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Original Research – Quantitative

# Herbal medicines use during pregnancy in Sierra Leone: An exploratory cross-sectional study

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### ARTICLE INFO

#### Article history:

Received 27 April 2017

Received in revised form 6 November 2017

Accepted 4 December 2017

Available online xxx

#### Keywords:

Herbal medicine

Pregnancy

Maternal health

Sierra Leone

### ABSTRACT

**Background:** The influence of complementary therapies on maternal health has attracted the attention of policy makers, health professionals and researchers globally especially in developing countries. However, there is lack of evidence on whether Sierra Leonean women use herbal medicine during pregnancy which limit the chance of providing better maternity care.

**Aim:** This study was conducted to determine the prevalence and pattern of herbal medicines use among pregnant women attending an antenatal clinic at a tertiary maternal hospital in Sierra Leone.

**Methods:** A cross-sectional study was conducted among pregnant women (n = 134) who were at least 18 years of age and who have had at least one previous pregnancy, using face to face interview. Descriptive statistics, univariate and multivariate logistic regression analysis were used for data analysis.

**Results:** The response rate was 82.7%. Nearly two-thirds of pregnant women reported using herbal medicine (62.7%). Herbal medicine users were more likely to be Muslim than Christian. *Luffa acutangula* (L.) *Roxb* was the most cited herbal medicine used and was mostly indicated for urinary tract infection and pedal oedema. Perceived effectiveness and safety over conventional medicine (70.2%) was key driver for use, and majority did not disclose their use of herbs to their maternal health professional (95.2%).

**Conclusion:** Herbal medicine use among pregnant women in this study was widespread. Maternal health providers should be aware of this relatively common practice and routinely discuss and educate pregnant women on the potential risks and benefits associated with the use of herbs.

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### Statement of significance

#### Problem or issue

Herbal medicine use during pregnancy is a public health issue due to its potential effect on maternal and new born health.

### What is already known

Traditional healthcare utilization among adult and paediatric populations remain prevalent in Sierra Leone where it is often the first option considered. There is little or no information regarding the magnitude, correlates and pattern of herbal medicine use during pregnancy in Sierra Leone for women attending public health facilities.

### What this paper adds

Evidence that there is high use of herbal medicine during pregnancy among women attending antenatal clinic of a tertiary maternal hospital in Sierra Leone.

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<https://doi.org/10.1016/j.wombi.2017.12.006>

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Please cite this article in press as: P.B. James, et al., Herbal medicines use during pregnancy in Sierra Leone: An exploratory cross-sectional study, *Women Birth* (2017), <https://doi.org/10.1016/j.wombi.2017.12.006>

## 1. Introduction

Traditional, complementary and alternative medicines (TCAM) – defined as a broad range of treatments not considered part of conventional care often based on indigenous traditions of healing – are increasingly used in global populations.<sup>1</sup> TCAM is a topic of increasing public health importance in the developing world, and in Africa particularly.<sup>2</sup> Maternity care is an area in which TCAM use has attracted interest in clinical, public health, policy and research communities, largely due to the potential clinical impacts of increased use of TCAM such as herbal medicine by pregnant women.<sup>3</sup> Internationally, studies suggest rates of herbal medicines utilisation during pregnancy are between 1 to 60% in western nations<sup>4</sup> and 12 to 90.3% Africa.<sup>5–8</sup> Despite high use and acceptance of herbal medicines by pregnant women, some concerns over herbal medicine use in pregnancy have been raised. These include lack of appropriate quality control mechanisms and regulations that adequately test for safety and efficacy,<sup>9</sup> potential toxicity (particularly relating to malformation owing to teratogenicity and miscarriage or preterm delivery associated fetomaternal complications<sup>10</sup>) and potential drug interactions with conventional medicines.<sup>11</sup>

Despite such concerns, there is a long history of utilization of traditional herbal medicines in Africa and this appears to be the case in both rural and urban populations.<sup>12,13</sup> Eighty percent of the African population is estimated to use traditional herbal medicine in some form, citing its lower cost, accessibility, perceived safety and efficacy, cultural significance, as well as a patient distrust of conventional medical care as the primary drivers for use.<sup>14</sup> Socio-demographic variability regarding the use of traditional herbal medicine among pregnant women in sub-Saharan Africa has also been observed, with factors such as religion, educational status, low economic status, parity, residential location, and previous use of herbal medicine for other conditions all associated with traditional herbal medicine use among pregnant women in sub-Saharan Africa.<sup>6,7</sup> As in many African countries, traditional herbal medicine use in Sierra Leone is widespread and many rely on it as a source of health care.<sup>15–18</sup> In some instances traditional herbal medicines may be used in preference to conventional care—for example, a household cluster survey among Sierra Leonean caregivers of children under the age of five indicated that the use of traditional herbal medicine was a key determinant for caregivers not seeking western medical care for a variety of conditions.<sup>16</sup> However, it remains unknown if such observations observed in paediatric populations also occur among their maternal counterparts.

In response to high public utilisation and acceptance of traditional herbal medicines, a national policy for traditional herbal medicine was developed in Sierra Leone with the aim of protecting the public and promoting the rational, safe and appropriate use of herbal medicines among practitioners and the public.<sup>19</sup> However, implementation of this policy, including the regulation of its products, practice and practitioners remains relatively non-existent, with lack of commitment by government, the absence of a competent and unified body to regulate traditional herbal medicine practice, and lack of trained health professionals with traditional herbal knowledge identified as factors resulting in implementation delays.<sup>17</sup>

Maternal health in Sierra Leone is characterised by a high maternal mortality ratio of 622.6 per 100,000 live births<sup>20</sup> (as compared to the global average of 209.1 per 100,000 live births).<sup>20</sup> The introduction of free health care services for pregnant, lactating women and under-five children has increased utilization of public health care services,<sup>21</sup> though maternal and child mortality remains high.<sup>22</sup> Even with increasing access to conventional medical services in some of these groups (such as children under 5)

traditional herbal medicine use also remains high.<sup>15</sup> Concurrent high use of traditional herbal medicines may present both potential opportunities (in terms of additional culturally accepted therapeutic options) and potential risks (in terms of unsafe use) in these populations. Although maternity care is an area where herbal medicine use may have the greatest potential impact, it is not clearly understood how herbal medicine use might interface, interact or affect pregnant women attending public health care services in Sierra Leone. This study aims to contribute to filling this knowledge gap by examining the prevalence, and pattern of herbal medicines use as well as its associated factors influencing its use among pregnant women attending an antenatal centre in Sierra Leone.

## 2. Methodology

### 2.1. Study design and population

A descriptive exploratory cross-sectional study of women attending for maternity care was conducted between the months of November 2015 and January 2016 at the antenatal clinic of the Princess Christian Maternity Hospital (PCMH) – a public tertiary referral and university teaching hospital in Freetown, Sierra Leone. PCMH is a 150 bed hospital with 16 resident physicians and 24 midwives on staff. As a public health facility, it provides maternal health services to women regardless of religious, ethnic, or socio-economic class or differences. The inclusion criteria for participation in the study was pregnant women attending the clinic during the study period, who were at least 18 years of age, and who had at least one previous pregnancy. Women who were chronically ill or had any mental issues were excluded from the study. Also, those showing signs and symptoms of Ebola were also excluded.

### 2.2. Sampling method

Using the formula for sample size calculation for cross-sectional study i.e.  $n = z^2pq/d^2$ , where  $n$  = number of respondents,  $z$  = value of the test statistic (1.96) assuming 95% confidence interval,  $p$  = the estimated proportion of use of herbal medicine (12%) based on a similar study conducted in urban health facility in Kenya,<sup>7</sup>  $q = 1 - p$  and  $d$  = degree of accuracy (5%). We obtained a sample of 162.26. Given low attendance of women at the antenatal clinic of the Princess Christian Maternity Hospital which was due to Ebola outbreak, we decided to consecutively recruit all women who met the inclusion criteria during the study period

### 2.3. Study questionnaire

The interview questionnaire used in this study was designed based on the available literature on herbal medicine use during pregnancy, especially in the African region.<sup>6–8</sup> The questionnaire was initially piloted among 20 pregnant women (excluded from final analysis) prior to commencing the study, with feedback informing the final draft of the questionnaire. The questionnaire consisted of three sections: demographic information of respondents (age group, religion, marital status and parity); information on patterns of herbal medicine use and information-seeking behaviours relating to herbal medicine use in current and previous pregnancies; and women's perceptions around herbal medicine safety and efficacy during pregnancy. After participants were briefed on the purpose of the study and informed consent was obtained, data were collected using an interviewer-administered format (face to face interview), to ensure that women of all literacy levels were included. The local names of the medicinal plants obtained during the interview and together with their botanical names were

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