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Reproductive Health and Family Planning Services in Africa: Looking beyond Individual and Household Factors

Alhaji A. Aliyu and Tukur Dahiru

Abstract

Worldwide, there have been remarkable gains in the provision and utilization of reproductive health and FP services. However, in Africa, despite increasing availability, utilization of these services is less than 50%, even though there are wide variations among and within the countries across the continent. Articles from peer-reviewed journals, technical reports, Internet articles, grey literature (official government documents, technical reports, etc.) and Demographic and Health Survey (DHS) reports were used as resource materials. Manual search of reference list of selected articles was done for further relevant materials. We also used for comparative analysis, the online StatCompiler tool (<https://www.statcompiler.com/en/>) to extract data. Reproductive health and contraceptives have a lot of benefits to the individual, family and community. However, despite near universal knowledge and availability of reproductive health and FP services in Africa, utilization of these services is less than optimal. Several factors operating at individual, household and within the community influence utilization of services. These factors are the cause of poor maternal health and care that might hinder population health and the attainment of Sustainable Development Goals (SDGs). Interventions to promote and sustain utilization of services should target these factors at different levels depending upon relative role/s of these factors.

Keywords: antenatal care, facility delivery, skilled attendant, postnatal care, FP, service utilization, SSA

1. Introduction

Inequality in health care utilization and large disparities in health outcomes exists between countries and even within them. These differences largely are defined and perpetrated by a multitude of factors-social structures-and mediated by material and behavioral factors and by aspects of health system delivery [1]. Thirty years after the launch of Safe Motherhood Initiative, the health and well-being of mothers and newborns have improved appreciably in many countries. However, countries with the highest burdens of mortality and illness have made least progress and inequalities between countries are increasing. Worldwide, each year, there are about 3.2 million stillborn babies, 4 million neonatal deaths and

0.5 million maternal deaths [2]. In majority of situations, the deaths are largely preventable [2, 3]. Around 99% of these deaths occurs in developing countries [2] out of which 11–17% of maternal deaths occurs during childbirth and 50–71% of it in the postpartum period [4]. While every pregnancy carries risks [4, 5] that must be addressed by skilled health providers, the timing, spacing and above all, the women's ability to decide when to become pregnant are key to favorable pregnancy outcomes.

Sexual and reproductive health (SRH) is a relatively new concept in the context of the dynamics of contemporary public health issues. It is closely related to the trio of health, population and environment (PHE), the three topmost challenging issues that require global attention for solutions. SRH is significantly influenced by socio-cultural, political and religious considerations [6, 7]. The five core components of sexual and reproductive health include among others improvement of antenatal, postnatal, postpartum and newborn care, provision of high-quality services including family planning (FP), etc. Pregnancy is a physiological process of activities in a continuum, each activity (or stage) crucially influenced by the preceding activity (or stage).

It is well recognized that improving the women's chances of surviving pregnancy and child birth relies on their access to reproductive health including FP. And within the continuum of maternity care, antenatal care (ANC) provides an avenue for important health care functions such as health education, health promotion, screening and diagnosis and disease prevention [8]. Studies have reported that ANC alone can reduce maternal mortality by up to 20%, given good quality and regular attendance [4, 9]. Maternal health care services in developing countries have evolved rather slowly. The first intervention to be implemented in a wide-spread fashion within maternal health programs was antenatal care. Delivery care (either institutional or home-based) was a later addition [10], while systematic and regular postpartum follow-up and care are hardly available [11]. Poor maternal health thus remains a major reproductive health concern in most part of the developing nations including SSA. Relatively less progress has been made in the area of maternal health compared to the reductions in fertility and infant mortality [12]. It has been estimated that in 2009, the lifetime risk of maternal death in SSA was 1 in 16 (compared to 1 in 2800 in developed regions) and that maternal mortality ratios were 540 in Ghana, 1000 in Kenya, 800 in Nigeria and 880 in Uganda, respectively [13, 14]. The sad reality of the situation is that these deaths can be prevented by simple and cost-effective public health interventions such as giving pregnant women tetanus toxoid injections together with other antenatal care services as well as postnatal care. Because women comprise more than half of the total population of most SSA countries, poor maternal health and care can be a huge obstacle to human and sustainable socio-economic development.

Access to reproductive health services is skewed in favor of urban areas to the detriment of the majority of rural population. Studies have shown how socio-economic, socio-cultural variables and demographics influenced the demand for and utilization of maternal and child health services [15–17]. For instance, maternal education has been found to be a significant predictor of the use of maternal health care services [18, 19]. Additionally, the costs [20], location [21, 22] and quality of health services are also important. Predictably, these factors interact in different ways to determine the use of health care. Thus, many women in SSA have unmet need for contraceptive and reproductive health services. Unmet reproductive health needs exist if there is a gap between a perceived need and the current available options to satisfy the need [23].

Family planning (FP) for the purpose of child spacing is not alien to African culture. Traditionally, African mothers practice intensive breastfeeding lasting

longer than 24 months (and in some cultures up to 36 months). Some African societies practice postpartum marital sexual separation where the woman spends most of the postpartum period with her parents receiving special traditional and cultural rites for health and vitality [24]. This long period of voluntary separation ensures that sexual intercourse does not happen to avoid pregnancy. However, modern family planning programs, that is, organized effort to provide contraception to women and men, appeared on the sub-continent in 1950s. During the 1950s, there were attempts to establish family planning programs across the region. First, it was in Rhodesia in 1955, then Uganda in 1956, then Kenya in 1957, Mauritius in 1957, Nigeria in 1958 and Sierra Leone in 1959 [25]. By mid-1960s, family planning clinics were scattered across some of these countries offering family planning commodities. Thus, family planning clinics sprang up in the major cities such as Salisbury (Zimbabwe), Nairobi (Kenya), Kampala (Uganda), Lagos and Ibadan (Nigeria), Freetown (Liberia) and Accra (Ghana). Though these family planning clinics were established either by the government or by private associations, there was vehement resistance coming from both the religious and cultural institutions. The landscape remained the same well into 1970s with many countries in this region showing lackadaisical attitudes toward expansion of the services, with quite a handful of these governments indicating that they are not worried about the rate of population growth. However, this position began to change by early 1980s with a global economic meltdown and these governments actively saw the need to intervene to bring down fertility rate via vigorous family planning programs. Since a woman's overall reproductive health is determined collectively by the overall coverage, context, quality and utilization, it is important to assess the levels, trends and barriers of service utilization. Understanding the determinants that affect the utilization of these important reproductive health and FP services can assist in developing policies and designing interventions aimed at improving service utilization in countries across SSA. This will go a long way in reducing maternal mortality.

2. Reproductive health: antenatal care

Antenatal care (ANC) basically means care before birth. The aim of ANC is to assist pregnant women to remain healthy, finding and correcting adverse conditions when present and aiding the health of the unborn baby [26]. Within the continuum of maternity care, ANC provides a platform for critical health care functions. These include health promotion, screening and diagnosis and disease prevention [8]. Studies have reported that ANC alone can reduce maternal mortality by 20% with regular attendance and of good quality [4, 9]. Research has shown that achieving the World Health Organization (WHO) recommended four individualized ANC visits at 90% coverage rate could save about 37–71% [27] of newborn deaths, and 67% of death of newborns in SSA could be prevented by high average of care [28]. It also provides an avenue for encouraging skilled attendance at birth [29], early detection and management of potential complications [30] and provision of health education on good nutrition, family planning and breastfeeding [31, 32]. ANC during pregnancy has a positive influence on the utilization of postnatal health care services. The developed world has achieved remarkable success in ANC coverage with over 80% of woman having at least one ANC visit. However, many countries in SSA still have less impressive levels below the WHO recommended four or more visits. In most situations, the women in SSA wait till second or third trimester to make the initial ANC visit, thereby reducing the chances of making at least four visits [32, 33].

Several studies have assessed individual and household determinants in the utilization of reproductive health services in SSA. For instance, socio-demographic, religion, accessibility, educational status and affordability (socio-economic status) [12, 34–38] were all found to determine antenatal care utilization. The influence of these factors varied between countries across the continent. In Zimbabwe, poor quality of care and attitudes of service providers were barriers to utilization of services [39]. It can be assumed that utilization of maternal health services depends not only on individual and household factors but also importantly within the context of the country where the individual resides. Understanding this context is the key to improving service utilization since the individuals or couples are nested with families, which are in turn nested within communities. Studies have shown that family and community membership constitutes a major determinant in access to ANC services [27, 40].

3. Health facility delivery and skilled attendant at birth

While motherhood is often a positive and fulfilling experience, for too many women, it is associated with suffering, pain, ill-health and even death. Delivery at a health facility with assistance of skilled medical professional reduces the risk of complications and infections during labor and delivery. Skilled birth attendance is the process by which a woman is provided adequate care by trained health personnel during labor, delivery and early postnatal period. It is the single most cost-effective intervention in reducing maternal and perinatal mortality. In the developing countries, one third of all pregnant women receive no health talk, 60% of all deliveries take place outside health care facilities and about 46.7% of all deliveries are attended to by trained health personnel [41, 42]. Epidemiologic data on maternal deaths in developing countries revealed that two-thirds of death occur around the time of delivery [43]. Obstetric complication can occur around the time of delivery and cannot be predicted. Thus, it is important that all pregnant women have access to a skilled attendant to manage normal delivery and who can also recognize and manage obstetric complications or refer to high-level facility when necessary.

Across the continent, variations exist at individual, household and community contexts on the factors that influence the utilization of these services. Several individual factors that affect the use of ANC significantly influence the use of skilled personnel for delivery. Skilled attendance at delivery is an important factor in preventing maternal deaths and it is also crucial to prevent stillbirths and improve newborn survival [44, 45]. There are wide variations across SSA on health facility delivery and birth attended to by skilled personnel. In Nigeria, health facility delivery (39%) and skilled attendant at delivery (43%) are very low [46]. While in Zimbabwe, 77% of births took place in health facility and about 8 in 10 deliveries are assisted by a skilled provider (majority by a nurse or nurse midwife, 66%) [47]. There has been a progressive remarkable improvement in Ghana, where facility delivery increased from 54% in 2007 to 79% in 2017 and skilled attendant at delivery was 79% [48]. According to recent demographic and health survey (DHS), facility delivery and skilled attendant in Tanzania were respectively 63% and 64% [49]. Previous studies have shown consistent association between urban residence and utilization of ANC, delivery and PNC services [50]. In general, the decisions that lead women to use services seem to reside within the context of their marriage. Since individuals and families all live within the community, it definitely can influence personal health-seeking behavior as there are personnel beliefs and attitudes and community norms [51]. Again, religion and to a large extent ethnicity often influence beliefs, norms and values in relation to pregnancy, childbirth and

utilization of services [44, 50]. The variations in factors and diversity within the populations of women could be explained by differences in women's autonomy, empowerment, gender relationships and social networks, which are in turn influenced by embedded social structures, religion and cultural beliefs. For instance, non-white South African women usually attend ANC later in pregnancy because it is viewed as being necessary to allow access to facility delivery [52].

Even though ANC is universally free in most countries in SSA, this does not translate into use of skilled attendance at delivery, since less than 50% of all women are assisted by skilled professional during delivery. SSA is the region with the lowest coverage of skilled delivery utilization with only 45% of women having skilled attendants at birth [50]. From a country-specific context, there are wide variations across and within the countries across the continent, with 10% skilled delivery utilization in Ethiopia [53], 43% in Nigeria [46] to 52% in Kenya [54].

About half of postpartum deaths take place within one day of delivery and roughly 70% occur within the first week. Obviously, there is mismatch between women's need for reproductive health care and what is currently available in terms of its provision and service utilization across SSA. Large body of evidence on factors contributing to poor service utilization consistently showed physical and financial barriers as well as educational level, parity, residence, ANC attendance and social status of the women [50, 55–58]. Expectedly, better educated women and those who had better autonomy in decisions pertaining to household expenses were more likely to have facility delivery [55]. In the context of achieving universal health coverage through improving health systems strengthening, barriers still remain in the utilization of reproductive health services.

4. Postnatal care (PNC)

Worldwide, about half of maternal deaths occur within the first 24 h after delivery. WHO guidelines that most countries in SSA adopted recommends that women who deliver in a health facility receive postnatal care check in the 24 h after delivery, while those who gave birth outside a health facility should be referred for postnatal checks in health facility within 12 h after delivery. PNC is part of continuum of care started from ANC. Thus, antenatal care promotes the use of PNC services for the mother-child pair [33]. As a major component of PNC, immunization remains to be one of the most effective public health interventions that have been proven to prevent about 24% of the 10 million deaths of children under five years annually [59]. Postnatal care (PNC) is one of the recommended strategies to reduce maternal and newborn deaths during the postpartum period [27, 60]. It is further recommended that mothers and newborns receive PNC in health facilities for at least 24 h after birth for those who delivered in the facility. While for those who delivered outside the health facility (at home), the first postnatal contact should be within 24 h of birth. At least 3 additional postnatal contacts are recommended for both mothers and newborns on day 3 (48–72 h), between days 7 and 14 after birth and 6 weeks after birth [61]. As with other maternal health services, PNC utilization is weak or low in SSA among all reproductive and child health programs. PNC utilization in Ethiopia is very low with only 7.1% of women [50] having PNC service in the first 2 days after delivery, 42% in Nigeria [46], 57% in Zimbabwe [47], 12.8% in Rwanda [62], 31% in Tanzania [63] and 58% in Uganda [64], respectively.

Again, physical accessibility is one of the most important variables in health service utilization. Several studies have shown that proximity of health care services play an important role in service utilization [21, 50, 65]. A number of individual, household and institutional characteristics affect women's decision in seeking

health care. In general, despite the availability of reproductive health services, the decisions that lead women to use the services resides within the context of their marriage, household and family/community settings. The use of ANC during pregnancy is a major predictor of subsequent use of skilled delivery and PNC services. Therefore, the importance of ANC utilization as a key entry point to increase PNC services cannot be overemphasized. The early postpartum period can be targeted as the best period to discuss FP methods with the couples.

5. Family planning: levels of knowledge of contraceptive methods

Knowledge of at least any modern method among the women is almost universal across the countries (**Table 1**). The earliest information on knowledge of any modern method of contraception is the Nigeria Demographic and Health Survey (DHS) of 1990 and it reported a level of 41.2%, which coincidentally is lowest among the countries, while Burundi reported the highest level of 99.2% in 2016–2017 [66]. The level of knowledge varied markedly among countries with lowest knowledge level of 63.5% reported from Chad DHS of 2014–2015 to the highest (universal) of 100% in Rwanda [66]. In terms of percent change, Comoros recorded the smallest change in knowledge of 0.4%, while Nigeria recorded the highest of 52.7%.

5.1 Levels and trends of ever use of modern contraception

The level and trend in ever use of modern contraception among the women was reported by 24 countries; many other countries did not collect this information between surveys. Ever use of modern contraception was lowest in Chad, 2.8% (1996/1997 survey) and 5.2% in most recent survey (2004) while Zimbabwe had the highest levels of 85.2% (2005/2006 survey) [47], respectively. Malawi recorded the greatest change (increase) in ever use of modern contraception of 55.4%. There has always being a great gap between knowledge and practice (ever use) of modern contraception particularly in sub-Saharan Africa (**Figure 1**) [67]. The difference between knowledge and ever use of a modern method of contraception is widest in Niger (77.6%) and narrowest in Zimbabwe (14.5%). This is not surprising as Niger Republic is traditionally a high-fertility country coupled with low literacy level, strong cultural and religious opposition to modern contraception and early age at marriage. However, the story is different with Zimbabwe often cited as one of the few success stories in sub-Saharan Africa where family planning services appeared in the country as far back as 1953 coupled with cultural and religious tolerance to its use [68].

5.2 Levels and trends of current use of modern contraception

Current use of modern contraception among countries in SSA showed variability with Chad having the lowest of 5.0%, while Zimbabwe had the highest at 65.8%. Two countries, Liberia and Senegal, had their earliest DHS to have been conducted in 1986, which showed a very low uptake of modern contraception at 5.5% and 2.1%, respectively. South Africa conducted its earliest DHS in 1998 with an uptake of modern contraception of 55.1%; the same country that conducted its recent DHS in 2016 reported a decline in uptake to 54.0% (or a drop of 1.1%). Malawi recorded the greatest change between its earliest and most recent survey of 50.7% [66]. Again, the greatest disparity between knowledge and current use of modern contraception is as shown in **Figure 2**. Across the globe, this pattern has been reported particularly in developing countries [68].

	Country	Earliest	Recent	Change
1	Benin	76.2	96.3	20.1
2	Burkina Faso	63.3	97.5	34.2
3	Burundi	99.2	99.7	0.5
4	Cameroon	62.9	94.0	31.1
5	Chad	42.8	63.5	20.7
6	Comoros	98.1	98.5	0.4
7	Congo	96.3	98.6	2.3
8	Congo Democratic Republic	76.7	89.9	13.2
9	Cote d'Ivoire	71.5	93.2	21.7
10	Eritrea	62.0	87.2	25.2
11	Ethiopia	85.3	98.7	13.4
12	Gabon	94.7	97.6	2.9
13	Ghana	90.7	99.2	8.5
14	Guinea	69.1	84.8	15.7
15	Kenya	96.9	98.7	1.8
16	Lesotho	98.1	99.5	1.4
17	Liberia	86.7	98.6	11.9
18	Madagascar	61.7	95.0	33.3
19	Malawi	91.8	99.6	7.8
20	Mali	64.6	94.4	29.8
21	Mozambique	60.4	96.3	35.9
22	Namibia	90.3	99.8	9.5
23	Niger	58.0	89.3	31.3
24	Nigeria	41.2	93.9	52.7
25	Rwanda	96.8	100.0	3.2
26	Senegal	70.4	97.2	26.8
27	Sierra Leone	66.2	93.7	27.5
28	South Africa	98.0	99.9	1.9
29	Tanzania	77.6	99.1	21.5
30	Togo	93.4	97.1	3.7
31	Uganda	91.6	99.7	8.1
32	Zambia	90.7	99.7	9.0
33	Zimbabwe	98.5	99.7	1.2

Table 1.
Percentage of currently married women who know any modern method of contraception, DHS surveys 1990–2018 [66].

5.3 Sources of modern contraceptive methods

It is generally believed that as the demand for modern contraception increases, the supply as well as outlets will increase and at the same time become diversified [67]. Initially, modern contraception is almost solely provided by government through its formal outlets such as hospitals, family planning clinics, health clinics,

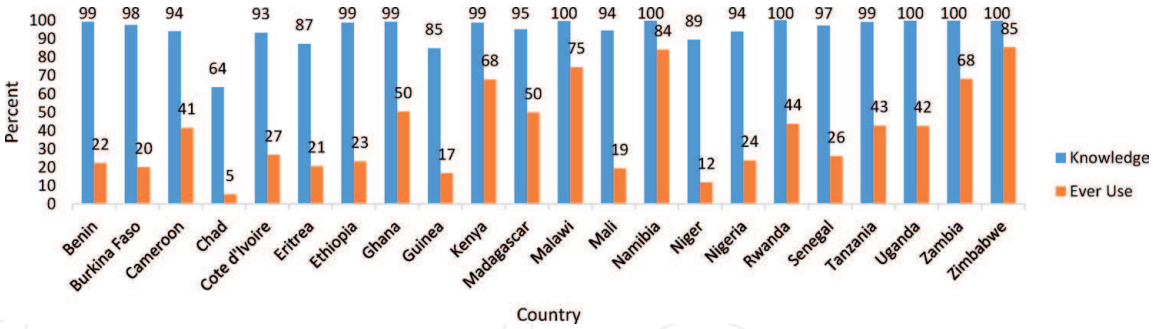


Figure 1. Gap between knowledge and ever use of modern contraception, DHS surveys [66].

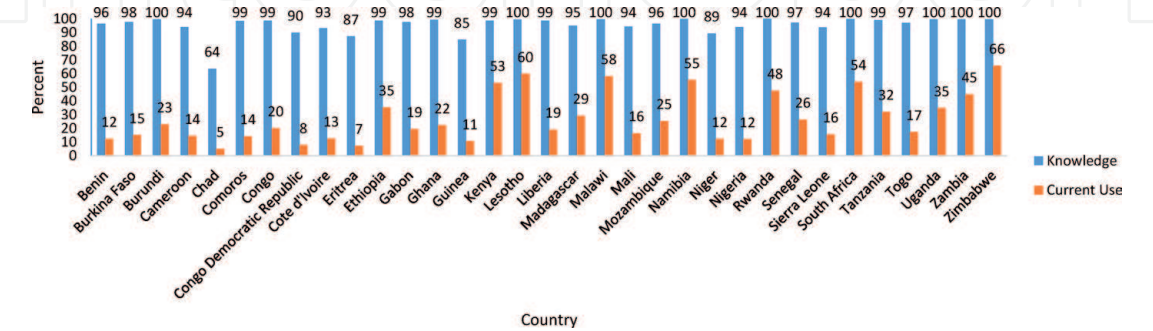


Figure 2. Gap between knowledge and current use of modern contraception, DHS surveys [66].

etc. However, with an increase in demand and acceptance, the sources began to expand and more providers appeared in the market such as private non-governmental organizations and religious and faith-based organizations (Table 2). Across sub-Saharan Africa, public outlet is the predominant as well as important source of information on contraception. This is not surprising because of the misconceptions associated with it. It is much later that private medical outlets and then other private non-medical outlets joined the supply and service outlet.

Marked variability exists across the continent on public source as supplier of contraceptive commodity accounting for 20.7% in Democratic Republic of Congo, 91.3% Rwanda and 93.3% Niger, respectively [66]. Regarding the changes in the proportion of public source of information and contraception, Uganda and Madagascar recorded the greatest changes. There was a decline in Uganda, while Madagascar recorded an increase in the role of public outlet of contraception. The reasons for this might be due to influx of other non-public (or governmental) supplies or a decline in quality of services as well as supply of the commodity. For those that recorded an increase in this proportion, probably the government in recent times is becoming more active in FP programs. Decline in the proportion of women obtaining information and contraception from public outlet has been documented earlier [67]. In this analysis, 12 countries (or 38%) experienced a decline in the percentage of women getting contraception from public channels, while in the remaining countries, it increased. Thus, it is reasonable to assume that an expansion of high-quality services might increase women’s motivation to use these services.

5.4 Contraceptive discontinuation and switching

There are several reasons why a woman currently using a modern contraception would discontinue or switch to another method. Some of these reasons could be health-related such as experiencing intolerable side effects (hypertension, obesity, etc.). More often, it is fertility-related such as a desire to become pregnant, or it

	Country	Earliest	Recent	Change
1	Benin	43.5	62.4	18.9
2	Burkina Faso	64.6	73.7	9.1
3	Burundi	87.3	80.9	-6.4
4	Cameroon	30.5	20.0	-10.5
5	Chad	59.3	71.6	12.3
6	Comoros	77.6	87.2	9.6
7	Congo	22.0	19.4	-2.6
8	Congo Democratic Republic	20.7	31.1	10.4
9	Cote d'Ivoire	25.5	26.3	0.8
10	Eritrea	78.4	74.0	-4.4
11	Ethiopia	77.5	83.8	6.3
12	Ghana	35.7	63.7	28.0
13	Guinea	49.9	63.6	13.7
14	Kenya	70.5	59.9	-10.6
15	Lesotho	56.7	62.0	5.3
16	Liberia	50.8	72.3	21.5
17	Madagascar	38.8	72.8	34.0
18	Malawi	69.9	79.4	9.5
19	Mali	52.0	77.2	25.2
20	Mozambique	82.7	76.6	-6.1
21	Namibia	86.4	73.7	-12.7
22	Niger	93.3	85.3	-8.0
23	Nigeria	37.1	54.3	17.2
24	Rwanda	69.0	91.3	22.3
25	Senegal	59.1	86.5	27.4
26	Sierra Leone	50.4	68.4	18.0
27	South Africa	83.6	80.4	-3.2
28	Tanzania	72.9	60.8	-12.1
29	Togo	41.7	52.9	11.2
30	Uganda	82.7	58.5	-24.2
31	Zambia	56.1	81.6	25.5
32	Zimbabwe	88.9	73.0	-15.9

Table 2.
Percentage of women currently using modern contraceptive methods who received their most recent supply or information from a public source, DHS surveys [66].

could be due to marital problems such as disapproval by the spouse or economic such as cost or health system factors such as lack of accessibility or availability to continue with the current method. Studies have shown that fear of side effects especially those associated with hormonal contraception has been reported to act as strong barriers [69–72], while other studies revealed fear of infertility, menstrual irregularities, cancer, weight gain [73–76] and spousal communication [77–79] as barriers to use contraceptives.

Sub-Saharan Africa has the highest overall discontinuation rates due to all reasons, ranging from 19.1% in Namibia to 65.5% in Guinea [66]. In this analysis, five out of twelve countries have experienced an increase in discontinuation rates. All except Nigeria with a rate of 13% had these rates less than 5%. Senegal recorded massive decline in discontinuation rate or negative 15.9% (or –15.9%) (**Figure 3**). However, at a global level, the lowest discontinuation is recorded in Papua New Guinea with a rate of rate 15.6% [80].

Concerning method switch, the same twelve countries were involved due to a variety of reasons enumerated above. Four countries recorded increases in the rates of switching, while the remaining experienced declines of up to 6.3% (or –6.3%) (**Table 3**). Rate of discontinuation due to desire to become pregnant declined in three countries, while Nigeria and Republic of Benin recorded the largest increases of up to 4.5% each (**Table 4**).

Discontinuation due to side effects declined in four countries but increased in the remaining eight (**Table 5**). The largest increase was recorded in Nigeria, 5.1%. Discontinuation due to health-related factors could be an indicator of quality of family planning services.

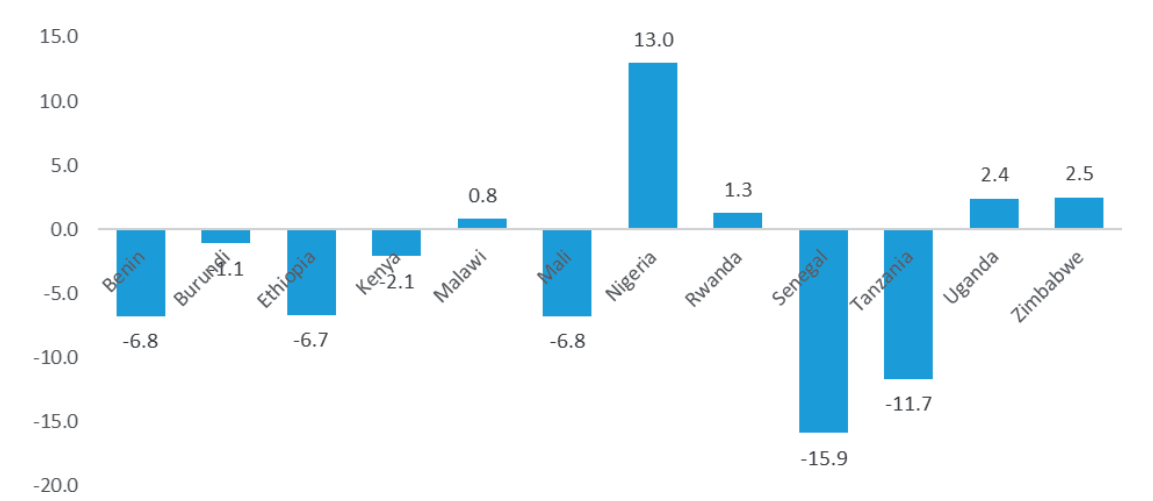


Figure 3.
Change in the first-year contraceptive discontinuation rate due to all reasons, DHS surveys.

Country	Recent	Earliest	Change
Benin	2.5	1.5	1.0
Burundi	4.6	8.1	–3.5
Ethiopia	5.8	12.1	–6.3
Kenya	10.5	7.0	3.5
Malawi	5.3	3.7	1.6
Mali	1.9	3.4	–1.5
Nigeria	4.5	4.8	–0.3
Rwanda	10.3	10.4	–0.1
Senegal	4.2	5.2	–1.0
Tanzania	6.4	9.4	–3.0
Uganda	5.0	5.2	–0.2
Zimbabwe	6.7	4.2	2.5

Table 3.
Percentage of women currently using modern contraceptive methods who discontinued by switching to another method, DHS surveys.

	Country	Earliest	Recent	Change
1	Benin	7.7	12.2	4.5
2	Burundi	9.0	9.2	0.2
3	Ethiopia	10.3	10.8	0.5
4	Kenya	4.6	4.7	0.1
5	Malawi	8.4	6.7	−1.7
6	Mali	13.8	14.8	1.0
7	Nigeria	8.2	12.7	4.5
8	Rwanda	2.7	3.9	1.2
9	Senegal	7.3	6.3	−1.0
10	Tanzania	8.4	5.1	−3.3
11	Uganda	7.5	8.8	1.3
12	Zimbabwe	4.8	5.1	0.3

Table 4.
Percentage of women currently using modern contraceptive methods who discontinued due to desire to become pregnant, DHS surveys.

	Country	Earliest	Recent	Change
1	Benin	5.9	5.8	−0.1
2	Burundi	10.6	15.2	4.6
3	Ethiopia	14.5	7.4	−7.1
4	Kenya	8.5	10.5	2.0
5	Malawi	10.5	10.6	0.1
6	Mali	10.3	10.5	0.2
7	Nigeria	2.1	7.2	5.1
8	Rwanda	10.7	10.8	0.1
9	Senegal	14.2	11.3	−2.9
10	Tanzania	11.6	9.8	−1.8
11	Uganda	15.8	18.1	2.3
12	Zimbabwe	3.6	6.0	2.4

Table 5.
Percentage of women currently using modern contraceptive methods who discontinued due to side effects, DHS surveys.

6. Factors associated with the use of modern contraception

The current body of knowledge is replete with literature on the factors associated with the use of modern contraception. Systematically, these factors are grouped into two broad categories:

- 1. Individual factors
- 2. Contextual factors

6.1 Individual factors

Education of the woman appeared as a strong and consistent predictor of contraceptive uptake. Across many studies, women with higher level of education reported current use of modern contraception compared to those with none or lower level [81–84]. Educated women are more likely to use modern contraception because it facilitates several pathways to use contraception. For instance, educated women are more likely to know where to access contraception and also more likely to be financially empowered to purchase if the need warrants. By giving her the financial and decision-making autonomy, education gives the woman the confidence to engage her spouse (husband) on discussing the need to use contraception for social, fertility and medical reasons. Age of the woman has also been found to play an important role in modern use of contraception. Younger women were found to be using less of contraception particularly if they had had no living children [79]. It is the desire of every woman to bear a child immediately after getting married most especially in high-fertility countries. After achieving the desired number of children, the use of contraception increases [85, 86]. Women who perceived their husband's disapproval of contraception are unlikely to use it partly due to cultural dominance of the husband as the sole decision-maker [72, 87]. Male partner involvement has been shown by numerous studies to positively increase use of contraception by women [88]. Also, positive male attitudes toward family planning have been reported to influence the use of contraception both from cross-sectional questionnaire and focus group discussion studies [89, 90]. Other individual-level characteristics reported to influence use of modern contraception include being employed [81, 84], religion [91–93] and spousal communication [72, 92].

6.2 Contextual factors

Broadly, the contextual factors considered here include socio-cultural, economic and health systems, specifically, place of residence, household economic status, social networks, accessible health facilities and/or health care workers providing contraception.

Women residing in urban areas have an advantage through both improved access to variety of contraception and being exposed to information channels that could positively influence utilization [92]. This urban advantage is also linked to average higher educational level of the women in urban areas as well as accessibility and being aware of facilities (both public and private) providing family planning services dotting the urban areas [71, 94, 95]. Household wealth level has also been reported to positively influence uptake of contraception. With higher household economic status, women are most likely to overcome cost-related barriers to the commodity and hidden cost of transportation and opportunity cost to obtain contraception [83]. Strong social networks among men that encourage and support use of modern contraception are a significant factor in increased use among the wives of these social networks [82, 96]. Other contextual factors known to positively increase contraceptive uptake include available and accessible facilities providing family planning services [70, 92, 97], visit by a health care worker or having a discussion with health care worker on contraception [98], cultural norms concerning fertility and contraception [92, 99, 100].

7. Conclusion

Understanding the factors beyond the individual and household characteristics that affect utilization and household characteristics that affect utilization of these

important maternal health services can assist in designing the strategies and developing policies and interventions toward improvement of service utilization across SSA. This will decrease the unacceptably high maternal mortality. The determinants of reproductive health and FP services in Africa are multi-sectional and thus will require multi-sectoral approach in addressing them. Socio-cultural, health, transportation, education, empowerment and other factors will need to be on board as part of sustainable long-term approach to improve access to services and utilization. Linking poor, rural women, improving service quality and access to ANC, delivery and PNC including FP services can go a long way in increasing utilization that could further improve health outcomes and achieve SDGs.

Conflict of interest

The authors declare no conflict of interest.

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