Usage of complementary and alternative medicine among pregnant women attending prenatal care setting in Abuja, Nigeria

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Abstract

Problem: Complementary and alternative medicine (CAM) are sets of medical and health care systems, practices, and products that are not commonly considered part of Conventional Medicine. However, literatures on the usage of CAM in many part of Nigeria particularly Abuja is scarce. The study was aimed at investigating the prevalence, pattern of use, and socio-demographic characteristics associated with the usage of CAM among pregnant women attending antenatal in Abuja. **Approach**: Combination of quantitative and qualitative techniques were used to gather data based on the knowledge, altitude, and perception (KAP) framework. Quantitative information was collected through questionnaire-based interviews. Qualitative data was collected via open-ended questions for a period of four months with a total of 400 participants from six randomly selected general hospitals of Abuja. **Results**: The highest prevalence of usage was observed among the age group 18-30yrs (54.3%), low in-come earners (61%), secondary school certificate holders (41.4%), Married (48.1) and respondents from Abuja municipal area council (20.3%). However, low prevalence was recorded on pregnant mothers that used CAM in their third Trimester, high income earners (39%), Divorced (6.7%) below 18yrs (5.3%) and resides in Bwari Area Council (13.9%). Age followed by gender, were the most significant socio-demographic component related with CAM use among pregnant women. Oral ingestion, consultation of traditional birth attendants, as well as topical use, undergoing spiritual cleansing, and insertion into the genital canal were identified as pattern of use of CAM. **Conclusion**: Maternity care Clinicians, and Midwives in particular, should be familiar with CAM utilized by pregnant women for safe use of such medication.

Keywords: Attitude, Practice, Knowledge, Prevalence, Socio-demographic Characteristics.

Introduction

Alternative and complementary medicine (CAM) are medical, health care practices, systems, and items that aren't typically regarded as being a part of conventional medicine according to "National Center for CAM (NCCAM) in the United States (Simonian 2021), and utilizes different kinds of therapeutic strategies to manage and cure human diseases (Alehegn*et al.,* 2022). Acupuncture, specific diets, massage therapy, medicinal plants, biologic feedback and relaxation techniques are all examples of CAM (Deng, 2005). Women today rely on a variety of sources, including the print media, television, radio, and the internet, to gather information on which to base their decisions about their health. Therefore, pregnant women are at the forefront of the growing trend toward CAM's use in healthcare and wellness (Warriner*et al.* 2014).

Many pregnant women have turned to complementary and alternative medicine (CAM) for help with morning sickness, and other pregnancy-related symptoms like exhaustion, asthma, and eczema. Due to its inherent qualities as well as its accessibility and affordability, complementary and alternative medicine (CAM) appears

to be the source of healthcare, especially among the majority of pregnant populations of Africa (Emiru*et al.* 2021). Complementary and alternative medicine is widely used by pregnant women in Nigeria and other parts of Africa due to the beneficial dietary content it provides. Due to the high cost of conventional medication and the poor nutrition it provides to pregnant women and their unborn children, it appears that many pregnant women in Nigeria are turning to complementary and alternative medicine today. A lot of people take it since it speeds up labour and delivery if they ever need it (Gentz, 2001).

Many people in Nigeria, especially in the Federal Capital Territory of Abuja in particular, use complementary and alternative medicine (CAM) because they believe it is safer than conventional therapy. However, research on the frequency and correlates of additional CAM modalities, such as spiritual healing, biologically based therapies, and body-based therapeutic methods, among pregnant women in most parts of Nigeria like Abuja is scarce. This study aims to investigate the prevalence, pattern of usage, and socio-demographic characteristics associated with CAM usage among pregnant women in the prenatal care setting in Abuja, the Federal Capital Territory.

Materials and Methods

Sample Size and Sampling Procedure

To guide the selection of the sample size of four hundred (400) respondents for this study, the researcher adopted Taro Yamane's formula with 95% of confidence level of significance" (Kuswanto*et al.* 2020)

n= N/1+N (e) 2

Where n = Sample Size

1 = Constant

N = Population of the study

E = Margin error

Where:

n = is the sample size = unknown

N = Total population = 730,400

1 = constant

e = significance level = 0.05

Applying the above formula, the sample size was thus calculated:

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

$$n = \frac{730400}{1 + 1200(0.05)^2}$$

$$n = \frac{730400}{730401(0.0025)}$$

n = 399.99 = 400

The study adopted multi-stage sampling method to obtain its sample size (Sedgwick 2015) as follows:

In the first stage, all the six area councils in Abuja were selected using purposive random sampling technique, Abaji, Bwari, Gwagwalada, Kuje, Kwali and Abuja Municipal area council (AMAC). However, each clinic selected will represent the area where is selected from. Secondly, Simple random sampling was used to choose one general hospital from each area council, for a total of six participating general hospitals. The six chosen General Hospital were; General hospital Abaji, General Hospital Bwari, General Hospital Gwagwalada, General Hospital Kuje, General Hospital Kwali and Nyanya General Hospital.

Third, using a proportional allocation (Agrawal *et al.* 2018) based on the statistics to be gathered from the clinics, we employed a systematic sampling approach to pick respondents at the selected General Hospital in Abuja, as shown in Table 1 below.

Table 1: Sample selection among the Districts using proportionate random sampling technique

District	General Hospitals	Sampled size
Abaji	General hospital Abaji	70
Bwari	General hospital Bwari	57
Gwagwalada	General hospital Gwagwalada	71
Kuje	General hospital Kuje	56
Kwali	General hospital Kwali	67
Abuja municipal area council	Nyanya General hospital	79
Total		400

Description of Material: Questionnaires and in-depth interviews were used to gather information from the field. In order to ensure that all respondents provided the same information, the questionnaire relied heavily on closed-ended questions. According to the goals of the research, the questionnaire was broken up into four parts: A, B, and C. Socio-demographic characteristics of respondents (Section A), the prevalence of CAM use among pregnant women in Abuja (Section B), and the socio-demographic factors associated with CAM use among pregnant women in Abuja (Section C). The goal is to give respondents as much leeway as possible in describing how they feel about providing the requested information. Each respondent's responses were kept secret. To round out the respondents' perspectives, an in-depth interview with key informants was also conducted to elicit information from the management staff of the hospitals."

Study participants:
The sampling frame for this study were pregnant women who are normally resident of Abuja for at least the past 3 months before the study. Attend Hospital on the day the data was collected, and volunteered to participate in the study. Pregnant women who have severe physical and mental illness were excluded from this study.

Ethical approval
Ethical clearance was obtained from the ethics review committee of Faculty of health, National Open university of Nigeria. In addition, the permission to undertake the study was received from the director of the ethical committee of the chosen Hospitals. The study respondents were informed about the objectives and importance of the study, and oral consent was obtained from each participant. All respondents were assured of the confidentiality regarding the responses obtained from them.

Results
Questions in this study were answered as either "Strongly Agree," "Agree," "Disagree," or "Strongly Disagree," therefore respondents were only able to select one. In the Rensis Likert scale, named after the American sociologist who developed it, respondents are asked to rate how much they agree or disagree with a given statement. To determine whether responses were useful to the study, researchers utilized a cutoff score of 2.50 on the Likert scale. It was determined that responses with a score of 2.50 or higher were useful to the study, while those with a lower value were irrelevant (Likert 2017).

Prevalence of use of complementary and alternative medicine among pregnant women

Entries in Table 2 below were consulted to answer the above question. The average for item 1 was 3.26, for item 2 it was 3.11, for item 3 it was 2.48, and for item 4 it was 2.11. Because the mean scores for items 1 and 2 were higher than the cut-off point of 2.50, they were deemed relevant to the research. However, because the mean scores for items 3 and 4 fell below this threshold, they were not considered relevant. This shows that the prevalence of use of CAM among pregnant women in Abuja is high such that more than half of the CAM users had a record of previous use while a small portion of them were first time users of CAM.

Table 2: Prevalence of use of CAM among Pregnant Women in Abuja
N = 374

S/N	Questionnaire item	SA (4)	A (3)	D (2)	SD (1)	Mean	Remarks
1.	Users of CAM during previous pregnancies	188	120	40	26	3.26	Agree
2.	First time users	200	124	20	10	3.11	Agree
3.	Non users of CAM	30	20	124	200	2.48	Disagree
4.	Do not have idea whether I used before.	15	35	300	24	2.11	Disagree

Keys: SA (Strongly agreed), A (Agreed), D (Disagreed) and SD (Strongly Disagreed)

Usage of Herbal medicine

Entries in Table 3 show the various stages pregnant women in Abuja use their herbal medicines. The result shows that some pregnant women use herbal medicine in the first trimester, some use it in the second trimester while others use it throughout the pregnancy. Items 2 and 3 were below the cutoff point of 2.50 and were therefore considered irrelevant to this study. On the other hand, item 1 was above the cutoff point hence it was relevant to the study. This shows that pregnant women in the Abuja use herbal medicine throughout the pregnancy."

Table 3:Usage of Herbal medicine among Pregnant Women in Abuja
N = 374

S/N	Questionnaire item	SA (4)	A (3)	D (2)	SD (1)	Mean	Remarks
1.	Use of Herbal medicine throughout the period of pregnancy	188	120	40	26	3.26	Agree
2	Use in first trimester of pregnancy	30	20	124	200	2.48	Disagree
3.	Use in second trimester of pregnancy	15	35	300	24	2.11	Disagree

Socio-demographic characteristics of the respondents in Abuja

The socio-demographic characteristics of the respondents in the study area were their gender, marital status, Income level, age, occupation, and level of education. As stated in the Table below, the respondents' socio-demographic characteristics have been collected and prevalence of usage of CAM taken and correlated with the data obtained and expressed in percentages. Respondents' income was divided into two groups (low and

high), 61% of respondents fell into the low income bracket, while 39% fell into the high income bracket. This clearly shows that pregnant women in Abuja have a low income. So many people as a result turn to CAM practices. It is apparent from the data that 48.1% of them were married. 40.6% of the population was unmarried, whereas only 4.5% and 6.7% were widowed and divorced, respectively. The bulk of respondents fall into the 18-30 age range which makes 36.1%, followed by the 31-50 age range, which accounts for 54.3% of the total and 9.4% for age less than 18. A wide range of educational background was found among the research participants with majority of those polled having completed at least a secondary education. A total of 41.4% of respondents have finished secondary school, 26.2% have completed postsecondary education, and 21.7% have no formal education. Meanwhile, respondents with just elementary education make up 5.3 percent of the population. The results obtained shows that 61 percent of the women were traders while 39% were civil servants. Majority of the pregnant women live far away from the health facilities with 61% of the women living between 4 and above kilometers away from health facilities

Table 4: Socio-demographic characteristics of the respondents in Abuja

Socio-demographic Characteristics	Frequency	Percentage (%)
Income level		
Low	228	61.0
High	146	39.0
Marital Status of Respondents		
Single	152	40.6
Married	180	48.1
Widow	17	4.5
divorced	25	6.7
Age (Years)		
Below 18	35	9.4
18-30	204	54.5
31-50	135	31.6
Educational Qualification		
No formal education	81	21.7
Uncompleted	20	5.3
Primary education	20	5.3
Secondary education	155	41.4
Post-secondary education	98	26.2
Occupation of the Pregnant women		
Traders	228	61.0
Civil servants	146	39.0
Place of residence		
Abaji	67	17.9
Bwari	52	13.9
Gwagwalada	68	18.1
Kuje	49	13.1
Kwali	64	17.1
Abuja Municipal	76	20.3
Distance from health facility (km)		
1-3	228	61.0
Above 4	146	39.0

Pattern of use of Complementary and alternative medicine (CAM) among pregnant women in Abuja
Using Chart 1 below, all of the entries in the table were inside the study's cutoff threshold of 2.50. This shows that the women in Abuja have different patterns of using complementary and alternative medicine (CAM). The pattern of using CAM among pregnant women in Abuja include Oral consumption, Consultation/adherence to advice of traditional Birth attendants, Topical applications, Spiritual cleansing and deliverance as well as insertion into the vagina. This indicates that majority of the women use CAM orally followed by spiritual cleansing and deliverance."
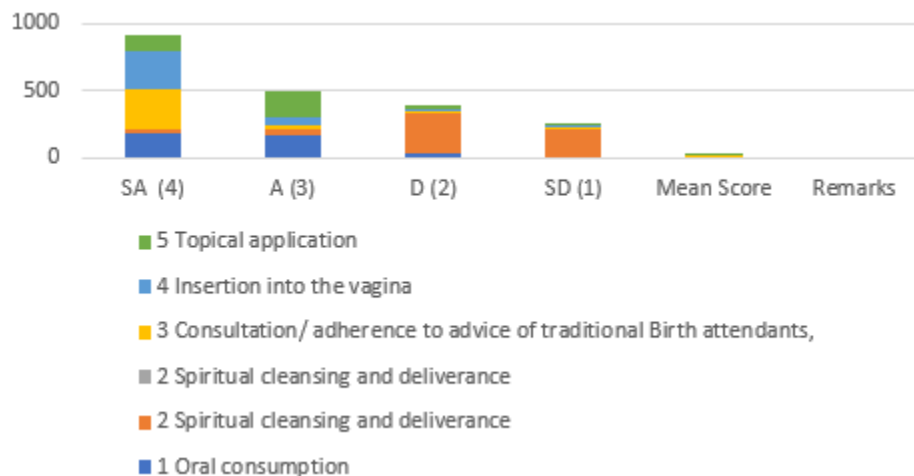

Chart 1: Pattern of use of Complementary and alternative medicine (CAM) among pregnant women in Abuja

N = 374
Keys: SA (Strongly agreed), A (Agreed), D (Disagreed) and SD (Strongly Disagreed)

Sources of Information on Herbal Medicines

Entries in Table 5 show the sources of information on herbal medicines among pregnant women in Abuja. The data reveals that pregnant women in Abuja obtain their information on herbal medicines through various sources such as Health professionals, Traditional healers, Religious leaders, Family, Neighbors and Herbalist as all the sources highlighted met the minimum mean of 2.50.

Table 5: Sources of Information on Herbal Medicines
N = 374

S/N	Questionnaire item	SA (4)	A (3)	D (2)	SD (1)	MeanScore	Remarks
1.	Health professionals	180	160	30	4	3.38	Agree
2.	Traditional healers	24	50	300	200	3.35	Agree
3..	Religious leaders	300	30	20	24	2.70	Agree
4.	Family	290	60	10	14	2.80	Agree
6.	Neighbours	124	200	30	20	2.84	Agree
7.	Herbalists	300	30	20	24	2.70	Agree

Conditions that Led To Use of Herbal Medicines

According to the results in Table 5, the condition that led to the use of herbal medicines by pregnant women in Abuja are inadequate finance, non-availability of the medicine personnel when need arises, quick reaction to allergic effects of orthodox drugs and matter of choice. These were considered relevant to the study due the fact that they all met the cutoff point of 2.50 as presented in the Table 6.

Table 6: Conditions that Led to the Use of Herbal Medicines

N = 390

S/N	Questionnaire item	SA (4)	A (3)	D (2)	SD (1)	MeanScore	Remarks
1.	Inadequate finance,	188	220	40	26	3.26	Agree
2.	Non-availability of the medicine personnel when need arises,	124	30	200	20	2.84	Agree
3..	Quick reaction to allergic effects of orthodox drugs	200	20	124	30	2.68	Agree
4.	Matter of choice.	164	100	50	60	3.27	Agree

Keys: SA (Strongly agreed), A (Agreed), D (Disagreed) and SD (Strongly Disagreed)

Discussion

The results showed that CAM usage is quite common among pregnant women in Abuja, with over half of users reporting prior experience with CAM and only a few reporting first-time uses. This indicates that a large percentage of Abuja pregnant women utilize CAM (Table 2). Additionally, Onyiapat*et al,* (2021) "found that CAM was utilized by the vast majority of pregnant women in Udi LGA. Based on their research, they concluded that an annual average of 1970 pregnant women in Udi LGA utilized CAM. That works out to 821 CAM users for every 1000 expectant mothers each year. Researchers in different part of the globe concluded that herbal medication is used by pregnant women (Frawley*et al.* 2013&Mekuria*et al.* 2017). For some respondents, the inaccessibility of Orthodox medicines explains their long-term reliance on these alternatives."

"A little over half of CAM users were repeat users, while the other halves were first-time users (Table 2). This rate of occurrence is consistent with the range described in the literature for both pregnant women and the general adult population (30-96%) WHO, (2002). As a result, this research lends credence to the claim that 80% of the African population relies on CAM as their main source of healthcare (Isola, 2013).

"Oral consumption, consultation with and following the counsel of traditional birth attendants, topical applications, spiritual cleansing and deliverance, and insertion into the vagina were all identified as common practices among pregnant women who used CAM in Abuja. According to the results, most women who take CAM do it orally, and then move on to spiritual cleaning and deliverance. Ingestion was the most common method of CAM use, followed by external application (Chart I). The research shows that pregnant women in the region use a wide variety of plant parts, including the entire plant, the leaves, the flowers, and the bark. They are used in hybrid form by some." Since plant parts are widely available and the extract is easily made by a straightforward method of maceration or infusion, plant parts were seen as true and less expensive alternative to conventional medications (Bappah*et al.* 2022).

This is reinforced by the findings of Onyiapat*et al.* (2021), "who found that oral ingestion of CAM was the most common method of use, followed by topical application. Women who used CAM throughout pregnancy ingested about 3.38 average doses per day. Among pregnant women in South Iran, 99.1% reported taking herbs orally during their pregnancies, corroborating previous study (Tabatabaee, 2017). Most pregnant women

who opted for CAM treatments had to consult with or visit CAM professionals in order to receive these treatments. Not many people actually went to temples or shrines to partake in CAM activities. These results are consistent with previous reports from studies that found women sought CAM practitioners during pregnancy for a variety of reasons (Mudonhi and Nunu, 2017&Skouteris 2018).

The survey also found that pregnant women turn to herbal remedies for a variety of reasons, including lack of financial resources, lack of access to medical professionals in times of crisis, and adverse effects of conventional drugs, and a personal preference for these remedies. James (2020)confirms the findings by showing that this is because of insufficient resources and limited options."

The survey indicated that age, gender, educational level, income (in Naira), and occupation were all linked with CAM use among pregnant women in Abuja. Many expectant mothers claim that they cannot afford conventional medical care, so they turn to complementary and alternative medicine instead. Although some low-educated women use CAM out of curiosity, the vast majority do so because their partners insist they do (marital status) which is not in-line with the report of Bishop *at al*., (2011) that most women choose CAM during pregnancy so as to have control over their health. The study found that age, followed by gender, was the most significant socio-demographic component related with CAM use among pregnant women.

The current research replicated prior findings linking CAM use to marital status and kid count (Emiru*et al.* 2021). Compared to married women, unmarried pregnant women were more likely to use CAM. Women expecting their first child were also more likely to take CAM during pregnancy than mothers of more than three children. While previous research by Frawley*et al.* (2013) and Pallivalappila*et al.* (2013)"Found an association between education level and CAM use during pregnancy, this study found the opposite to be true. There are a number of caveats to this study that must be taken into account when drawing conclusions. First, there was no evidence that CAM use during pregnancy was linked to any adverse outcomes. Second, because it relies on people's memories, poll results are vulnerable to recall bias."

Conclusion

The study found that more than half of the CAM users had a history of past usage, while just a few were first-time users of CAM among pregnant women in Abuja. The research found that the most common ways for pregnant women in Abuja to use CAM were to ingest it orally, consult with and follow the counsel of traditional birth attendants, use it topically, undergo spiritual cleansing and deliverance, and put it into the genital canal. Age, sex, degree of education, income (in Naira), marital status, and occupation were all shown to be linked with CAM use among pregnant women in Abuja (Table 4). Many expectant mothers claim that they cannot afford conventional medical care, so they turn to complementary and alternative medicine instead. Health experts, traditional healers, religious leaders, family, neighbors, and herbalists are all places where pregnant women in Abuja might learn about herbal medications, the study found. The study concludes that maternity care clinicians, and midwives in particular, should be familiar with CAM utilized by pregnant women and should eliminate any biases they may have regarding such treatments. Also, CAM usage history should be routinely incorporated into prenatal booking and other consultations with pregnant mothers.

Acknowledgement

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