

Utilisation of Herbal Medicine among Pregnant Women Attending Formal Health Care Facilities in Okene Local Government Area of Kogi State

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Abstract: *The peculiar challenges experienced by women during pregnancy could account for increased intake of herbal remedy as a form of alternative care among pregnant women in Nigeria and Okene community in particular. The focus of this study is to assess herbal medicine utilisation among pregnant women attending formal healthcare facilities in Okene Local Government Area (LGA) of Kogi State, Nigeria. The population of the study consisted of all the registered pregnant women attending both the public and the private healthcare facilities in Okene. Taro Yamane sampling technique was used to determine the sample size of two hundred and thirteen (213) while the use of simple random and purposive sampling techniques were adopted to elicit the data via questionnaire. The hypotheses were tested using One Sample chi-square. The results show that attitude of pregnant women had a significant effect on the use of herbal medicine in Okene L.G.A. of Kogi State. Similarly, pregnant women's belief system and orientations had a significant effect on herbal medicine utilisation in the study area. The study recommended that the government of Kogi State through the State ministry of health should set up an herbal institute that will modernize and regulate the practice of herbal medicine, in order to guarantee the safety use of it by the pregnant women in the state. Also, the herbal medicine should be made available, accessible and affordable as an alternative medicine to the pregnant women in their areas as a form of home remedy to aid effective child delivery.*

Key Words:

Introduction

Traditional medicines (TM) from the time immemorial have obtained enormous popularity globally, despite predominant mainstream medicine available in the national healthcare system. TM includes the combination of or independent preparation and the use of herbal medicines, animal parts, and minerals which are most widely used across the globe. The World Health Organization (WHO) defined herbal medicine as any plant-derived material or preparations with therapeutic or other benefits to human health that contains either raw or processed ingredients from one or more plants. WHO has estimated that nearly 70-80% of the world's population depends on herbal sources for their primary healthcare needs (Sooi & Keng, 2013). The decision to engage with a particular medical channel by pregnant women is influenced by a variety of socio-economic variables such as cost, the type of illness and

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severity, access to services and perceived quality of the services (Tipping & Segall, 1995) and also demographic aspects such as sex, age, level of education and occupation (Good, 1987). In sub-Saharan Africa, about 80% of the ever increasing population depends on ethnomedicine for their healthcare since conventional medicine is mostly expensive or unavailable in rural homesteads (Kanya, Ngi-Song, Sétamou, Overholt, Ochora & Osir, 2004; Ochora, Onguso & Kany, 2012), in addition to the fact that herbal medicine is regarded as effective and is the preferred system for many illnesses. Herbal medicines, including herbs, herbal preparations and finished herbal products, contain active ingredients of plants or other plant materials perceived to have therapeutic benefits. About 80% of the human population worldwide uses a variety of traditional medicine, including herbal medicines, for the diagnosis, prevention and treatment of illnesses, and for the improvement of general well-being (World Health Organization, 2013).

Pregnancy is a condition associated with immense physiological alterations resulting in many pregnancy-related problems, including nausea, vomiting, constipation, and heartburn (Lindzon, Sadry & Sharp, 2011). These ailments usually result in pregnant women self-medicating using over-the-counter (OTC) medications, seeking prescribed medications, or using herbs. Wells (2009) opined that herbal products are preferred over prescription medications due to the belief that herbs are safer for the fetus than modern medicine. Despite the fact that evidence on the safety profile of herbal products is inadequate to substantiate their use in pregnancy, it is increasingly used by expectant mothers. The prevalence of herbal medicine utilisation in pregnancy ranges between 7% and 55% in different geographical, social and cultural settings and ethnic groups (Dugoua, 2010).

In Africa, reliance on herbal medicines is relatively high among rural populations and is associated with a lack of access to public healthcare (World Health Organization, 2003). Use of herbal medicine may also be associated with social and cultural influences. Sindiga, Nyaigotti-Chacha and Kanunah (1995) perceived efficacy, beliefs about the safety of the herbs, and general ease of access (Langloid-Klassen, Kipp, Jahngri, & Rubaaale, 2007) as determinants for patronizing herbal medicine. However, even in the context of relatively high access to public healthcare, such as in urban areas, Africans still rely on alternative or traditional systems of care (Njoroge & Kibunga, 2007). Some studies have also shown that the attitudes of patients have a strong association with the utilisation of herbal medicine (Daly, Tai, Deng & Chien, 2009).

Rahman, Sulaiman, Ahmad, Salleh, Daud and Hamid (2009) asserted that many factors are responsible towards the usage of herbal medicines during pregnancy such as socio-demographic characteristics, health status, complications like miscarriage and infertility, pregnancy-induced symptoms, availability, accessibility, and affordability of conventional treatments, traditions and beliefs of pregnant women. Nordeng and Havnen (2001) argued that herbal remedies are used by women to relieve minor symptoms of pregnancy such as nausea, vomiting and low back pain, and also to prepare for labour or other unrelated health issues such as colds and respiratory illnesses or skin problems. In Nigeria, Gharoro and Igbafe (2000) reported that pregnant women used both traditional herbal medicines and

pharmaceutical drugs, with the highest prevalence of concomitant use among nulliparous mothers. Herbal products are preferred over prescription medications due to the belief that herbs are safer for the fetus than modern medicine. Despite the fact that evidence on the safety profile of herbal products is inadequate to substantiate their use in pregnancy, it is increasingly used by expectant mothers. The prevalence of herbal medicine utilisation in pregnancy ranges between 7% and 55% in different geographical, social and cultural settings, and ethnic groups (Dugoua, 2010). According to Mills, Cooper, Seely and Kanfer (2005), often times there is no detailed documentation of the traditional knowledge which is most times generally transferred verbally from generation to generation. The foregoing statements among the scholars about the use of herbal medicine necessitated this present study on herbal medicine utilisation among pregnant women attending the formal health care facilities in Okene Local Government Area of Kogi State.

Based on the statement of the problem above, the following research questions have been raised:

- What is the attitude of pregnant women towards the use of herbal medicine in Okene?
- How does the belief system affect herbal medicine utilisation among pregnant women in Okene?
- How do pregnant women's demographic characteristics affect the use of herbal medicine in the study area?

Similarly, the main objective of this study is to assess the determinants of herbal medicine utilisation among pregnant women attending formal health care facilities in Okene Local Government Area of Kogi State. Specifically, the study aims to:

1. Examine the attitude of pregnant women towards the use of herbal medicine in Okene;
2. Investigate the effect of the belief system on herbal medicine utilisation among pregnant women in the study area; and
3. Determine how pregnant women's demographic characteristics affect the use of herbal medicine in Okene.

The study is bound by the following hypotheses to be tested in due course:

Ho₁: Attitude of pregnant women has no significant effect on the use of herbal Medicine in Okene.

Ho₂: Pregnant women's belief system has no significant effect on herbal medicine utilisation in the study area.

Ho₃: Pregnant women's demographic characteristics have no significant effect on the use of herbal medicine in Okene

It is observed that herbal medicine utilisation among pregnant women is a common practice across the globe. Plants and plant extracts have been used for the medical purpose before the recorded time as patients worldwide are more and more frequently turning to natural therapies and taking herbs to enhance their health and as a treatment for their diseases (Henry & Crowther, 2007). Approximately 80% of the world's population relies on herbal medicine to fulfil their daily health needs (Marshall, 1998).

According to the World Health Organization, because of poverty and lack of access to modern medicine, about 65-80% of the world's population which lives in developing countries depends essentially on plants for primary health care (Akerlele, Blass, Singh, Chowdhury, Kulshreshtha, Kamboj, Bishaw, 1993). Tamuno, Omole-Ohonsi & Fadare (2011) reported that the use of herbal medicine during pregnancy, labour or the postpartum period occurs at rates ranging from 30% to 70% in a healthcare setting in urban areas of sub-Saharan Africa. The health-seeking behaviour of the women can be influenced by some factors such as cultural factors (which includes the low status of women in the sense that they take authority from their husbands before taking/seeking medical aid), social factors like sex, age, educational level, marital status, occupation. Societal factors may include growth and equity, peer pressure, governance (which include overall approach of government toward health of the state), socioeconomic factors like standard of living, economic status/income, religion, cost of care, the type and severity of illness, geographical factors such as bad roads, weather/climatic changes, physical factors like the attitudes of healthcare personnel, long waiting at the healthcare centres/time wasting, standards of equipment, standard and availability of essential drugs, cost of care not equal to services rendered, interpersonal relationship between the health care team (Borras, 2004).

Regarding attitude and knowledge on the use of herbs during pregnancy in Norway, there was a study about the impact of socio-demographic factors, knowledge and attitude on the use of herbal drugs in pregnancy. The study included 400 women who gave birth at Ullevål University Hospital in 2001. They were interviewed by using a structured questionnaire within 3 days after childbirth and 36% of women reported herbal use during pregnancy. Both women who used and did not use herbal products had a positive attitude toward using herbs during pregnancy, while *echinacea* was the most common herb used. The factors that increased use of herbs were the prior use of herbs, high knowledge about herbs and age between 26-35 years. There was no association between herbal use and educational level (Nordeng & Haven, 2005). Similarly, Ondicho, Ochora, Matu, Mutai and Mutaai (2015) investigated the factors associated with the use of herbal medicine among patients in herbal clinics in Gucha District, Kenya. A cross-sectional study was carried out among 167 purposively selected patients. A semi-structured questionnaire was administered to patients. Quantitative data were analysed using Statistical Package for Social Sciences (SPSS) version 20.0. Their result was that 167 patients recruited into the study, 68.9% prefer using herbal medicine. However, 67.7% of the respondents occasionally visited the conventional hospital for the same or different health conditions. Among the patients interviewed, they all had a positive attitude toward herbal medicine. Respondents' reasons for taking herbal medication were varied and included reasons such as herbs having better efficacy (83%) than conventional medicine, while 27.5% believed that herbal medicines being natural are safe to use.

Olowokere and Olajide (2013) examined women's perception of safety and utilisation of herbal remedies during pregnancy in a local government area in Nigeria. Data was collected with the aid of semi-structured questionnaire using interviewer-administered method after informed consent had been taken from each participant. The findings showed that the women had positive perception about the safety and efficacy of herbs over conventional drugs in pregnancy. A Greater percentage of the

participants studied had used herbs at one point or the other during pregnancy. Local concoction also referred to as "Agbo" was the most used herbs by the women. They recommended the need for a laboratory exploration of these herbs because of the high usage by pregnant women without any empirical evidence on its safety and efficacy.

The use of herbal medicines play significant roles in the management of both minor and major illnesses (Eisenberg, Kessler, Foster, Norlock, Calkins & Delbanco, 1993) and has been influenced by patients' dissatisfaction with conventional allopathic medicines in terms of effectiveness and/or safety, satisfaction with therapeutic outcome (Abbot & Ernst, 1997) and the perception that herbal medicines are inherently safe. Some of the more complex reasons for preference of herbal medicines are associated with cultural and personal beliefs, philosophical views on life and health (Ernst & White, 2000), as well as a comparison of experiences between conventional healthcare professionals and complementary medicine practitioners by patients (Astin, 1998). Furthermore, Ondicho, Ochora, Matu, Mutai and Mutai (2015) investigated the factors associated with the use of herbal medicine among patients in herbal clinics in Gucha District, Kenya. A cross-sectional study was carried out among 167 purposively selected patients. A semi-structured questionnaire was administered to patients. Quantitative data were analysed using Statistical Package for Social Sciences (SPSS) version 20.0. Their result was that 167 patients recruited into the study, 68.9% prefer using herbal medicine. However, 67.7% of the respondents occasionally visit the conventional hospital for the same or different health conditions. Among the patients interviewed, they all had a positive attitude toward herbal medicine. Respondents' reasons for taking herbal medication were varied and included reasons such as herbs having better efficacy (83%) than conventional medicine, while 27.5% believed that herbal medicines being natural are safe to use.

Due to deeply rooted cultural belief that herbal medicine treated certain diseases and maintained good health, (6%) of the respondents preferred to use herbal medicine. The respondents believed in the better quality of service offered by the herbalists which were statistically significant in the influence on respondents' choice of medical care. The respondents mainly used herbal medicine for gastrointestinal disorders (46.2%) and malaria (9.7%). Relatives had a marked influence on 37.7% of the respondents using herbal medicine while media also played an important role in creating awareness. They recommended further research on herbal medicine use in Gucha in order to establish the efficacy and safety of the medicines used by the community. Tariku, Tadele and Fiseha (2016) examined the prevalence of herbal medicine use and associated factors among pregnant women attending antenatal care at public health facilities in Hossana Town, Southern Ethiopia. The facility based cross-sectional study was conducted among 363 pregnant women attending antenatal clinics from May to June 2015 at public health facilities in Hossana town, Hadiya zone, Southern Ethiopia. Pretested structured questionnaire was used to collect data from each study subject. Bivariate logistic regression analysis was used to see the significance of the association between the outcome and independent variables. The result showed that two hundred fifty-eight (73.1 %) of pregnant women used herbal medicine during current pregnancy. Commonly used herbal medicines during current pregnancy were garlic, ginger,

tenaadam, damakasse and eucalyptus. Educational status, occupation, knowledge on herbal medicine and second trimester of pregnancy were the major factors affecting the use of herbal medicine. They recommended health education about the effects of herbal medicine on pregnancy should be given during antenatal care sessions and through media. Health care providers, especially those that are involved in antenatal care should be aware of evidence regarding potential benefits or harm of herbal medicinal agents when used by pregnant women. In a related study, Oluyemi, Yinusa, Abdullateef and Adejoke (2016) examined the utilisation of herbal medicine among inhabitants of an urban centre in North-Central Nigeria, 460 participants selected through multi-stage sampling technique was included in the study. The finding showed that Pile 20.2%, was the most treated illness with herbal medicine followed closely by malaria fever 17.7% and typhoid fever 14.9%. 46.0% of the participants utilise herbal medicine because of its efficiency in treatment while 15.8% used it because it works faster for them. Socio-demographic characteristics of participants found to affect utilisation of herbal medicine were: income ($p=0.001$), education ($p=0.0001$) and occupation ($p=0.0005$), while those found not to affect utilisation of herbal medicine were: age ($p=0.5330$) and sex ($p=0.0054$). The study recommended massive enlightenment on the dangers involved in the indiscriminate use of herbal medicine, regulation of herbal medicine, provision of health insurance scheme for Nigerians and more research into herbal medicine with a view to integrating it into the modern healthcare delivery system in Nigeria.

Chukwuma, Kenechi, Nnebue, Ikechukwu, Kevin, Chuka, Anthony and Irene (2016) carried out a study on socio-demographic determinants of herbal medicine use in pregnancy among Nigerian women attending clinics in a tertiary hospital in Imo State, South-East, Nigeria. Data was collected using a pre-tested, semi-structured, interviewer-administered questionnaire and participants were selected using the systematic sampling technique. Data were analysed using a computer software package (EPI-Info 7.1.3) and the p-value was set at 0.05 significant levels. The results showed a prevalence of herbal medicine use among the participants was 36.8% (184) and the commonest herbal used was bitter leaf/ironweed plant (*Vernonia Amygdalina*), 54.3%. Socio-demographic characteristics of participants found to affect herbal medicine use in pregnancy were; age, ($p=0.035$), Marital status, ($p=0.000$), educational level, ($p=0.000$), educational level of partner, ($p=0.014$) and monthly income, ($p=0.003$). They recommended that the prevalence of herbal medicine use was high and most of the determinants observed are modifiable, thus there is need to institute control appropriate measures by relevant authorities to tackle this problem.

Tamuno, Omole-Ohonsi and Fadare (2010) observe the use of herbal medicine among pregnant women attending a tertiary hospital in Northern Nigeria. A pre-piloted structured questionnaire was administered to 500 pregnant women attending the clinic to collect data on demographics, obstetric factors, knowledge and use of herbal medicine during pregnancy. Their results show that 31.4% of pregnant women used herbal medicines in the subsisting pregnancy. Over 40% of respondents had at least primary education while nearly 30% had an income of less than 20,000 nairas (130 USD) monthly. Statistically Significant associations were found between herbal medicine use and no formal education ($p<.05$), low economic status ($p<5$) and self-medication with orthodox drugs ($p<.05$). Ginger (*zingiber*

Officinale) and Garlic (*allium sativa*) were the most commonly used herbal medicines recalled by respondents. There was a significant association between education of respondents and their knowledge on the safety of herbal medicines while a disparity was found between their views and practice. They recommended that the use of herbal medicine among pregnant women in this environment was high. Clinicians and caregivers should have knowledge of the herbs commonly used by pregnant women and the potential for toxicity. Attention should be given to enlightenment of pregnant women and the community on the dangers of herbal drug use during pregnancy.

Methodology

This section deals with the methods used to arrive at the findings. It shows the research design, study area, population of the study, sample size and technique, the method of data collection, validity and reliability of the instruments and the method of data analysis. The study objective preponderantly necessitated the use of descriptive research design in which a survey method was adopted. The method is, however, triangulated with the use of both the questionnaire and In-Depth Interview (IDI) to examine herbal medicine utilisation among pregnant women attending healthcare facilities in Okene Local Government Area of Kogi State.

In terms of the study location and people, Okene Local Government Area was created in 1976 from the then Ebara Division by the Administration of General Olusegun Obasanjo, following the 1976 Local Government Reform. Ajaokuta and Ogori-Magongo LGAs were created from the old Okene LGA in 1991 and 1996 respectively. The people of Okene Local Government Area are a part of Ebara Tao people of the Central Senatorial District of Kogi State. They are believed to have migrated from Jukun in the present day Taraba State and had a brief stop-over in Idah before moving to its present location. The present Okene LGA is composed of Okene and Okengwe districts. There are 11 wards in the Local Government which are Bariki, Otutu, Orietesu, Lafia/Obessa, Okene-Eba, Idoji, Onyukolo, Obehira-Eba, Obehira-Uvete, Abuga/Ozuja and Upogoro/Odenku wards. The people are predominantly Muslims with a large size of Christian population too. The Local Government is bordered by four Local Government Areas of Kogi and Edo State. It is bordered to the West by Okehi LGA, to the East by Ajaokuta LGA, to the North by Adavi LGA and to the South by Ogori-Magongo LGA and Edo State. Okene LGA is located in the tropical zone, influenced by two climatic conditions namely: rain and dry seasons. The rainy season starts from April to October, while the dry season starts from November to April. The dominant vegetation of Okene Local Government Area by virtue of lying on the fingers of the equator is interspaced with erect and numerous trunks of trees. The ecological zone in which the Local Government is situated offers considerable potential for agricultural production. Okene is composed of two main clans: Okovi and Agada. Okovi is further subdivided into Asuwe, Omavi, Ehebe, Eyire, Omoye, Adobe and onyi-Onwa clans while Agada is also subdivided into Akuta, Avi, Ogu, Ede Ohi-Monoko, and Esusu clans. The people are well known for the famous Okene cloth weaving, farming, hunting, and commerce among others. Some of the traditional festivals include Ekuechi, Ebe, Eyika, Echane, Unehe (Ichekene and Ikede) and a host of others.

The target population of this study comprises all the registered pregnant women of both private and public hospitals consisting of Charity Hospital, God’s Glory Hospital, Victory Hospital and Okene General Hospital in Okene Metropolis. The entire registered pregnant women for the hospitals were four hundred and forty-three (443), pregnant women, as obtained from the antenatal care department registers, from the hospitals for the time frame of one month, January 2017. The In-Depth Interview (IDI) was conducted to ten (10) herbal practitioners and Traditional Birth Attendants (TBAs) in Okene Metropolis.

The sample size of this population was determined using Taro Yamane (1973) sampling technique. This technique is applied only when the population for the study is known. The formula for Taro Yamane is stated as:

$$n = \frac{N}{1 + N (e)^2}$$

Where n = Sample size
 N = Population of the Study
 e = error term

$$n = \frac{443}{1 + 443(.05)^2}$$

$$n = \frac{443}{1 + 443(.0025)}$$

$$n = \frac{443}{1 + 1.11}$$

$$n = \frac{443}{2.11}$$

$$n = 209$$

The source of data collection was primary. Primary data were collected for the study via the triangulation of the questionnaire and In-Depth Interview (IDI) instruments administered to the respondents. A four-point Likert scale of strongly disagree, disagree, agree and strongly agree was used. There are fourteen (14) questions in the questionnaire with each objective of the study having questions structured to address it. There are also nine (9) questions in the interview schedule to generate qualitative data. The researcher interviewed five (5) herbal homeowners' and herbal mid-wives who are herbal practitioners in Okene, Kogi State.

In order to ensure the validity of the research instrument, the questionnaire was properly structured by the researcher and cross-checked by the supervisor. The content validity was done by subjecting the questionnaire to the review by two lecturers in Kogi State University. To ascertain the reliability of the instrument, to ensure consistency in terms of survey, Cronbach's Alpha reliability test was conducted and a reliability coefficient of .934 was obtained as presented below. The data were presented using tables while the mean score was used to interpret the respondents' responses. The mean scores were compared with the average mean of 2.5 for decision-making. The average mean is computed as $1 + 2 + 3 + 4 = 10/4 = 2.5$. I.e. a 4-point Likert-type scale of Strongly Disagree, Disagree, Agree and Strongly Agree respectively. Any mean score that is equal to 2.5 and above shows agreement with the question while any mean below 2.5 indicates disagreement with the question. Also, Statistical Package for Social Sciences (SPSS) version 20.0 software was used to analyse the data while One-Sample Chi-Square test was used to test all the null hypotheses formulated. The In-Depth Interview was presented as generated from the interviewees and the contents analysed to corroborate the responses from the questionnaire instrument.

If the asymptotic significant is equal to or less than 5% (0.05) reject the null hypothesis. On the other hand, if the asymptotic significant is greater than 5% (0.05) accept the null hypothesis.

Data Presentation and Analysis

The sample size of two hundred and nine (209) comprises of all the registered pregnant women in Charity Hospital, God's Glory Hospital, Victory Hospital, Okene General Hospital in Okene Metropolis was used. Out of a total of two hundred and nine (209) copies of the questionnaire distributed to the respondents, one hundred and seventy (170) copies were returned given a response rate of 81%. Data were analysed based on the questionnaire administered to the respondents to address the demographic characteristics, the research objectives and to test all the null hypotheses. Tables were used to present the data generated by the questionnaire instrument, while the qualitative data were content-analysed.

Table 1: Demographic Characteristics of the Respondents

Category	Frequency (170)	Percentage (100)
Age of Respondents		
14-18	53	31
19-23	28	16
24-28	59	35
29 and above	30	18
Religion of Respondents		
Christianity	64	38
Islam	102	60
African traditional religion	4	2

Marital Status of Respondents		
Married	80	47
Divorced	49	29
Separated	31	18
Widowed	10	6
Academic Qualifications		
No formal Education	40	24
Primary Education	70	41
Secondary Education	44	26
Tertiary Education	16	9
Occupation of Respondents		
Trading	81	48
Weaving	43	25
Nursing	5	3
None	41	24

Source: Researchers' Field survey, 2017.

Table 1 above shows that 31% of the total respondents were within the age bracket of 14-18 years, 16% of the total respondents were within the age bracket of 19-23 years, 35% of the total respondents were within the age bracket of 24-28 and 18% were within the age bracket of 29 years and above. This shows that the majority of the respondents fall within the age bracket of 24-28 years. Table 4.1 above also shows that 38% of the total respondents are Christians, 60% of the total respondents are Muslims while 2% of the total respondents are Traditional Religion worshippers. This shows that the majority of the respondents are Muslims. Table 4.1 above further shows that 47% of the total respondents are married, 29% of the total respondents are Divorced, 18% of the total respondents are separated and 6% of the total respondents are widowed. This implies that the majority of the respondents are married.

Table 1 above also shows that 24% of the total respondents had no formal education, 41% of the total respondents had primary education, 26% of the total respondents had secondary education and 9% of the total respondents had tertiary education. This implies that the majority of the respondents had primary education. Table 4.1 above shows that 48% of the total respondents are traders, 25% of the total respondents are weavers, 3% of the total respondents are nurses and 24% of the total respondents have no occupation. This implies that the majority of the respondents have are traders.

Table 2: Reliability Statistics Test

Cronbach's Alpha	N of Items
.934	14

Source: Researchers' Computation Using SPSS 20.0 Version

The results from the data and their various statistics are presented below. This starts with the reliability test using Cronbach's Alpha, the descriptive statistics to obtain mean score and standard deviation and the Chi-Square result to test all the null hypotheses formulated. The Cronbach's Alpha test of 93.4% shows a satisfactory result.

Table 3: Attitude of pregnant women and the use of herbal medicine in Okene L.G.A.

Descriptive Statistics

Categories/Variables	N	Min.	Max	Mean	Std. Deviation
1 Use herbal med. during preg.	170	1.00	4.00	2.9412	.83351
2. Safety of herbal med. during preg.	170	1.00	4.00	2.7647	.88575
3 Use herbal med. for the safe delivery of babies.	170	1.00	4.00	2.6941	1.00323
4 Use herbal med. to cure pregnancy-related sicknesses.	170	1.00	4.00	2.6647	1.00851
5 Use herbal med. during pregnancy as a first health treatment.	170	1.00	4.00	2.6824	1.02295
Valid N (listwise)	170				

Source: Researcher's Computation Using SPSS 20.0 Version

Table 3, item 1 above shows that the majority of the respondents agreed that herbal medicine was used during pregnancy in Okene L.G.A as indicated by the mean score of 2.9412 which is above the average mean score of 2.5. Similarly, item 2 also shows that the majority of the respondents agreed that herbal medicine was safe for use during pregnancy in the study area. This was indicated by the mean score of 2.7647 which is above the average mean score of 2.5. Furthermore, the variable category 3 shows that the majority of the respondents agreed that herbal medicine was used during pregnancy on daily basis to facilitate safe and easy delivery of babies as indicated by the mean score of 2.6941. The same table3, category 4 holds that the majority of the women agreed that herbal medicine was used to cure pregnancy-related sicknesses as validated by the mean score of 2.6647 which is considered significant as above the average mean score of 2.5. The category 5 in the same table shows that the majority of the respondents agreed that herbal medicine was used as the first line of treatment or primary health care during pregnancy. This response was authenticated by the mean score of 2.6824 which is above the baseline mean score of 2.5.

Table 4: The Respondents' belief system and herbal medicine utilisation in Okene L.G.A
Descriptive Statistics

Categories/Variables	N	Mini.	Max.	Mean	Std. Deviation
6 Herbal med. cures preg. sickness faster than orthodox med.	170	1.00	4.00	2.6529	1.01037
7 Herbal med. has minimal side effects on preg.	170	1.00	4.00	2.6588	.97365
8 witchcraft-induced preg. illness needs herbal med.	170	1.00	4.00	2.7118	.99370
9 Tradition supports the use of herbal med. for preg.	170	1.00	4.00	2.5412	.92376
Valid N (listwise)	170				

Source: Researchers' Computation Using SPSS 20.0 Version

An investigation was conducted into the respondents' belief system and the inclination towards the use of herbal medicine among the pregnant women in the study area. The corresponding findings in table 4, variable 6 above shows that the majority of the respondents agreed that herbal medicine cures pregnancy-related ailments and afflictions faster than the orthodox medicine. The mean score of 2.6529 which is above the average mean score of 2.5 validated the fact. Also, category 7 clearly indicated that the majority of the respondents agreed that herbal medicine use during pregnancy had some minimal side effects among them as indicated by the mean score of 2.6588 while category 8 further shows that the majority of the respondents agreed that some pregnancy-related illnesses induced by witchcraft require the use of herbal medicine as indicated by the mean score of 2.7118. Equally, category 9 in table 4 above shows that the majority of the respondents affirmed the influence of their traditional beliefs on the use of herbal medicine to cure pregnancy-related ailments, given the mean score of 2.5412 which is above the average mean score of 2.5.

Table 5 borders on the respondents' demographic attributes and the propensity to utilize herbal medicine during pregnancy. The findings show in category 10 the majority of the respondents disagreed that their religious orientations and beliefs did not influence the use of herbal medicine during pregnancy as indicated by the mean score of 2.4294. Item 11 also shows that the majority of the respondents disagreed that their husbands did not influence the use of herbal medicine during

Table 5: Pregnant Women's Demographic Characteristics and the Use of Herbal Medicine in Okene L.G.A**Descriptive Statistics**

Variables/Categories	N	Min.	Max.	Mean	Std. Deviation
10 Religion influences the use of herbal med. for preg.	170	1.00	4.00	2.4294	1.08145
11 my husband supports herbal med. use for preg.	170	1.00	4.00	2.4588	1.10462
12 herbal med. use during preg. is affordable	170	1.00	4.00	2.5059	1.12132
13 Herbal med. use for preg. is available and accessible.	170	1.00	4.00	2.6529	.93746
14 my family members influence the use of herbal med. use for preg.	170	1.00	4.00	2.8176	1.03016
Valid N (listwise)	170				

Source: Researchers' Computation Using SPSS 20.0 Version

pregnancy as proved by the mean score of 2.4588 which is less than the average mean score of 2.5. Furthermore, variable 12 shows that the majority of the respondents agreed that the use of herbal medicine is affordable for pregnancy maintenance as indicated by the mean score of 2.5059. Similarly, category 13 above also shows that the use of herbal medicine was informed by its availability and accessibility to the respondents in the study location as proved by the mean score of 2.6529. In a related finding, item 14 above finally shows that the respondents' family members influence their use of herbal medicine during pregnancy as indicated by the mean score of 2.8176 which is above the average mean score of 2.5.

Test of Hypotheses

The hypotheses were tested using one-sample chi-square test. The hypotheses are, however, re-stated below:

Ho1: Attitude of pregnant women has no significant effect on the use of herbal medicine in Okene

Ho2: Pregnant women's belief system has no significant effect on herbal medicine utilisation in the study area.

Ho3: Pregnant women's demographic characteristics have no significant effect on the use of herbal medicine in Okene

Table 6: Chi-square Test Statistics for Hypothesis One

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The categories of 1 Use herbal med. during preg. occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
2	The categories of 2. Safety of herb med. during preg. occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
3	The categories of 3 Use herbal med. for safe delivery of babies. occur with equal probabilities.	One-Sample Chi-Square Test	.003	Reject the null hypothesis.
4	The categories of 4 Use herbal med. to cure pregnancy-related sicknesses. occur with equal probabilities.	One-Sample Chi-Square Test	.010	Reject the null hypothesis.
5	The categories of 5 Use herbal med. during pregnancy as first health treatment. occur with equal probabilities.	One-Sample Chi-Square Test	.006	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Source: Researchers' Field Survey, 2017.

The result from the above Table 6 indicated that since all the asymptotic significant levels are within 1%, as indicated by all the significant levels of .000, the null hypothesis one is rejected, indicating that attitude of pregnant women has a significant effect on the use of herbal medicine in Okene L.G.A. in Kogi State.

Test of Hypothesis Two

H₀2: Pregnant women's belief system has no significant effect on herbal medicine utilisation in the study area in Kogi State.

The result from the Table 7 below indicated that since all the asymptotic significant levels are within 1%, as indicated by all the significant levels of .000, the null hypothesis two is rejected, indicating that pregnant women's belief system has a significant effect on herbal medicine utilisation in Okene L.G.A. in Kogi State.

Table 7: Chi-square Test Statistics for Hypothesis Two

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The categories of 6 Herbal med. cures preg. sickness faster than orthodox med. occur with equal probabilities.	One-Sample Chi-Square Test	.009	Reject the null hypothesis.
2	The categories of 7 Herbal med. has minimal side effects on preg. occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
3	The categories of 8 witchcraft-induced preg. illness needs herbal med. occur with equal probabilities	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
4	The categories of 9 Tradition supports use of herbal med. for preg. occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Source: Researchers' Field Survey, 2017

Test of Hypothesis Three

H₀₃: Pregnant women's demographic characteristics have no significant effect on the use of herbal medicine in Okene in Kogi State.

Table 8: Chi-square Test Statistics for Hypothesis Two.

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The categories of 10 Religion influences the use of herbal med. for preg. occur with equal probabilities.	One-Sample Chi-Square Test	.431	Retain the null hypothesis.
2	The categories of 11 my husband supports herbal med. use for preg. occur with equal probabilities.	One-Sample Chi-Square Test	.930	Retain the null hypothesis.
3	The categories of 12 herbal med. use during preg. is affordable occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
4	The categories of 13 Herbal med. use for preg. is available and accessible. occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.
5	The categories of 14 my family members influence the use of herbal med. use for preg. occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Source: Researchers' Field Survey, 2017

The result from the above Table 8 indicated that since all the asymptotic significant levels are within 1%, except question 10 and 11 as indicated by the significant levels, the null hypothesis three is rejected, indicating that pregnant women's demographic characteristics have a significant effect on the use of herbal medicine in Okene L.G.A. in Kogi State.

Discussion of Findings

The study revealed that attitude of pregnant women has a significant effect on the use of herbal medicine in Okene L.G.A. in Kogi State. This implies that herbal medicine is used during pregnancy, herbal medicine is safe for use during pregnancy and herbal medicine is used during pregnancy on daily basis to help safe delivery in Okene L.G.A in Kogi State. Also, herbal medicine is used during pregnancy to cure sickness and served as a source of primary health care during pregnancy in Okene L.G.A. of Kogi state. These findings are in line with some authorities' like Tamuno, Omole-Ohonsi and Fadare (2011) who asserted that the use of herbal medicine during pregnancy, labour or the postpartum period occurs at rates ranging from 30% to 70% in a healthcare setting in urban areas of sub-Saharan Africa. Adams and Connell (2001) also affirmed that herbal remedy is perceived to be safe due to its natural source. Eisenberg, Kessler, Foster, Norlock, Calkins and Delbanco (1993) further asserted that the use of herbal medicines plays significant roles in the management of both minor and major illnesses. Abbot and Ernst (1997) also perceived that herbal medicines are inherently safe.

The In-depth Interview (IDI) on the herbal medicine usage by pregnant women in Okene LGA of Kogi State. The view of one of the respondents captures this:

The use of herbal medicine is part of wetin we get from our fore fathers. Even when my own father where I learn this herbal practice day alive so many pregnant women come here for herbal solutions, they used herbs to take care of their pregnancy. Na wetin so many people, the use in this area for treatment of sickness. (Male/ 61 years/ Okene/ IDI/ 2017).

The study further revealed that pregnant women's belief system has a significant effect on herbal medicine utilisation in Okene L.G.A. of Kogi State. This means that herbal medicine cures pregnancy-related ailment faster than orthodox medicine, herbal medicine use during pregnancy has minimal side effects in Okene L.G.A. Also, pregnancy-related illnesses induced by witchcraft require the use of herbs and herbal medicine is used to cure pregnancy-related ailments in Okene L.G.A. in Kogi State. These are in agreement with the findings of scholars like Low-Dog (2009) who opined that the use of herbal medicine by women during pregnancy has to do with their belief system. Ernst and White (2000) also argued that some of the more complex reasons for preference of herbal medicines are associated with cultural and personal beliefs, philosophical views on life and health. Fakeye *et al* (2009) supported the findings that herbs being natural is safer during pregnancy and have better efficacy than conventional medicine. Ogunjuyigbe and Ayotunde (2007) reinforced that some pregnant women see their problems as either a result of traditional black magic or spiritual attack and as such, use traditional herbs to remedy such illness.

The In-depth Interview (IDI) on the factors that influence the use of herbal products/services by pregnant women in Okene LGA of Kogi State. The view of one of the respondents further captures this:

No be all pregnant women sicknesses hospital treatment go do am, so herbs make pregnant women babies position well inside womb and it also make them to born babies easily (Female/ 57 years/ Okene/ IDI/ 2017).

This means that herbal medicines is believed to aid pregnant women healthy delivery, checks issues of stillbirth, enhances proper positioning of the foetus during pregnancy among others. Similarly, the view of one of the respondents also captures this:

The major advantages of herbal products/services over orthodox products/services be say pregnant women go deliver their babies on their own without operation, it checks long duration of pregnancy than orthodox products and make women who give birth be okay than hospital products. (Male/ 53 years/ Okene/ IDI/ 2017).

The study finally revealed that pregnant women's demographic characteristics have a significant effect on the use of herbal medicine in Okene L.G.A in Kogi State. This finding sustains the discovery of Chukwuma et al (2016). The implication is that the use of herbal medicine is affordable for pregnancy maintenance reinforced by its availability and accessibility in the study area. Also, the respondents' family members influenced the use of herbal medicine during pregnancy in Okene L.G.A. Though, their religious beliefs' and husbands' do not influence their use of herbal medicine during pregnancy in Okene L.G.A. The findings are in consonance with the work of Fakeye *et al* (2009) who opined that easier access to herbal medicines and low-cost influenced the use of herbal medicine in the study area. Also, a study conducted by Cuzzolin, Francini-Persenti, Verlato, Joppi, Baldelli and Benoni(2010), affirmed that the decision to use herbal products is mainly based on personal judgment and on the conviction that these natural substances would be safer than traditional medicines.

In summary, the study revealed that attitude of pregnant women has a significant effect on the use of herbal medicine in Okene L.G.A. in Kogi State. This implies that herbal medicine is used during pregnancy, herbal medicine is safe for use during pregnancy and herbal medicine is used during pregnancy on daily basis to help safe delivery in Okene L.G.A in Kogi State. Also, herbal medicine is used during pregnancy to cure sickness and served as a source of primary health care during pregnancy in Okene L.G.A. of Kogi state.

The study further revealed that pregnant women's belief system has a significant effect on herbal medicine utilisation in Okene L.G.A. in Kogi State. This means that herbal medicine cures pregnancy-related ailment faster than orthodox medicine, herbal medicine use during pregnancy has minimal side effects in Okene L.G.A. Also, pregnancy-related illnesses induced by witchcraft require the use of herbs and herbal medicine is used to cure pregnancy-related ailments in Okene L.G.A. of Kogi State.

The study finally revealed that pregnant women's demographic characteristics had a significant effect on the use of herbal medicine in Okene L.G.A in Kogi State. This finding is in tandem with Tariku, Tadele and Fiseha (2016); Ondicho *et al* Ochora, (2015). This implies that the use of herbal medicine is affordable for pregnancy maintenance; the herbal medicine use is informed by the availability and accessibility in their area and their family members influence the use of herbal medicine during pregnancy in Okene L.G.A. in Kogi State. Though, their religious beliefs' and husbands' do not influence their use of herbal medicine during pregnancy in Okene L.G.A. of Kogi State.

There is a high use of herbal medicine on daily basis during pregnancy in Okene LGA of Kogi State. This is because of their positive attitude towards the safety of herbal medicine use for safe delivery of pregnant mothers in the area. The herbal medicine used during pregnancy equally cures sicknesses and served as a source of primary health care during pregnancy in Okene L.G.A. of Kogi state.

The people of Okene Local Government Area of Kogi State, strongly believed in herbal medicine utilisation to cure pregnancy-related illnesses and illnesses induced by witchcraft. They equally believed that it cures a pregnancy-related ailment, faster than orthodox medicine and that herbal medicine use during pregnancy has minimal side effects.

The use of herbal medicine in Okene Local Government Area of Kogi State by pregnant women is influenced by availability, accessibility and affordability of herbal medicine in the area. The family members of the pregnant women also influence the use of their herbal medicine during pregnancy in Okene L.G.A. of Kogi State. Though, their religious beliefs' and husbands' do not influence their use of herbal medicine during pregnancy in the area.

Arising from the findings above, the following recommendations are hereby offered:

- 1) The government of Kogi State through the State Ministry of Health should set up a herbal institute that will modernise and regulate the practice of herbal medicine, in order to guarantee the safe use of herbal medicine by pregnant women in the state.
- 2) The herbal medicine should be made available, accessible and affordable as an alternative therapy, to the pregnant women in their areas, to aid effective child delivery. The herbal medicine should be used as a form of remedial intervention by pregnant women before proceeding to the orthodox health centres.
- 3) There should be an enlightenment campaign in the state to educate the pregnant women, regarding proper intake of herbal medicine in combination with the orthodox medicine at the same time.

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