology outpatient clinics, because the study population consisted of admitted patients only, no infertility cases were enrolled in this study. The use of herbal medicines for enemas and douching may contribute to these problems.

It is common to hear advertisements on the numerous FM (frequency modulation) Radio stations, whose broadcasts cover large areas of the country, about herbal preparations which can 'melt' fibroids and treat various diseases including cancers and infertility. One wonders about benefits, if any, which these products provide and the potential worsening of these pathological conditions. Although only a small percentage (2.7%.in obstetrics and 4.1% in gynaecology) used all 3 routes in administering herbal medicines, it raises concern about exposure to more adverse effects. Patients on admission formed the subjects for this study. It would be useful to conduct a similar study on out-patients and compare the findings.

Fortunately, there are encouraging strategies to make the use of herbal medicines safe. The WHO Regional Committee for Africa has adopted the Regional Strategy on Traditional Medicine which urges Member States to develop systems for the safety, efficacy and quality of traditional medicines (WHO, 2004). The Ministry of Health in Ghana has produced a manual to harmonize procedures for assessing the safety, efficacy and quality of plant medicines (Nyarko *et al*, 2005).

A popular radio station, Peace FM (2006) reported the recent ban on advertising of all forms of pharmaceutical preparations by the Food and Drugs Board (FDB). The same story was also carried in the Daily Graphic newspaper (2006).This ban has led to modifications in advertisements on herbal products especially on television. Consequently, it is envisaged that the FDB will establish a National Quality Control Laboratory (NQCL) to maintain quality assurance (MOH, GNDP, 2004)

## CONCLUSIONS AND RECOMMENDATIONS

This study shows that herbal medicine use is popular amongst obstetrics and gynaecology patients in various forms and for various reasons. At present, health care professionals do not enquire routinely about use of herbal medicines. It is recommended that health workers directly enquire from patients whether they have used or are currently using such preparations. This will provide opportunity for counseling and also modifications in medical practice. Collaboration between the Department of Herbal Medicine and other Departments in the School of Medical Sciences should be strengthened.

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