

# Preferences and Motivations of Women Who Use Traditional Contraceptive Methods to Avoid Pregnancy in Sub-Saharan Africa: A Systematic Review

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## Abstract

**Introduction:** When it comes to family planning, requirements and preferences vary among couples. Because of their mixed effectiveness, traditional contraceptive methods are often associated and accounted as unmet needs. However, interest in these methods is growing significantly. Nevertheless, knowledge of the reasons for the decision and using traditional contraceptive methods remains limited. The purpose of this study was to identify the preferences and motivations of women who use traditional contraceptive methods to avoid pregnancy in Sub-Saharan Africa. **Method:** A literature search was conducted in three electronic databases (PubMed/Biomed Central/Medline, Embase, CINAHL). Two independent individuals selected the eligible quantitative, qualitative, and mixed studies published between 2011 and 2020. We conducted a narrative synthesis to organize and group preferences and motivations that facilitate traditional contraceptive methods use. **Results:** Abstinence, withdrawal, breastfeeding, rhythm method were the main preferences to contraceptive planning methods identified. Factors influencing the use of traditional contraceptive methods were the lack of knowledge, the side effects, the bad experience with the modern contraceptive methods, spousal communication around family planning, the husband's opposition to modern methods, availability, accessibility, and the absence of side effects as well as the character of the traditional methods, the fact of living in an urban environment as well as the age beyond 30 years. **Conclusion:** This review identified preferences and motivations for using traditional contraceptive methods.

These findings could be considered in different family planning programs to understand their role and help to estimate the contraceptive prevalence better.

## Keywords

Natural Methods, Family Planning, Sub-Saharan Africa, Women

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## 1. Background

Although universal access to reproductive health has not been achieved as initially expected, the Millennium Development Goals (MDGs) have made great strides in women's health, including decreasing maternal, child and newborn mortality [1]. In addition, the Sustainable Development Goals (SDGs) aim to cover 75% of contraceptive needs by 2030 [1]. Worldwide, in 2019, 49 percent of women in the reproductive age range (15 - 49 years) were using some form of contraception. In sub-Saharan Africa, contraception among women of reproductive age increased from 13 percent in 1990 to 29 percent in 2019.

Considering changes in societies and behaviour, gender equality and rights programmes need to combine many elements to achieve contraceptive targets [2]. One strategy consists of recommending comprehensive data-based information, education and advice to enable informed choice, and family planning programs should offer a wide range of birth control methods to find the best meets their needs [3]. Contraceptive methods can be divided into modern and traditional methods. Traditional methods of contraception include periodic abstinence or rhythm, supplemented breastfeeding on demand withdrawal, douche, or complete abstinence. [4]. Generally, the choice of contraceptive method is determined by fear of side effects, the cost of contraceptives, the reluctance of providers to deliver a contraceptive method to some women, the inadequacy of distribution sites [5]-[10]. In addition, due to their controversial effectiveness, traditional contraceptive methods are not accurately captured in current survey approaches and are counted as the unmet need [11] [12] [13]. Thus, it has been reported a gradual decline in traditional contraceptive methods since 1990 globally. In 1990, six percent of women used a traditional method, which fell to four percent in 2019. These figures vary greatly depending on the country, especially in sub-Saharan Africa. Some countries like the Democratic Republic of the Congo and the Congo even report higher traditional methods than modern methods among married women [14].

The non-use of modern contraceptive methods or condoms is not necessarily due to difficulty accessing these methods. Instead, this could be because women feel that their needs are better met by using other forms of fertility regulation, such as traditional forms [15]. Otherwise, traditional methods could be considered as part of the pathway to modern method use. For this instance, it is crucial to understand the generally neglected preferences and motivations of wom-

en those who use traditional contraceptive methods to avoid pregnancy.

## 2. Methods

This systematic review examines women's preferences and motivations for using traditional family planning methods in Sub-Saharan Africa. The systematic review protocol was registered at the international prospective register of systematic reviews under the number CRD42020207399.

### 2.1. Search Strategy

A search strategy was developed to identify studies that were published between January 2011 and December 2020. We used three databases for the strategy (PubMed, Embase and CINAHL). A range of terms and combinations were used with MeSH AND/OR test words. Retrieved references were imported into ZOTERO, and then duplicates were removed.

### 2.2. Study Selection

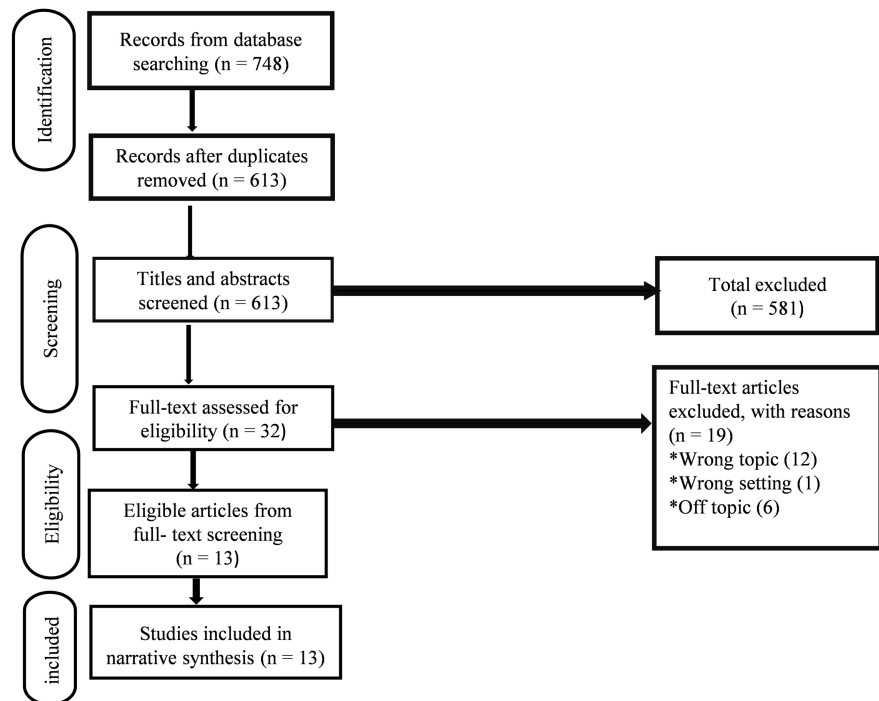
The study selection step was carried out independently by NB, YP and PN. The titles of the studies were screened after the removal of all duplicates. A total of records ( $n = 748$ ) were initially screened. Eligible studies ought to include the following criteria: 1) been a research study; 2) been written in English or French; 3) report based on the female; 4) using quantitative, qualitative or mixed-method; 5) been on the period January 2011 to December 2020; and 6) limited to sub-Saharan Africa. A list of relevant articles was also reviewed for additional publications. The list of records was prepared, and then the full texts were reviewed independently by the three authors (NB, YP and PN). The different disagreements linked to inclusion were treated through discussion involving all investigators (**Figure 1**).

### 2.3. Data Extraction

The authors independently extracted data from each study that fulfilled the criteria. The forms ensured data extraction was as consistent across all studies, as the extracted data were used to synthesize the findings. For each study, the following characteristics were extracted: 1) name of the first author, 2) year of publication, 3) country where the study was conducted, 4) setting where the study was conducted, 5) study design, 6) participant's characteristics, 7) the main outcomes. This review has focused on the preferences and motivations for using traditional planning methods by women in sub-Saharan Africa through qualitative, quantitative or mixed methods. So, only information came from participants and reported preferences or motivations were extracted.

### 2.4. Quality Assessment

We used the mixed methods appraisal tool (MMAT) [16] to appraise the methodological quality of the studies included in the systematic review, five (5)



**Figure 1.** PRISMA flowchart. The selection process for the systematic review on preferences and motivations for using traditional planning methods.

questions for each method (qualitative, quantitative or mixed-method). The MMAT was developed to provide a quality appraisal of quantitative, qualitative and mixed-method studies. Then, selected studies were assessed for methodological quality.

## 2.5. Data Synthesis

For this step, we used a technique based on a narrative approach. First, a systematic narrative synthesis was conducted by using the information as reported in the study's characteristics. Then, narrative synthesis, according to Petticrew and Roberts [17], was used. This technique recommends three steps: 1) Organization of studies in logical categories. In this systematic review, studies were gathered depending on whether they deal with preferences and motivations. 2) Analysis of each study. We conducted a narrative description of each study and a description of the quality of the study by Petticrew and Roberts [17]. 3) A general summary of the results of the studies was established. We used the Socio-Ecological Model (SEM) secondly to group the women's motivations for using traditional planning methods. The SEM is a framework that examines multiple effects and interrelatedness of environmental, contextual, and social factors on individual behavior [18]. Because many challenges in public health are too complex to be well understood and addressed from single-level analyses, the SEM helps to a best comprehensive approach by including many levels of influence to impact health outcomes and health behaviour. The levels of influence in the SEM include intrapersonal and interpersonal factors, organizational factors,

and structural factors.

### 3. Results

#### 3.1. Study Selection

The primary search strategy identified 748 potentially relevant citations. After removing duplicates and the initial title and abstracts screening, 68 studies were kept for the full-text review. Studies were excluded if they were not Sub Saharan Africa studies, not limited to January 2011 to December 2020, not focused on females. The remaining 13 studies were appraised for their methodological quality and included in the analysis. No study was excluded based on quality assessment. A flow chart illustrating the selection process is shown in (Figure 1).

#### 3.2. Study Characteristics

A total of 13 eligible studies were included in the review. Of these 13 studies, one was from Botswana, one from Congo, two from Nigeria, two were multicenter, three were from Ghana, one from Burkina Faso, one from Ethiopia and two from Uganda. In addition, three of them used a mixed-method while the other ten used a quantitative method. Table 1 provides a brief overview of the key characteristics of the included studies.

#### 3.3. Quality Appraisal Results

In general, studies were of high quality (Table 2). A total of nine studies scored 5/5, three studies scored 4/5, and one study scored 3/5.

#### 3.4. Preferences to Using Traditional Family Planning Methods

The thirteen (13) studies included in this review identified a total of five (5) traditional planning methods used by women in sub-Saharan Africa. The main methods were abstinence, withdrawal, breastfeeding, rhythm method and herbal medicines.

This systematic review revealed that one of the traditional contraceptive methods was abstinence. It was relayed by six authors [19]-[24]. Some of these studies showed that the prevalence of these methods was 55% [19], at 16.3% [21], and 4% [23]. Five of the studies included in the review reported that withdrawal was one of the traditional methods of contraceptive practice among women in sub-Saharan Africa [21] [23] [24] [25] [26]. This method was used by 14.1% of study participants [24], 32% [21] and 2.7% according to Bekele & Fantahun [25]. Three authors [25] [27] [28] reported that the Rhythm method was used at different rates. For example, this method was 2.7% [25] and 72% [27]. With one's spouse, the desire to space children was predictive of clients' intention to adopt family planning in the future; the rhythm method was the most patronized [28]. Breastfeeding was reported by three authors [19] [22] [25]. The rate of using such contraceptive practice was 10% according to Ama & Olaomi [19] and 2.7% to the study by Bekele & Fantahun [25]. Apart from these methods already listed,

**Table 1.** Characteristics of the studies.

		Analysis	Participants			Outcomes
			Type	Number	Characteristics	
<b>Order No.</b>	<b>1</b>					
<b>1er author</b>	Njoku Ola Ama					
<b>Year of publication</b>	2019					The traditional methods are mainly used
<b>Country</b>	Botswana					Facilitators: Knowledge, availability, and accessibility.
<b>Setting</b>	Gaborone, Selibe Phikwe (Urban) and Barolong and Kweneng East (rural)	Not specified	all women	50 years and above	53.2% were between 50 and 59 years; Most of the women (42.8%) had no educational qualification; 35.1% of the women were unemployed; Most of the women (32.9%) were married	The results show that abstinence (55%), condom (41%) and breastfeeding (10%) are currently being used.
<b>Study design</b>	Cross-sectional					Thus they are seen to be consistently using natural or traditional methods more than modern methods
<b>Study duration</b>	Not specified					
<b>Data collection</b>	<b>Methods</b>	Questionnaire				
	<b>Tools</b>	Questionnaire				
<b>Order No.</b>	<b>2</b>					
<b>1er author</b>	Jeff K Mathe					
<b>Year of publication</b>	2011					Traditional methods were more often used than modern methods (in 64% of cases in the past and 65% before the last pregnancy) Facilitators for using traditional methods: lack of knowledge, fear of side effects, religious considerations and husband opposition to using modern family planning
<b>Country</b>	Congo	Statistical analysis by EPIINFO	women who have just delivered	572	(64%) were from urban areas of the city. Their mean age was 26.7 (range: 14 - 48). Most of the women were married (62%) and had some degree of education (83%). Only 18% were illiterate. About two-thirds (60%) were Catholic and the rest Protestant	Majority used traditional methods (65%), mostly Calendar method (72%)
<b>Setting</b>	Butembo					
<b>Study design</b>	cross-sectional					
<b>Study duration</b>	2 weeks					
<b>Data collection</b>	<b>Methods</b>	Survey				
	<b>Tools</b>	Questionnaire				
<b>Order No.</b>	<b>3</b>					
<b>1er author</b>	Augustine Vincent Umoh					
<b>Year of publication</b>	2011	Data obtained analyzed using the SPSS 17 statistical package for Windows	women attending antenatal care	550	(90.8%) were between the ages of 20 - 34 years with a mean age of 27.75 years. Also, the majority of respondents (67.7%) were of the predominant Ibibio tribe, while the Anang and Igbo tribes constituted 11.4% and 10.3%, respectively. The married respondents were in the majority (93.7%)	The withdrawal method (14.1%), pills (13.2%), periodic abstinence (9.5%), injections (7.9%) and IUCD (6.6%; <b>Table 1</b> ) Facilitators for using traditional planning method: the level of education, side effects, age, husband opposition The condom (46.7%), withdrawal method (14.1%) and the pills (13.3%) were the most commonly used forms of contraception. periodic abstinence (9.5%)
<b>Country</b>	Nigeria					
<b>Setting</b>	Uyo					
<b>Study design</b>	cross-sectional study					
<b>Study duration</b>						
<b>Data collection</b>	<b>Methods</b>	Survey				
	<b>Tools</b>	Questionnaire				

## Continued

<b>Order No.</b>	<b>4</b>					
<b>1er author</b>	Mark Amos					
<b>Year of publication</b>	2019					
<b>Country</b>						Results indicate that both traditional and modern methods are associated with greater discussion of family planning Facilitators for using traditional family planning; spousal communication about family planning
<b>Setting</b>	7 countries in Sub-Saharan Africa	Logistic regression		Benin (analytic sample size 6214), Burkina/Faso		
<b>Study design</b>	cross-sectional study					
<b>Study duration</b>						
<b>Data collection</b>	<b>Methods</b>	Survey				
	<b>Tools</b>	Questionnaire				
<b>Order No.</b>	<b>5</b>					
<b>1er author</b>	D. Yaw Atiglo					
<b>Year of publication</b>	2018					
<b>Country</b>	Ghana					Abstinence was higher among single young women while unmet and met need were higher among the married. At least senior high school education was significantly associated with the likelihood of current abstinence (especially among single women) and unmet needs. Being in the middle and rich categories, on the other hand, was associated with lower likelihood of current abstinence and a met need
<b>Setting</b>		Descriptive and multinomial logistic regression analyses	females aged 15 - 24 years	1532		
<b>Study design</b>	Quantitative study					
<b>Study duration</b>						
<b>Data collection</b>	<b>Methods</b>	Survey				
	<b>Tools</b>	Questionnaire				
<b>Order No.</b>	<b>6</b>					
<b>1er author</b>	Caroline Wuni					
<b>Year of publication</b>	2018					
<b>Country</b>	Ghana					The majority (94.2%) of the clients had attained some level of formal education. Most (90.7%) of the respondents were either married or cohabiting with their partners. Of the remaining 9% who were single, 6.6% had never been married, while under 3% were separated, divorced or widowed. More than half (58.6%) were employed in the informal sector (farming, trading, sewing), and about a fifth were either unemployed/students, or employed in the formal sector (teaching, nursing, civil service). Overall, 50.2% of the women were using contraception, 30.7% modern and 19.5% traditional methods. Significant factors associated with current contraceptive use were, level of education , discussing family planning during antenatal care. Family planning discussions during child welfare clinic or with one's spouse, desire to space children were predictive of clients' intention to adopt family planning in the future the rhythm method was the most patronised
<b>Setting</b>	Sunyani Municipality	He chi-squared ( $\chi^2$ ) test, Poisson regression	Women	590		
<b>Study design</b>	analytical cross-sectional study					
<b>Study duration</b>						
<b>Data collection</b>	<b>Methods</b>	Survey				
	<b>Tools</b>	Questionnaire				

## Continued

<b>Order No.</b>	7					
<b>1er author</b>	Clémentine Rossier					
<b>Year of publication</b>	2014					Natural methods are perceived as free, discrete, always available, and typically not requiring a visit to a health center.
<b>Country</b>	Burkina Faso					
<b>Setting</b>	Ouagadougou		Descriptive analysis	Women in union	518	32.0 percent of women in union aged 15 - 49 35.5 percent of women in union are using any method of contraception
<b>Study Design</b>	Quantitative study					LAM, and women practicing periodic abstinence are more likely than others to be born in Ouagadougou
<b>Study duration</b>						
<b>Data collection</b>	Methods	Survey				
	Tools	Questionnaire				
<b>Order No.</b>	8					
<b>1er author</b>	Sarah Staveteig					
<b>Year of publication</b>	2017					Respondents to the follow-up study were more concentrated in their 30s than their respective regional counterparts. Fewer follow-up respondents were age 15 - 19.
<b>Country</b>	Ghana					
<b>Setting</b>	Accra		Qualitative analysis software.	Women	96	Follow-up respondents were more predominantly rural than both family planning users and women with unmet need in the country as a whole
<b>Study design</b>	mixed methods		Analysis using Stata			Bad experience with modern methods: Women who preferred traditional methods were often urban and educated. Opposition from husbands or partners and religious opposition also appeared to have been underreported in the GDHS. Meanwhile, despite additional prompting on cost and access, no additional cost or access cases posed a barrier were found.
<b>Study duration</b>						
<b>Data collection</b>	Methods	Survey and interview				
	Tools	Questionnaire				
<b>Order No.</b>	9					
<b>1er author</b>	Ayyuba Rabiou					
<b>Year of publication</b>	2018		Analyzed using Statistical Package for Social Sciences (SPSS)	Women aged 15 to 49	400	The mean age $\pm$ standard deviation (SD) was $29.1 \pm 6.22$ years. The median age was 28 years.
<b>Country</b>	Nigeria					The median age was 28 years.
<b>Setting</b>	Kano					A large proportion (133, 33.3%) of the respondents were within the age group of 25 - 29 years, while the least number of the respondents 4 (1.0%) were of the age group of 45 - 49 years
<b>Study Design</b>	Cross-sectional study		Electronic Software (IBM SPSS Statistics 19, Inc, Chicago, IL, USA).			Up to 121 (82.3%) thought the traditional method of contraceptives was effective for them while 134 (91.2%) believed there were advantages with the use of TCMs 147 (36.8%) used them. Out of these 147, 47 (32.0%) used withdrawal method, 24 (16.3%) used abstinence, and 67 (45.6%) used herbal medicines
<b>Study duration</b>	March 1 to July 31, 2017					
<b>Data collection</b>	Methods	Survey				
	Tools	Questionnaire				



## Continued

<b>Order No.</b>	<b>10</b>	
<b>1er author</b>	Biruhesfa Bekele	
<b>Year of publication</b>	2011	
<b>Country</b>	Ethiopia	Data entry and analysis were conducted using Statistical Package for the Social Sciences (SPSS) Version 13.0 for Windows (IBM, New York, NY, USA). The qualitative data were categorized using key thematic areas and the data were interpreted and presented as verbatim notes.
<b>Setting</b>	Dilla town (Medan Act project area), Dendi Woreda (Abebech Gobena project area), Wolaita zone (African Humanitarian Aid project area) and Adigrat town (Relief and Rehabilitation Society of Tigray project area)	women aged 15 - 49 years who chose to use the SDM for family planning.
<b>Study Design</b>	Cross-sectional study	A total of 184 SDM users were interviewed
<b>Study duration</b>	December 2007 to June 2008	The mean and median ages were 29.47 (SD ± 6.05 years) and 30 years, respectively. The majority of the study subjects were Orthodox Christians (76.6%), married (93.5%), attended primary school (52.2%), housewife by occupation (40.8%), and had children (96.2%), with a mean of 3.2 children per woman. On average the study subjects had used the SDM for 13.8 months. Seventy-seven women (42%) had practised the SDM for more than 1 year, while 64 (35%) had used the method for between 6 months and 1 year.
<b>Data collection</b>	Methods	Interviews and Survey
	Tools	Questionnaire
<b>Order No.</b>	<b>11</b>	
<b>1er author</b>	Jenny A. Higgins	
<b>Year of publication</b>	2013	
<b>Country</b>	Uganda	
<b>Setting</b>	Rakai	
<b>Study Design</b>	mixed methods	quantitative (n = 6722) and qualitative (N = 60)
<b>Study duration</b>	June 2010 and June 2011 for the Qualitative Interview Procedures and Measures	youth aged 15 - 24 year Not described
<b>Data collection</b>	Methods	Interviews and Survey
	Tools	Questionnaire
		The most common reasons for choosing the SDM were the absence of health effects/side effects, in 129 (70.1%) cases, followed by fear of side effects, particularly of hormonal contraceptives (n = 99, 53.8%), and ease of use (n = 9, 4.9%). Additional reasons were that it is available without cost to the individual (n = 5, 2.7%) and because it is a natural method (n = 5, 2.7%). Barriers: Ten had to stop using the method because they had two menstrual cycles that fell outside the 26 - 32-day range within a year. Seven women lactational amenorrhea method (n = 5, 2.7%), rhythm method (n = 5, 2.7%), and withdrawal method

Continued

<b>Order No.</b>	<b>12</b>						
<b>1er author</b>	Goedele Van den Broeck						off-farm wage employed women were more likely to use traditional contraception, employment was significantly associated with the use of traditional methods for women who were older than 30 years, who had more than three children, who were wealthier, and who lived less than 30 km from a major town, more frequent among older women and women with more children.
<b>Year of publication</b>	2019						
<b>Country</b>	Uganda		Bivariate analysis, a binary logistic model, a multinomial logistic model				
<b>Setting</b>	rural Uganda						
<b>Study Design</b>	Quantitative			married women aged 15 - 49 years	800 women	Not described	
<b>Study duration</b>	data from the 2010 and 2012 rounds of the Uganda National Panel Survey						
<b>Data collection</b>	Methods	Survey					
	Tools	Questionnaire					
<b>Order No.</b>	<b>13</b>						
<b>1er author</b>	Clémentine Rossier						Use of traditional methods is higher among women who wish to limit/end childbearing and among better-educated, urban, and wealthier women, but only slightly higher for ever-married women compared to never-married ones. A higher proportion of older women now use traditional methods, as do never-married women compared to ever-married women. The proportion of traditional method users among those with a demand for contraception is six times greater among women with a secondary education compared to those with no education 4 percent of women in sub-Saharan Africa use either periodic abstinence or Withdrawal
<b>Year of publication</b>	2017		Descriptive and regression analyses account for the	409,399 women of reproductive age (15 to 49)	409,399 women		
<b>Country</b>	Sub-Saharan Africa						
<b>Setting</b>	countries in West, East, and Central Africa		DHS's stratified, clustered sample design by using the svy commands in stata.				
<b>Study Design</b>	Quantitative						
<b>Study duration</b>							
<b>Data collection</b>	Methods	Survey					
	Tools	Questionnaire					

the study by Rabiou & Rufa'i [21] noted another traditional practice, namely the use of herbal medicines. The study found that 45.6% of participants used this to avoid pregnancy [21].

### 3.5. Motivations for Using Traditional Family Planning Methods

The different factors motivating women to use traditional contraceptive methods have been grouped according to the different levels of the socio-ecological model: individual, interpersonal and organizational levels.

**Table 2.** Reporting the results of the MMAT.

Studies	Criteria from the Mixed Methods Appraisal Tool																								
	1. Qualitative					2. Quantitative randomized controlled trials					3. Quantitative non-randomized					4. Quantitative descriptive					5. Mixed methods				
	1.1.	1.2.	1.3.	1.4.	1.5.	2.1.	2.2.	2.3.	2.4.	2.5.	3.1.	3.2.	3.3.	3.4.	3.5.	4.1.	4.2.	4.3.	4.4.	4.5.	5.1.	5.2.	5.3.	5.4.	5.5.
Njoku Ola Ama & John O Olaomi (2019)																1	1	1	?	1					
Mathe <i>et al.</i> (2011)																1	1	1	?	1					
Augustine Vincent Umoh <i>et al.</i> (2011)																1	1	1	?	1					
Mark Amos (2019)																1	1	1	1	1					
D. Yaw Atiglo and Adriana A. E. Biney (2018)																1	1	1	1	1					
Wuni <i>et al.</i> (2018)																1	1	1	1	1					
Rossier <i>et al.</i> (2014)																1	1	1	1	1					
Staveteig S (2017)																1	1	1	1	1					
Rossier and Corker (2017)																1	1	1	1	1					
Ayyuba Rabi'u and Asma'u Ahmad Rufa'i (2018)																1	1	1	1	1					
Bekele et Fantahun (2011)																					1	1	?	?	1
Higgins <i>et al.</i> (2013)																					1	1	1	1	1
Goedele Van den Broeck (2019)																1	1	1	1	1					

### 3.5.1. Individual-Level

#### 1) Socio-demographic characteristics

In this review, several socio-demographic characteristics contributed to explaining women's choice to use traditional contraceptive methods.

- **Education**

Six studies have relegated the level of education as a factor in the choice of contraceptive methods [20] [21] [23] [24] [28] [29]. According to Atiglo [20] and Wuni [28], senior high school education was significantly associated with the likelihood of current abstinence. According to Staveteig [29], women who preferred traditional methods were often urban and educated. As for Rossier & Corker [23], the use of traditional methods is higher among better-educated.

- **Age**

Age has been found in two studies [23] [30] as a motivating factor in traditional contraceptives methods. Employment was significantly associated with traditional methods for women who were older than 30 years [30]. At the same time, Rossier & Corker [23] found that a higher proportion of older women now use traditional methods.

- **Socioeconomic factors**

Three studies [20] [23] [30] reported that traditional contraceptive methods were found among the richest women. The use of traditional methods is higher among wealthier women [23] [30] and rich categories [20].

- **Residential environment**

The residential environment was found as a factor of choice in traditional contraceptives methods. Three studies included in this review [23] [29] [30] identified that women who choose traditional methods live in urban areas. In addition, the use of traditional methods is higher among women who wish to limit/end childbearing and among better-educated, urban [23], who lived less than 30 km from a major town [30] and were often urban [29].

## 2) Cognitive factors

In this review, some authors [24] [25] [27] identified fear related to the side effects of modern contraceptive methods as a factor in the choice of traditional contraception. For example, the most common reasons for choosing the SDM were the absence of health effects/side effects, in 129 (70.1%) cases, followed by fear of side effects, particularly of hormonal contraceptives ( $n = 99$ , 53.8%), and ease of use ( $n = 9$ , 4.9%) [24] [25]. As for Mathe [27], traditional methods were more often used than modern methods (in 64% of cases in the past and 65% before the last pregnancy), and the main reasons were the lack of knowledge and fear of side effects. Finally, one of the studies included in the review found that the poor experience with modern contraceptive methods explained the choice of women to use traditional contraceptive methods. Indeed in his study, Staveteig [29] pointed out that the bad experience with modern contraceptive methods explained the choice of women toward traditional contraceptive methods.

### 3.5.2. Interpersonal Level

#### 1) Factors related to the couple

In this systematic review, couple-related motivation factors were identified. Three studies have identified the husband's opposition to the use of modern contraceptive methods [24] [27] [29]. Thus, for Mathe [27], the main reasons for using traditional methods were lack of knowledge, fear of side effects, religious

considerations and the husband's opposition to modern family planning. For Umoh and Abah [24], their study reported that the main factors for using the traditional planning method were education, side effects, age, and husband's opposition. Therefore, the opposition from husbands or partners and religious opposition also appeared to have been underreported in the GDHS [29]. Communication within the couple was also identified as a motivating factor in the choice of traditional contraceptive methods. Two studies included in this review identified it [28] [31]. For those authors, the results indicate that traditional methods are associated with greater discussion of family planning [31]. In addition, family planning discussions during child welfare clinics or with one's spouse, the desire to space children were predictive of clients' intention to adopt family planning in the future and the rhythm method was the most patronized [28].

### **2) Religious considerations**

Two studies included in this systematic review [27] [29] identified religion as a motivating factor to choose traditional methods. For example, in Mathe's paper [27], religious considerations were a motivating factor in the decision to use traditional contraceptive methods, while for Straveteig [29], religious opposition was also identified as a factor in using traditional methods.

### **3.5.3. Organizational Level**

#### **1) Accessibility**

In this review, accessibility was identified as a motivating factor in women's choice of traditional contraceptive methods in sub-Saharan Africa [19] [25] [29]. Bekele & Fantahun [25] found that additional reasons for the use of the standard day method were the fact that it is available without cost to the individual ( $n = 5$ , 2.7%) and because it is a natural method ( $n = 5$ , 2.7%). Therefore, the traditional methods are mainly used, associated with knowledge, availability, and accessibility [19].

#### **2) Availability**

Of the 13 included in this review, four have the availability of traditional contraceptive methods as a factor of choice [19] [22] [25] [29]. Furthermore, the use of traditional methods was associated with their availability [19], and natural methods are perceived as free, discrete, always available, and typically not requiring a visit to a health center [22]. Thus, despite additional prompting on cost and access, no additional cost or access cases posed a barrier were found [29].

## **4. Discussion**

The objective of this systematic review was to identify the preferences and motivations of women who use traditional contraceptive methods in sub-Saharan Africa. Several preferences and motivations were identified. Motivations were grouped according to the different levels of the SEM.

The main traditional planning methods were abstinence, withdrawal, breast-feeding, rhythm method and herbal medicines. Many studies have shown women's preferences for traditional methods in sub-Saharan Africa. For example,

among sexually active adolescent girls surveyed in Nigeria, 57 percent reported current traditional method use [32]. In the Democratic Republic of Congo, more than 64 percent of a sample of postpartum women considered themselves current users of natural methods [27]. This result is close to that found in Ethiopia. Meanwhile, traditional methods such as the calendar method, lactational amenorrhea method (LAM) and withdrawal were mentioned by 21.3%, 31% and 20.2% respectively of married women in a study conducted in Ouagadougou, Burkina Faso [33]; many women were classified as having an unmet need for family planning by the DHS [22].

This review found that certain socio-demographic variables such as education level, residence, cognitive factors, and economic status were identified as motivation factors for choosing traditional contraceptive methods. These results corroborate those of Rossier & Corker [23], for whom the use of traditional methods is higher among women who wish to limit childbearing and women with a higher level of education, wealthier women living in urban areas. Therefore in their study, Gueye and Speizer [34] found that at the individual level, women's belief in these myths is negatively associated with the use of modern contraception. Regarding religious reasons, this result is similar to those of the WHO. Indeed, the reasons mentioned by couples were religious or philosophical [35]. Also, religious affiliation determines traditional contraceptive methods since the Catholic Church allows some forms of traditional contraception (periodic abstinence, cervical mucus, temperature method) [15]. On the other hand, a study in Ethiopia showed that women who had their husband's support had more than twice the chance to use contraception than those their pairs who did not [33].

Regarding the factors related to the organizational level, results showed that the availability, accessibility of natural methods increased their use. One study revealed a similar result. Indeed, natural methods are seen as free, inconspicuous, always available and generally do not require a visit to a health center [36] [37]. Another study found that traditional contraceptive methods were related to users' ability to practice effectively [35]. Factors about other forms of contraceptive methods, especially modern, are close to those of other authors. Supply-side issues are well known [38], including limited choice of methods, poor quality of care in health centers, long waiting times and frequent stock-outs, and the difficulties of using these modern methods [35]. The cost of modern contraceptive methods is another reason, although often subsidized, would lead some users to traditional contraceptive methods [22].

Knowledge itself is the source of misinterpretations that lead to risk-taking. For example, it appeared that students inferred from information retained from their biology course on ovulation mechanisms that it was sufficient to protect them during this restricted period without considering the risk of irregular cycles [37]. Furthermore, although being single or widowed is a barrier to choose traditional methods [25], this result is quite different from that found by WHO, for whom not being married increased the likelihood of choosing traditional methods [4].

## 5. Conclusion

This systematic review allowed us to identify preferences and motivations for using traditional contraceptive methods in sub-Saharan Africa. The results showed that women's choice of traditional contraceptive methods is multifactorial. Factors to use can be grouped into individual, interpersonal and organizational factors. These results help to improve women's knowledge and attitudes about family planning. In addition, these results will make it possible to better estimate the contraceptive prevalence rate by taking contraceptive methods into account in demographic surveys and rethinking the choice of women using traditional methods.

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## Conflicts of Interest

The authors declare that they have no competing interests.

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