Heliyon 8 (2022) e11985

Contents lists available at ScienceDirect

Heliyon

journal homepage: www.cell.com/heliyon

Research article

Contraceptive use among female head porters: implications for health policy and programming in Ghana

Cornelius Dassah [a,*], Maximillian Kolbe Domapielle [a], Joshua Sumankuuro [a,b,c]

[a] Faculty of Public Policy and Governance, Simon Diedong Dombo University of Business and Integrated Development Studies (SDD-UBIDS), Wa, Ghana
[b] Centre for Health Policy, University of Witwatersrand, Johannesburg, South Africa
[c] School of Community Health, Charles Sturt University, Australia

ARTICLE INFO

Keywords:
Migrant female head porters (Kayayei)
Contraceptives
Reproductive health
Kumasi metropolis

ABSTRACT

Objective: Despite the growing literature on the barriers to contraceptives use among women, the perspective of female head porters has not been exhaustively researched. Using Bronfenbrenner's socio-ecological theory, we explore the factors that influence the contraceptive decision-making of migrant female head porters in the Kumasi Metropolis and the implications for health policy and planning.

Methodology: A case study of female head porters in the Kumasi Metropolis was conducted. We employed a qualitative approach in the collection and analysis of the data. A combination of cluster, purposive, and convenience sampling procedures was used to select 48 migrant female head porters to participate in semi-structured in-depth interviews. The data collected were analyzed using the thematic analytical framework.

Results: We found the main barriers to the uptake of contraception among the head porters to include high cost of contraceptives, perceived side effects associated with contraceptive use, and the disapproval of a male sexual partners.

Conclusion: The findings indicate that head porters' contraceptive decision-making is largely influenced by their social and economic circumstances. To address these, we recommend a carefully tailored approach, starting with a free National Health Insurance Scheme (NHIS) enrollment policy for all head porters in the country. There is also the need for the Ghana Health Service, and NGOs in health to work together to create effective awareness among female head porters on the benefits and misconceptions of contraception by incorporating culturally appropriate education that would facilitate the adoption of positive attitudes towards contraception. Additionally, NGOs in health in collaboration with the health facilities should initiate a process that encourages joint reproductive health decision-making among partners which recognises the added value of men's participation. We argue that men's active participation in contraception decision-making could potentially address their scepticism towards uptake.

1. Introduction

Increasing the uptake of contraception globally is an important objective of the Sustainable Development Goals (SDGs), specifically, SDG 3 sub-goal, which aims to 'achieve universal health coverage, including financial risk protection, access to quality essential health care services and safe, effective, quality and affordable essential medicines and vaccines for all' (WHO, 2015). That said, it is now two and a half decades since the landmark International Conference on Population and Development in Cairo on 3–4 September, 1994, was launched (van Enk, 1994). Global campaigns were ignited, and many countries have indeed, made great strides towards increasing access to contraception. Specifically, a crucial achievement has been the reduction in fertility rates in various countries and globally. Global fertility rate dropped from 3.2 live births per woman in 1990 to 2.5 in 2019 (UN, 2020). The decline in fertility ranged from 1.9 births per woman in Central and Southern Asia to 0.1 births per woman in Australia and New Zealand, Europe and Northern America. Fertility levels also dropped in Oceania from 4.5 to 3.4 births per woman. A similar trend is observed in Northern Africa and Western Asia, where the fertility rate dropped from 4.4 to 2.9 births per woman. In Latin America and the Caribbean, the pattern is not different as fertility levels declined from 3.3 to 2.0 births per woman, and dropped from 2.5 to 1.8 births per woman in Eastern and South-Eastern Asia. In sub-Saharan Africa, although the fertility levels are relatively high, the

* Corresponding author.
E-mail address: cdassah@gmail.com (C. Dassah).

https://doi.org/10.1016/j.heliyon.2022.e11985
Received 4 March 2021; Received in revised form 10 June 2022; Accepted 22 November 2022

total fertility rate dropped from 6.3 to 4.6 births per woman for the same period.

Consistent with the global trend, Ghana's fertility rate dropped from 5.7 live births per woman in 1990 to 3.7 in 2020 (Macrotrends, 2020). This decline is attributed to an increase in the use of contraceptives, and this is supported by research evidence that as of 2019, 49 percent of all women in the reproductive age brackets (15–49 years) were using some form of modern contraceptives (eg., emergency contraceptive pills, condoms, injectables, implants, IUD, IUS etc), compared to 42 percent in 1990 (UN, 2020). The Government of Ghana committed to increasing modern contraceptive prevalence rate, CPR (all methods of CPR) from 22.7 percent in 2015 to 33 percent amongst married women and from 31.7 percent to 50 percent amongst the unmarried, sexually active women by 2020 (GoG, 2015). Implementation of the Ghana Family Planning Costed Implementation Plan, 2016–2020 (GFPCIP) aimed to enable Ghana to reach this goal. Although the country recorded a decline in fertility rate during this period (Macrotrends, 2020), ccontraceptives use remains below the targets. Available data show that some 31 percent of married women aged 15–49 and 39 percent of sexually active unmarried women aged 15–49 use contraception (GSS, 2018). The undesirable trend of low uptake of contraception in low- and middle-income countries has been widely covered in the literature (Abdulai et al., 2020; Asiedu et al., 2020; Aviisah et al., 2018; Bellizzi et al., 2020; Sedgh et al., 2016; UN, 2020). Currently, contraceptive use ranges from around 60 percent in the Caribbean and Latin America, Eastern and South-Eastern Asia, Europe and Northern America, Australia and New Zealand, to 34.1 percent in sub-Saharan Africa (UN, 2020). In Ghana, the use of modern contraceptives among women has been reported to be consistently low, particularly among those in informal employment (Abdulai et al., 2020; Asiedu et al., 2020; Aviisah et al., 2018).

The factors causing low uptake of contraception can be grouped into demand-side and supply-side factors. The demand-side factors include low socio-economic status of women (Arousell et al., 2019; Iseyemi et al., 2017), religious beliefs (Abdulai et al., 2020; Arousell et al., 2019), level of educational (Abdulai et al., 2020; Asiedu et al., 2020; Aviisah et al., 2018), fear of side effects (Aviisah et al., 2018), and no knowledge of the source(s) for family planning services (Saleem and Bobak, 2005). Myths and misconceptions about the side effects of contraception have also received extensive scholarship. These include breast tenderness, headaches, weight gain, lack of regular menstrual bleeding, nausea and loss of bone density with continued use over many years (Asiedu et al., 2020; da Silva-Filho et al., 2017; Diamond-Smith et al., 2012; Parks, 2019; Williamson et al., 2009). High child mortality (Asiimwe et al., 2014) and the patriarchal nature of household decision-making processes (Abdulai et al., 2020; Asiedu et al., 2020; Metheny and Stephenson, 2017; J. Sumankuuro, Crockett and Wang, 2017a, 2017b) are the other demand-side factors causing low uptake or non-use of contraceptives in low-income settings. The supply-side factors include lack of access arising from limited availability and high cost of emergency contraceptives (Alatinga et al., 2020), negative attitudes of health workers toward adolescent contraceptive use (Chilinda et al., 2014; Jonas, Crutzen, van den Borne and Reddy, 2017), and stigma attached to teenagers visiting health facilities to access reproductive health services or buying contraceptives from the pharmacy (Awoke, 2014; Boamah, 2014).

Discourses on the dimensions of contraception in low and middle-income countries are common. For example Li et al. (2020) examined whether adolescent girls (age 15–19 years) have similar levels of contraceptive use as adult women (age 20–34 years) in low- and middle-income countries using data from 261 Demographic and Health Surveys or Multiple Cluster Indicator Surveys for 103 low-and middle-income countries between 2000 and 2017, and found that contraceptive use increased over time among both adolescent girls and adult women, but inequality in use by age persisted and, in some countries, increased. Similarly, Moreira et al. (2019), explored the reasons for non-use of contraceptives by women in low and middle-income countries using demographic and health surveys, and came to the conclusion that the most common reasons for non-use of contraceptives were "health concerns" and "infrequent sex." However, the prevalence of each reason varied substantially across countries. Mutumba, Wekesa, and Stephenson (2018) researched the differential impact of community level factors that account for the unmet need for contraception among young women (aged 15–24) in low and middle-income countries and found that their contraceptive decision-making is greatly shaped by their social contexts.

In Ghana, the debate about the low uptake of contraception is compounded by an unmet demand for contraceptives. Whereas about 51 percent of all women needed contraception as high as 33 percent of this demand was unmet (GSS, 2018). One group of women who are likely to be affected by this deficit in supply is female head porters, popularly referred to as "Kayayei". The term "Kayayei" (plural) or "Kayayoo" (singular) is a combination of two words: 'Kaya' in Hausa meaning load and 'yoo' in Ga meaning woman. They are the face of contemporary female north–south, rural–urban migration in Ghana (Yeboah and Appiah-Yeboah, 2009). The Ministry of Gender, Children, and Social Protection in 2012 projected that about 40000 head porters reportedly roamed the streets of Accra and Kumasi alone (Baah-Ennumh and Adoma, 2012). Whereas some scholars attribute the phenomenon mainly to the high incidence of poverty in the north of Ghana (M.K. Domapielle, Akurugu and Derbile, 2021; M. K. Domapielle, Akurugu and Mdee, 2020), other causes of the phenomenon include the need to accumulate property for marriage, escape female genital mutilation (FGM), and avoid forced marriages (Edwin et al., 2016; Anarfi and Adjei, 2009). Irrespective of the motivation for becoming a Kayayoo, there is concern about the health risks that accompany it. For example, their failure to secure safe places of residence exposes them to malaria, skin diseases and cholera (Adanu and Johnson, 2009; Miller et al., 2007; Shamsu-Deen, 2013). Furthermore, their precarious accommodation situation makes them vulnerable to sexual violence and abuse, that result in sexually transmitted diseases and infections, unplanned pregnancies, and complications arising from unsafe abortions (Adanu and Johnson, 2009; Awumbila, 2015; Miller et al., 2007). To worsen their plight, health care services are hardly accessible to them (Ivanova et al., 2019; Kporku, 2015; Thomas et al., 2019).

Following from the review of literature above, this study explores the experiences and barriers migrant female head porters face in their quest to access contraceptives in the Kumasi Metropolis. The study interrogates for insights into the specific issue of contraceptives use among female head porters. Although research has examined different aspects of the health and wellbeing of female head porters in Ghana, the specific factors hindering contraceptive use among migrant female head porters have not been exhaustively explored. For example, drawing on a mixed-methods approach, Alatinga et al. (2020) found that girl head porters face significant barriers in accessing health care mostly because they are unable to pay for it. Similarly, Lattof (2018) used mixed methods to evaluate the health insurance and care-seeking behaviours of female migrant head porters and found cost to be the main impediment to enrolment. Nyarko and Tahiru (2018) for their part, focused on the living conditions and eating patterns of female head porters in Ghana and concluded that their living conditions were harsh, and their eating patterns erratic. Although these studies provide some understanding of the health challenges faced by head porters in cities in Ghana, they do not address the specific interlinked issues of cost, myths and misconceptions, and patriarchy, which collectively pose a formidable barrier to contraceptives use in developing settings. The ensuing section presents the theoretical framework for understanding the factors that influence female head porters' uptake of contraception.

1.1. Theoretical framework

Until recently, studies on the barriers and enablers of uptake of specific health care services focused almost exclusively on the individual and household-level dimensions and were guided by health behaviour theories, such as the health belief model (Becker, 1974) and the theory of reasoned action (Fishbein, 1979), that centered solely on the individual. However, the lived realities of health care users such as personal beliefs

and health-seeking behaviors are situated in the context of larger communities (Steele et al., 1999). Social-ecological theories are more comprehensive as they assert that factors at the individual, household, and community levels influence health behaviours (Urie Bronfenbrenner, 1979; McLaren and Hawe, 2005) thus, offering a more realistic framework for understanding and analysing the factors that influence female head porters' use of contraceptives. The social ecological theory also asserts that there is a constant and reciprocal interaction between individuals and the community within which they live (Urie Bronfenbrenner, 1979). Thus, this study draws on the social-ecological theory to explore the specific issue of contraceptives use among female head porters. We argue that women's contraceptive use is influenced by three key factors: individual-level attributes, household level factors, and the larger community context (see Figure 1).

Individual-level attributes include age, level of education, income status and place of residence. Education is associated with increased age at first marriage and age at first birth, increased ability to access information on sexual and reproductive health, all of which have been associated with contraceptive use (Larsson and Stanfors, 2014). Women's income status also influences their willingness and ability to financially access contraceptives. A recent study by Alatinga et al. (2020) has shown that adolescent girl head porters did not patronise emergency contraceptives because of income poverty. Still, on individual-level factors, easy geographic access to the sources of contraceptives and other sexual and reproductive health services reduce the non-use of both modern and traditional methods of contraception (Thang and Anh, 2002). In terms of household-level factors, indicators such as household income and educational attainment of members of the household facilitate contraceptives use, enhance the independence of women in accessing and using contraceptives, and change perceptions of the benefits of bearing many children, which could potentially reduce the desire to have larger household sizes (Asiimwe et al., 2014; Bongaarts, 2010; Williamson et al., 2009). Community characteristics may influence the contraceptive use of women in a variety of ways. Firstly, community demographics (e.g., age at first marriage and sexual debut) may be associated with fertility norms or expectations of ideal family size in a community (Elfstrom and Stephenson, 2012). Disparities in the levels and exposure to the mass media between urban and rural populations may vary with the level of social interaction, such that in urban settings where the diffusion of knowledge on contraception is likely to be high the potential to dispel myths and misconceptions around contraception and overcoming cultural barriers to contraceptives use may be high (Bongaarts, 2010; Cleland et al., 2011). Additionally, structural gender inequities that characterise predominantly patriarchal communities, including gendered imbalances in women's access to education, limited decision-making autonomy around contraception and exposure to partner violence, contribute to their access and utilisation of contraceptives (Metheny and Stephenson, 2017; J. C. Sumankuuro, Judith; Wang, Shaoyu, 2017). These factors may play out differently in different communities as a consequence of variations in socio-cultural norms and value systems and thus shape women's uptake of contraceptives (U. Bronfenbrenner, 1999; Metheny and Stephenson, 2017).

1.2. Study area

The study was conducted in the Kumasi Metropolis of the Ashanti Region of Ghana. Kumasi is the most populous and second largest city after the capital, Accra (GSS, 2012). The central position of the city makes it perform a nodal function of distribution of goods and services to the northern and southern parts of the country. It also serves as an intervening opportunity for migrants from northern Ghana, predominantly female head porters. The city is characterised by a diverse set of economic activities making the Central Business District (CBD) mostly congested, and slowing down the flow of vehicular traffic (Afriyie et al., 2015; Boateng et al., 2017). This situation makes head porterage a preferred mode of transporting goods between distinct destinations within the CBD (Boateng et al., 2017). Figure 2 is a context map of the Kumasi Metropolis showing the four (4) clusters where the study was carried out.

1.3. Socio-demographic and economic characteristics of the participants

The participants were between the ages of 10 and 49. Most of them fell in the age cohort of 20–29, representing 37.5 percent of total sample size. Participants aged between 10 and 19 constitute 35.4 percent of the sample, while those aged between 30 and 39, and 40 and 49 constitute 18.8 percent and 8.3 percent respectively. The ethnic distribution captured 16.7 percent Frafra, 14.6 percent Gonja, 12.5 percent Dagaaba,

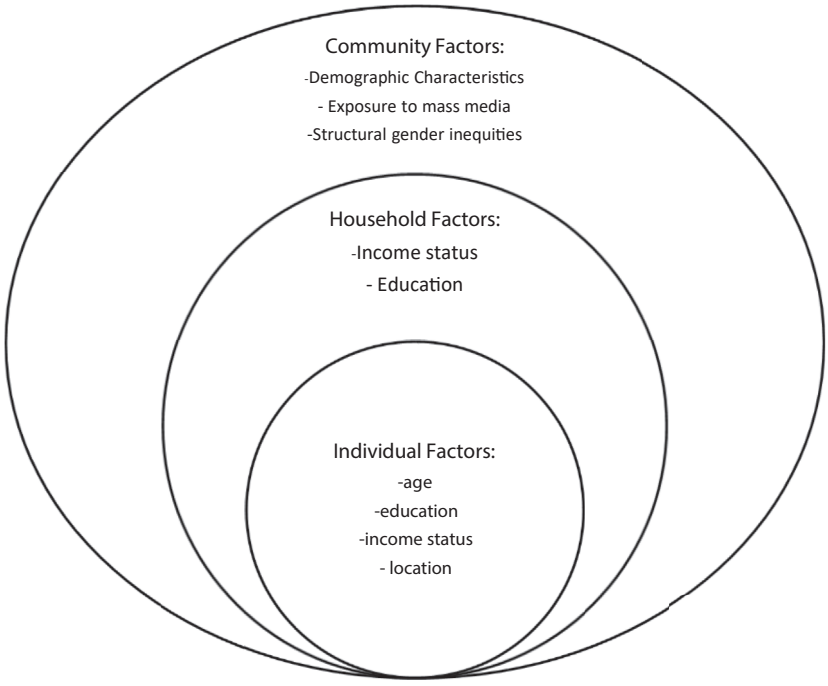

Figure 1. Social-ecological model adapted from Bronfenbrenner's ecological systems theory (Urie Bronfenbrenner, 1979).

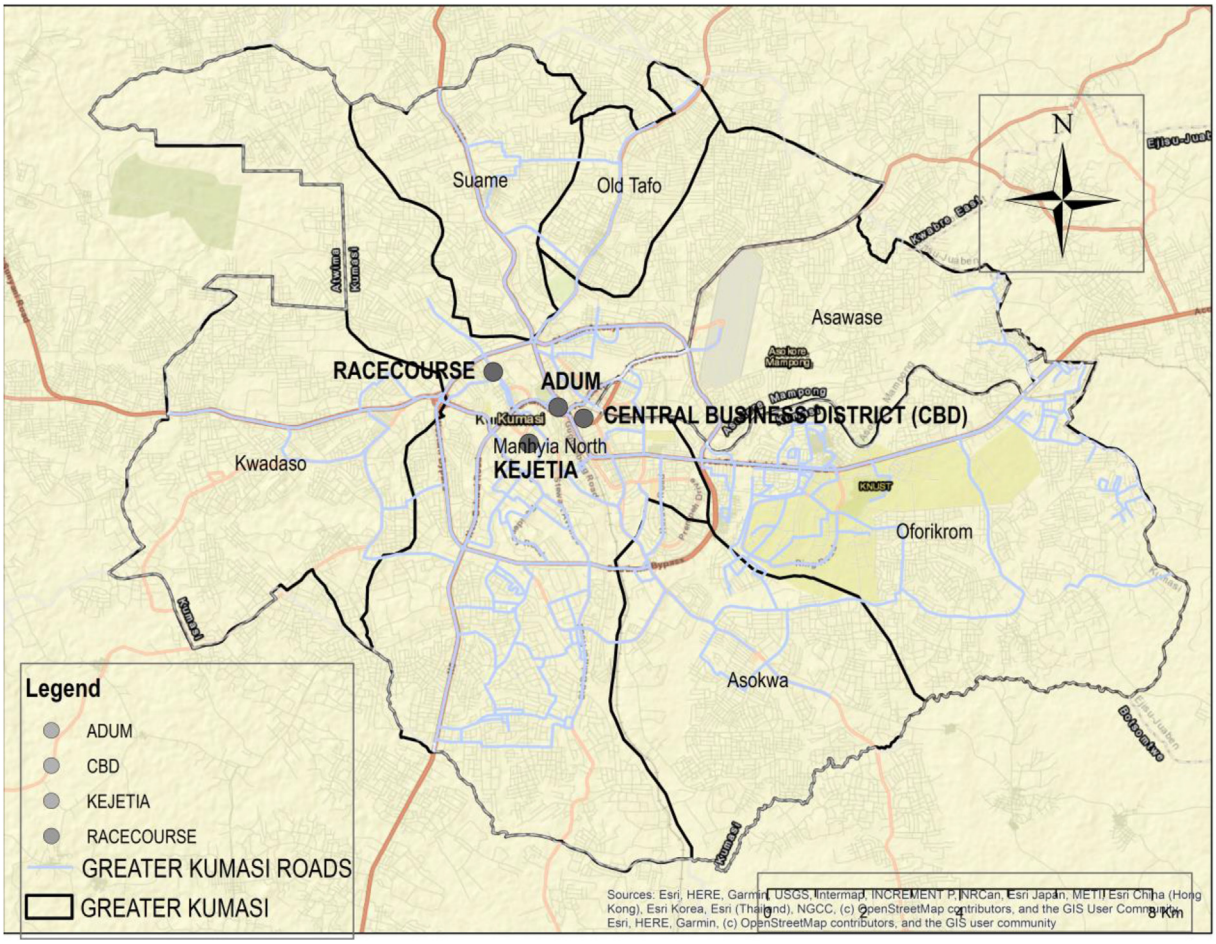

Figure 2. Context map of the Kumasi metropolitan area indicating in bold, the four clusters where the study was conducted.

10.4 percent Bimoba, and 16.7 percent Sissala. The rest are Dagbomba (20.8%), and Others representing 8.3 percent. All these ethnic groups are originally located in the five northern regions of Ghana including Northern, Northeast, Upper East, Upper West, and Savana.

In terms of religious affiliation, we found most of the participants to be Muslims (58.3%), followed by the Christians (29.1%), and the Traditional Worshipers (12.5%). On marital status, most head porters were single (79.2%), and only 20.8 percent being married. For educational attainment, the majority of the participants (58.3%) did not have formal education, 35.4 percent were educated up to primary school level, and only 6.3 percent of them attained secondary school level education. This reflects a high level of illiteracy among female head porters. Other socio-demographic and economic characteristics included their living arrangement, income level NHIS enrolment status. Table 1 reveals that most of participants lived in wooden stores (37.5%), 25 percent in rented compound houses, 6.3 percent were resident in kiosks and 31.3 percent of them were residing in other places. In terms of income, most head porters earned between GHS110 & GH–399 (70.9%) per month, 18.8 percent of them earned between GHS 400.00–599.00 a month, 8.3 percent earned GHS 600.00 and above, and 4.2 percent a GHS 100 or less. This indicates that their level of income is very low, which might affect their ability to afford and utilize contraceptives. Lastly, most of the participants (64.6%) were not enrolled in the NHIS, citing cost of the premiums as the main reason.

1.4. Research design

A case study design was employed to obtain an in-depth appreciation of the factors that influence the contraceptive decision-making of migrant female head porters in the Kumasi Metropolis. In line with this design, we employed a qualitative approach in the collection and analysis of the data.

1.5. Sampling strategy

The multi-stage sampling strategy was employed in selecting the Metropolis, the clusters and the participants. The Kumasi Metropolis was selected for this study because it is one of the few cities that consistently receives the country's largest inflow of migrant female head porters (Alatinga et al., 2020). Four clusters were identified in the Metropolis - Racecourse, Kejetia, Adum, and the Central Business District (CBD). These clusters were selected because they are hosts to the largest and ethnically diverse groups of female head porters in the Kumasi Metropolis. The study targeted migrant female head porters within the reproductive ages (15–49 years). A combination of cluster, purposive, and convenience sampling procedures was used in selecting the study participants. We employed these sampling procedures because migrant female head porters often live in groups depending on the region of origin (Anzagra and Yeboah, 2012) and in clusters (Adomah, 2009). Each group has a leader, who is often the longest serving head porter in the cluster. The leaders of these clusters were initially identified by contacting head porters who were seen working in their respective clusters, and the purpose of the research explained to them. The leaders in turn contacted members of their clusters and female head porters who were available and willing to participate in the study were selected. A total sample of forty-eight (48) migrant female head porters was selected for the study, and a sample of 12 participants was selected from each of the four clusters (Racecourse = 12, Kejetia = 12, Adum = 12, and the CBD = 12).

Table 1. Socio-demographic and economic characteristics of the participants.

Variable	Category	N = 48	Percentage (%)
Age	10–19	17	35.4
	20–29	18	37.5
	30–39	9	18.8
	40–49	4	8.3
Location/cluster	Kejetia	12	25
	Adum	12	25
	Racecourse	12	25
	CBD	12	25
Ethnic Group	Frafra	8	16.7
	Gonja	7	14.6
	Dagaaba	6	12.5
	Bimoba	5	10.4
	Sissala	8	16.7
	Dagomba	10	20.8
	Others	4	8.3
Religion	Islam	28	58.3
	Christianity	14	29.1
	Traditionalists	6	12.5
Marital Status	Single	38	79.2
	Married	10	20.8
Educational Background	No formal education	28	58.3
	Primary education	17	35.4
	Secondary education	3	6.3
Living Arrangement	Compound house	12	25
	Kiosk'	3	6.3
	Wooden store/shark other	18	37.5
		15	31.3
Monthly Income	GH' 100.00	2	4.2
	GH' 110.00–399.00	34	70.9
	GH' 400.00–599.00	9	18.8
	Above GH' 600.00	2	8.3
NHIS Subscription	Yes	17	35.4
	No	31	64.6

Their mobile phone numbers were shared with the research team, who then contacted each of the selected participants to choose a day, time and venue that was convenient to her for the interviews.

1.6. Data collection

Data was gathered through in-depth face-to-face semi-structured interviews between June 2020 and January 2021. A semi-structured interview guide was developed, pretested, and used to generate the data from the participants. In-depth interviews allowed the participants to express their feelings, beliefs, and experiences of using contraceptives (Bryman, 2001). This data collection technique further allowed the flexibility to probe for more information on the issues and sought clarification where necessary (Bryman, 2001). The interviews were conducted in Twi[1] by the authors. Twi was preferred because the participants are mostly non-literate. The interview sessions were held at the preferred locations of the participants and lasted between 1:45 min and 2 h.

1.7. Data processing and analysis

Interviews were digitally recorded and transcribed in Twi by language experts. The Twi transcripts were subsequently translated into the English Language by an expert. These transcripts were transferred into NVivo™ software and analysed using Gibbs's framework, which entails transcription and familiarisation, code building, theme development, and data consolidation and interpretation (Gibbs, 2018). We conducted single item coding (text, node, or attribute value) in the document browser. The process involved the desegregation of textual data into segments, examining the data similarities and differences, and grouping together conceptually similar data in the respective nodes. The emergent themes on head porters contraceptive use were grouped as factors and broad themes from the interview transcripts, written notes, and researchers' reflections. The research team then discussed the emergent codes and organisation of themes to reach a consensus of themes and to manage dissenting findings. All authors agreed that the broader themes that emerged include issues of poverty, ignorance and patriarchy and the associated barriers to contraception are high cost of contraceptives, myths and fear of side effects and partners disapproval of contraception as the main barriers to the uptake of contraception among migrant female head porters in the Metropolis. We also agreed on participants' quotes used to support the themes and the findings.

1.8. Ethical consideration

Ethics clearance for this study [Protocol #NHRCIRB345] was granted by the Navrongo Health Research Centre Institutional Review Board (NHRCIRB). Participation in the study was entirely voluntary, and participants were assured of anonymity and confidentiality, and they could withdraw for personal or health reasons. Prior to the interviews, consent forms were read out in the local language (Twi) to the participants. Verbal/thumb printed informed consent was obtained from each participant who agreed to provide information before the interviews.

2. Results

From the analysis of the data, the factors that emerged as barriers to contraception among migrant female head porters include perceived high cost of contraceptives, myths about contraception and related fear of side effects, and partners' disapproval of contraception. The presentation of the results in the ensuing section is informed by the tenets of the social-ecological theory.

2.1. High cost of contraceptives

Perceived high cost of contraceptives emerged largely as an individual level barrier to contraception, although household income level could also significantly influence contraceptive decision-making. The majority of head porters earned between GHS100.00 and GHS399.00 monthly. This means that some of them are earning below the national minimum wage of GHS 354.6[2]. Earning below the minimum wage has three immediate affordability implications; their ability to pay for maintenance, send remittances home and pay for health care. When trapped in this affordability dilemma, head porters are forced to prioritise their needs and, in the process, the most pressing needs are given attention. In the extracts that follow, participants attributed low patronage of contraceptives to high cost. An 18-year-old participant at the Kejetia had this say about the high cost of emergency contraceptives:

> *"The emergency contraceptives are too costly. Sometimes you go to the market, and you do not get anything [money], yet you are compelled to buy because you do not want to get pregnant. My boyfriend only gives me money for food, so I am not able to buy contraceptives regularly."* (An 18-year Kayayei at Kejetia).

[1] Twi is the local language spoken by the Ashanti ethnic group, and it is local language mostly spoken in the Kumasi Metropolis.

[2] National minimum wage is GHS11.82 (https://africapay.org/ghana/salary/minimum-wages).

Another participant lamented about the high cost of *Lydia*, her preferred emergency contraceptive. She had this to say:

> *"I don't have sex every day so there is no need to go for an injection. I mostly buy postinor 2 or Lydia post-pill anytime I have unprotected sex with a man. But I have heard that the postinor 2 is not good for women. The Lydia too is costly. It is about GH10.00 which is expensive for me. Yet my current boyfriend does not like to use condom. I am worried I can get pregnant although I am not ready for pregnancy now"* (A 23-year-Kayayei at the Racecourse).

Contraceptive methods like periodic injection and implants can be obtained for free from the health facility. However, the statement above indicates a preference for emergency contraceptives, oral pills, condoms, and intera-uterine device (IUD), which are not provided free of charge. A head porter at the Adum cluster confirm that emergency contraceptives are preferred because of the convenience in using them but was quick to add that the high cost of these contraceptives' accounts for the limited patronage. This is what she said in the interview:

> "*Postinor 2 and Lydia post-pill are easy to use when I have unprotected sex, but the prices have become so costly in recent times, and I can hardly afford to use them. So, these days when I have unprotected sex, I pray to God and hope that I do not get pregnant."*

At the CBD cluster, head porters' perception of the cost of contraceptives was not different. A six-months pregnant head porter expressed the position of most of her colleagues when she attributed the cause of her pregnancy to a lack of financial access to contraceptives. This is what she said when asked about her ability to buy contraceptives:

> *"I knew so well that I was not in my safe period when I had unprotected sex with my partner. I did not have money to buy a contraceptive and he also refused to buy it when I requested him to. So, I got pregnant and we did not have money to do an abortion."*

Thus, while it seems evident that the convenience of using emergency contraceptives makes them the preferred option to head porters, high cost is a hindrance to uptake. We observe this factor to have both individual and household level attributes.

2.2. Myths and fear of side effects

Low uptake of contraceptives by some female head porters is attributed to fear of adverse consequences. Participants reported experience of individual level factors such as headaches, irregular menstrual cycle, weight gain/weight loss, vagina dryness, reduced sex drive among others when they use contraceptives. In addition to the individual factors the myths expressed by participants about the side effects of contraception such as infertility are community induced. In the excerpts that follow interviewees expressed concern about the side effects of contraception, which constrain uptake. A participant at the CBD shared a myth about the side effects of contraception:

> *"I have heard that if you use modern contraceptives for long, it can affect your fertility; that family planning is good for women who do not have plans to conceive and have children. When young girls use contraceptives, it messes up their reproductive system and they will not be able to conceive or even if they are able to conceive, they may end up giving birth to children with deformities. This deters me from using any contraceptives."* (A 21-Kayayei at the Central Business District of Kumasi).

At the Kejetia cluster, a 23-year-old participant expressed the fear that she would not be able to have normal delivery if she uses contraceptives. This is what she had to say about her fear of the side effects of contraception:

> *"I understand that women who use contraceptives are unable to have normal deliveries. The only option of delivery for them is* Cesarean delivery (C-section). This is reason *I am afraid to use contraceptives. I want to have normal deliveries."*

Two other participants at the Adum and Racecourse clusters corroborated the prevalence of fear of side effects arising from the use of contraceptives:

> *"I don't like the pills. Because I have used them for long, and anytime I take them, I lose appetite for food, and I start growing lean*" (A 23-year-old Kayayei at Adum).

> *"For me, I used to take the pills, but it prolonged my menstrual periods. I stopped, and I went for the three months injection. For that one, my period stopped coming completely. For now, I use only condoms"* (A 20-year-old Kayayei at Racecourse).

At Adum, head porter shared her experience of side effects arising from the use of contraceptives:

> *"I didn't have the desire for sex when I was using oral pills. I also used to bleed for about three months. That caused a problem between my boyfriend and me. He thought I was lying to him that I'm sick. Because of that, he left me for another girl. Since then, I stopped using the drug."*

From the results above, myths and fear of side effects appear to hinder the uptake of contraceptives among the head porters in the Metropolis. These factors are observed to have both individual and community level characteristics.

2.3. Partners disapproval of contraception

The lack of a partner's consent was identified as a significant household and community level barrier to contraception among female head porters. Most respondents said their partners disapproved of the use of contraceptives. At the Adum cluster, a 40-year-old head porter had this to say when interviewed:

> "*I am married, and my husband does not approve of the use of contraceptives. He says using condoms is a waste of time, and I do not insist because I do not want to ruin our marriage."*

At Kejetia, a 35-year-old head porter corroborated this statement about partners disapproval of the use of contraceptives. Below is her explanation:

> *"Men do not like using contraceptives and they prevent us the women from doing family planning. When we do family planning, they complain that we never reach orgasm, and we bleed for long and smell a lot. When they restrict us from doing family planning, we end up producing more children."*

As a result of the male partner disapproval of contraceptive use, participants prefer to use other methods of contraception that are not easily noticed. A 39-year-old head porter at the CBD cluster said this about her partners disapproval of contraception and the coping mechanism she employs to prevent pregnancy:

> *"My husband used to complain whenever I had nausea or complain of dizziness as a result of swallowing contraceptive pills. He complains that whenever I take those drugs, I don't do any work and spend money on buying additional drugs. As a result, I stopped taking the pills, and eventually, I got pregnant. We now have five children. I had to hide and go for the implant at the clinic to avoid getting pregnant again."*

At the Racecourse cluster, a 38-year-old participant explained that using contraceptives is prohibited for married women:

> *"You cannot be using condoms with your husband. Once you are married, there will be no need to use a condom unless you are indulging in an extra-marital affair. If your husband knows that you are using contraceptives, he will accuse you of being unfaithful, and that can ruin your marriage. Once you are married, you say goodbye to contraceptives."*

It is apparent from the narratives above that male partner disapproval of contraception is a common constraint to migrant female head porters' uptake of contraception, and this is triggered by both household and community level factors.

3. Discussions

The study uncovered three key barriers of contraception among female head porters in the Kumasi Metropolis. These include high cost of contraceptives, myths and fear of side effects associated with contraception, and the disapproval of male partners. These barriers are mirrored in the social-ecological theory which posits that individual, household, and community level factors influence health behaviours (Urie Bronfenbrenner, 1979; McLaren and Hawe, 2005). Thus, this theory provides an appropriate framework for discussing the factors that influence female head porters' use of contraceptives and the implications for reproductive health policy planning in Ghana and beyond.

High cost of contraceptives was identified as the primary barrier to the uptake of contraception among female head porters in the Metropolis. Participants attributed the low uptake of contraceptives to high cost of contraceptives, particularly of emergency contraceptives. Perception of the high cost of contraceptives is associated with the income of the individual or the household, which according the social-ecological theory, influences the contraceptive decision-making of users (Urie Bronfenbrenner, 1979; McLaren and Hawe, 2005). We found that the financial challenges faced by head porters often result from the meagerness of their earnings from head-porterage. These earnings are far below the minimum wage and barely enough to pay for basic expenses such as food, clothes, shelter, and health care. Yet, they are also required to remit their families back home, and these competing expenses negatively affect their ability to afford emergency contraceptives. This finding appears to represent the overarching view of migrant female head porters in the Metropolis, yet it is also consistent with previous research findings (Alatinga et al., 2020; Lattof, 2018) that observed that high cost deterred girl head porters from accessing sexual and reproductive health services. While a comprehensive survey might be required to confirm this, in the immediate term there would be the need for health policymakers in the country to consider measures to make emergency contraceptives accessible to this vulnerable group of users. One policy strategy that has the potential to provide financial access to contraceptives and related sexual and reproductive healthcare information and services is free enrolment of all head porters in the National Health Insurance Scheme. This is important given the negative consequences of limited health care for female head porters, including unwanted pregnancies, illegal abortions and abortion-related deaths and spread of STD/STIs (Adanu and Johnson, 2009; Miller et al., 2007), along with the view that head-porterage in metropolitan areas in Ghana has come to stay (Opare, 2003; Shamsu-Deen, 2013).

In addition to the lack of financial access to contraceptives for migrant female head porters, myths, and fear of side effects from the use of contraceptives was also cited by participants as contributing to low uptake. We found that whereas the myths around contraception are community-related, the fear of side effects of contraception is an individual level factor, as espoused by the social-ecological model (Urie Bronfenbrenner, 1979; McLaren and Hawe, 2005). Studies have shown that some modern contraceptives contain hormones that cause certain side effects in some women. These include breast tenderness, headaches, weight gain, lack of regular menstrual bleeding and nausea (Diamond--Smith et al., 2012; Parks, 2019). In this study, we probed deeper and uncovered both actual side effects as well as myths, both accounting for low uptake and non-use of contraception among migrant our study participants. They experienced delayed periods, excessive bleeding, loss of appetite for food, getting fat, headaches resulting from contraceptives use. Participants who are still in their reproductive ages expressed added fear about the possibility of permanent infertility and giving birth to babies with disabilities. This findings expands on earlier research findings in which low uptake of contraception was associated with fear of the permanent side effects (Asiedu et al., 2020; Aviisah et al., 2018; da Silva-Filho et al., 2017; Diamond-Smith et al., 2012; Parks, 2019; Williamson et al., 2009), particularly in societies where a woman's ability to bear children is key to her socio-economic status (Parks, 2019; Williamson et al., 2009). Fear of side effects, whether real or imagined, is a major reason women discontinue contraceptives use, resulting in unplanned pregnancies (Williamson et al., 2009). Reaching the hundreds of female head porters and many more women who still want to plan childbearing but are afraid to use contraception will require the Ghana Health Service and NGOs in Health to implement effective awareness creation interventions to break down the myths and misconceptions as well as address the real side effects serving as deterrents.

The third major impediment to contraception among migrant female head porters is the lack of approval from male partners. With reference to the social-ecological theory (Urie Bronfenbrenner, 1979; McLaren and Hawe, 2005), this barrier is situated within the household and community levels, and it is common in patriarchal settings (Abdulai et al., 2020; Asiedu et al., 2020; Metheny and Stephenson, 2017; J. Sumankuuro et al., 2017a, 2017b), particularly in northern Ghana where women including female head porters are socialised to see themselves as subordinates to men (Akurugu et al., 2021; Akurugu et al., 2021). Following this structural constraint, wives are seen as the properties of their husbands who exercise control over the extent to which they contribute to or participate in decision-making around sexuality and reproduction (Akurugu, 2019). We found in this study that while approval was needed from male partners for the uptake of contraception, this was often not forthcoming. Participants cited a variety of androcentric factors that militate against the uptake of contraceptives. For example, their male partners complained about delayed orgasm, prolonged menstruation and foul smell and laziness of women as consequences of contraceptives use. Condoms are the commonest and most practical form of contraceptives in the market given that they perform a dual function of preventing STDs and pregnancy. Condom use, however, requires the active participation of the male partner, but men often complain of reduced sexual pleasure when they use condoms. In other instances, wives would be accused of wanting to engage in extra-marital activities when they seek their husbands' consent to use contraceptives for family planning purposes. This corroborates earlier research findings by Ahenkan (2016) that the bride price paid by the man's family grants him the right to determine the family size and other important decisions in the family. The consequence of this is low uptake of contraception, resulting in unplanned pregnancies and increased spread of STI/STDs.

Getting around this challenge calls for a gender-transformative approach in reproductive health. In the context of family planning and reproductive health, a gender-transformative approach will involve improving women's access to important sexual and reproductive health services, including contraceptive methods and supporting communities to understand and challenge the social norms that reinforce inequalities between men and women (Akurugu, 2019). It also involves engaging men and boys in ways that address their reproductive health needs and that support women's and girls' reproductive health decision-making (Ramirez-Ferrero and Lusti-Narasimhan, 2012). This approach agrees with previous research findings that any attempts at increasing male responsibility for family planning will require a careful process to not just confront men's negative attitudes around contraception but also to trigger a shift in societal norms in the form of how and why men are involved, including raising their awareness on the importance of women's power in reproductive health decision-making (Akurugu, 2017, 2019; Kabagenyi et al., 2014). While research has shown that joint spousal decision-making is an important determinant of women's uptake of modern contraceptives (Yue, O'Donnell and Sparks, 2010), it is also important that interventions targeting males are not allowed to undo or bypass efforts to empower women by perpetuating gender inequities (Haider et al., 2009). To increase uptake of contraceptives through male's approval of use by spouses, there is the need for further research to

ascertain the effectiveness of male-involvement interventions that promote gender equity in decision-making around contraception.

3.1. Strengths and limitations of the study

The strength of the study rest firmly on the adoption of a qualitative approach and social-ecological theory to underpin the collection and analysis of the data. While the qualitative approach made it possible to explore deeper and uncover some of the hidden barriers of contraception among female head porters, social-ecological theory provided the framework for unpacking and analysing the individual, household, and community level barriers to contraception among female head porters. However, the study did not cover the entire country and therefore our findings reflect solely the perspective of female head porters in the Kumasi Metropolis. We are aware that had we scaled up the sample to cover the entire country our findings would have been generalizable. This notwithstanding, the findings are indicative of what pertains in the Kumasi metropolis, and similar results could be obtained in other Metropolises in the country by replicating the same methodological approach.

4. Conclusion: implications for policy and planning

This paper contributes to the discourse on uptake of contraception in Ghana and beyond, and the implications for reproductive health policy and planning. To this end, we focused specifically on the social-ecological factors that influence the contraceptives decision-making of migrant female head porters in the Kumasi Metropolis. We found these to include high cost associated with the uptake of contraceptives, myths and side effects associated with contraceptive use, and the disapproval of a male sexual partner. The findings indicate that head porters' contraceptive decision-making is largely influenced by their social and economic circumstances, including poverty, ignorance, and patriarchy. It is important to address these issues, and we recommend a continuum of targeted interventions, starting with a free NHIS enrollment policy for all head porters by the government to grant them financial access to quality contraceptives and related sexual and reproductive healthcare information and services. This would significantly address the affordability barrier and enhance the uptake of contraception. Secondly, addressing the myths and fear of side effects calls on the Ghana Health Service, and NGOs in health to embark on activities that will create strong awareness among female head porters of the benefits of contraception, while dispelling the misconceptions. This will be effective through the incorporation of culturally appropriate education and drawing on positive user testimonies that will break down the myths and misconceptions that serve as deterrents, while at the same time addressing the real side effects being experienced by women who use contraceptives. Furthermore, addressing spousal disapproval of contraception would require NGOs in health to collaborate with health facilities to design and implement reproductive health programmes and projects that promote and recognize the added value of men's active participation in contraception decision-making in the patriarchal settings. We argue that the active participation of men in contraception decision-making could potentially address their scepticism towards uptake.

Declarations

Author contribution statement

Cornelius Dassah: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Maximillian Kolbe Domapielle, PhD; Joshua Sumankuuro, PhD: Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Funding statement

This work was supported by the German Academic Exchange Service (DAAD) at the Faculty of Public Policy and Governance, SD Dombo University of Business and Integrated Development under the Ghanaian-German Centre for Development studies (GGCDS) project.

Data availability statement

Data will be made available on request.

Declaration of interest's statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

References

Abdulai, M., Kenu, E., Ameme, D., Bandoh, D., Tabong, P., Lartey, A., Nyarko, K., 2020. Demographic and socio-cultural factors influencing contraceptive uptake among women of reproductive age in Tamale Metropolis, Northern Region, Ghana. Ghana Med. J. 54 (2), 64–72.

Adanu, R.M., Johnson, T.R., 2009. Migration and women's health. Int. J. Gynecol. Obstet. 106 (2), 179–181.

Afriyie, K., Abass, K., Boateng, M., 2015. A journey to the south: socio-economic implications for young female head porters in the central business district of Kumasi, Ghana. Int. J. Mig. Residential Mobility 1 (2), 176–194.

Akurugu, C.A., 2017. Marriage, Power and Performativity: Theorising Gender Relations in Rural Northern Ghana. Newcastle University.

Akurugu, C.A., 2019. Gender performativity in rural northern Ghana: implications for transnational feminist theorizing. Fem. Theor. 1–20.

Akurugu, C.A., Domapielle, M.K., Jatoe, M.M., 2021a. Bridewealth, women's subordination and agency in marriage: an ethnographic critique of gender activism in rural north-western Ghana. J. Asian Afr. Stud., 0021909621992783

Akurugu, C.A., Jatoe, M.M., Domapielle, M.K., 2021b. Empowering rural women for sustainable development through the provision of water infrastructure in north-western Ghana. World Develop. Perspect. 21, 100287.

Alatinga, K.A., Allou, L.A., Kanmiki, E.W., 2020. Contraceptive use among migrant adolescent girl head porters in Southern Ghana: policy implications for sexual and reproductive health education and promotion. Child. Youth Serv. Rev., 105651

Arousell, J., Carlbom, A., Johnsdotter, S., Essén, B., 2019. Are 'low socioeconomic status' and 'religiousness' barriers to minority women's use of contraception? A qualitative exploration and critique of a common argument in reproductive health research. Midwifery 75, 59–65.

Asiedu, A., Asare, B.Y.-A., Dwumfour-Asare, B., Baafi, D., Adam, A.-R., Aryee, S.E., Ganle, J.K., 2020. Determinants of modern contraceptive use: a cross-sectional study among market women in the Ashiaman Municipality of Ghana. Int. J. Africa Nursing Sci. 12, 100184.

Asiimwe, J.B., Ndugga, P., Mushomi, J., Ntozi, J.P.M., 2014. Factors associated with modern contraceptive use among young and older women in Uganda; a comparative analysis. BMC Publ. Health 14 (1), 1–11.

Aviisah, P.A., Dery, S., Atsu, B.K., Yawson, A., Alotaibi, R.M., Rezk, H.R., Guure, C., 2018. Modern contraceptive use among women of reproductive age in Ghana: analysis of the 2003–2014 Ghana Demographic and Health Surveys. BMC Wom. Health 18 (1), 141.

Awumbila, M., 2015. Women moving within borders: gender and internal migration dynamics in Ghana. Ghana J. Geog. 7 (2), 132–145.

Baah-Ennumh, T.Y., Adoma, M.O., 2012. The living conditions of female head porters in the Kumasi metropolis, Ghana. J. Soc. Develop. Sci. 3 (7), 229–244.

Becker, M.H., 1974. The health belief model and sick role behavior. Health Educ. Monogr. 2 (4), 409–419.

Bellizzi, S., Mannava, P., Nagai, M., Sobel, H., 2020. Reasons for discontinuation of contraception among women with a current unintended pregnancy in 36 low and middle-income countries. Contraception 101 (1), 26–33.

Boateng, S., Amoako, P., Poku, A.A., Baabereyir, A., Gyasi, R.M., 2017. Migrant female head porters' enrolment in and utilisation and renewal of the National Health Insurance Scheme in Kumasi, Ghana. J. Publ. Health 25 (6), 625–634.

Bongaarts, J., 2010. The causes of educational differences in fertility in Sub-Saharan Africa. Vienna Yearb. Popul. Res. 31–50.

Bronfenbrenner, U., 1999. Environments in developmental perspective: theoretical and operational models. In: Friedman, S.L., Wachs, T.D. (Eds.), Measuring Environment across the Life Span: Emerging Methods and Concepts. American Psychological Association, Washington, DC, pp. 3–28.

Bryman, A., 2001. Social Research Methods. Oxford University Press, New York.

Chilinda, I., Hourahane, G., Pindani, M., Chitsulo, C., Maluwa, A., 2014. Attitude of Health Care Providers towards Adolescent Sexual and Reproductive Health Services in Developing Countries: a Systematic Review. Health.

Cleland, J.G., Ndugwa, R.P., Zulu, E.M., 2011. Family planning in sub-Saharan Africa: progress or stagnation? Bull. World Health Organ. 89, 137–143.
da Silva-Filho, A.L., Lira, J., Rocha, A.L.L., Carneiro, M.M., 2017. Barriers and myths that limit the use of intrauterine contraception in nulliparous women: a survey of Brazilian gynaecologists. Postgrad. Med. 93 (1101), 376–381.
Diamond-Smith, N., Campbell, M., Madan, S., 2012. Misinformation and fear of side-effects of family planning. Cult. Health Sex. 14 (4), 421–433.
Domapielle, M.K., Akurugu, C.A., Mdee, A., 2020. Horizontal inequity in healthcare delivery: a qualitative analysis of perceptions of locality and costs of access in the Jirapa municipality, north-western Ghana. J. Int. Dev. 32 (8), 1308–1323.
Elfstrom, K.M., Stephenson, R., 2012. The role of place in shaping contraceptive use among women in Africa. PLoS One 7 (7), e40670.
Fishbein, M., 1979. A Theory of Reasoned Action: Some Applications and Implications Paper Presented at the Nebraska Symposium on Motivation. Nebraska, Lincoln.
GoG, 2015. Ghana Family Planning Costed Implementation Plan 2016 –2020. Retrieved from Accra:
GSS, 2018. Ghana Maternal Health Survey 2017. Retrieved from Accra.
Haider, S., Todd, C., Ahmadzai, M., Rahimi, S., Azfar, P., Morris, J.L., Miller, S., 2009. Childbearing and contraceptive decision making amongst Afghan men and women: a qualitative analysis. Health Care Women Int. 30 (10), 935–953.
Iseyemi, A., Zhao, Q., McNicholas, C., Peipert, J.F., 2017. Socioeconomic status as a risk factor for unintended pregnancy in the contraceptive CHOICE project. Obstet. Gynecol. 130 (3), 609.
Ivanova, O., Rai, M., Mlahagwa, W., Tumuhairwe, J., Bakuli, A., Nyakato, V.N., Kemigisha, E., 2019. A cross-sectional mixed-methods study of sexual and reproductive health knowledge, experiences and access to services among refugee adolescent girls in the Nakivale refugee settlement, Uganda. Reprod. Health 16 (1), 35.
Jonas, K., Crutzen, R., van den Borne, B., Reddy, P., 2017. Healthcare workers' behaviors and personal determinants associated with providing adequate sexual and reproductive healthcare services in sub-Saharan Africa: a systematic review. BMC Preg. Childbirth 17 (1), 1–19.
Kabagenyi, A., Jennings, L., Reid, A., Nalwadda, G., Ntozi, J., Atuyambe, L., 2014. Barriers to male involvement in contraceptive uptake and reproductive health services: a qualitative study of men and women's perceptions in two rural districts in Uganda. Reprod. Health 11 (1), 1–9.
Kporku, M.A., 2015. Female Head-Porter Access to Family Planning Services in Ejura Municipality. Ghana.
Larsson, C., Stanfors, M., 2014. Women's education, empowerment, and contraceptive use in sub-Saharan Africa: findings from recent demographic and health surveys. Afr. Popul. Stud. 28, 1022–1034.
Lattof, S.R., 2018. Health insurance and care-seeking behaviours of female migrants in Accra, Ghana. Health Pol. Plann. 33 (4), 505–515.
Li, Z., Patton, G., Sabet, F., Zhou, Z., Subramanian, S., Lu, C., 2020. Contraceptive use in adolescent girls and adult women in low-and middle-income countries. JAMA Netw. Open 3 (2), e1921437.
Macrotrends, 2020. Ghana Fertility Rate 1950-2020. Retrieved from. https://www.macrotrends.net/countries/GHA/ghana/fertility-rate.
McLaren, L., Hawe, P., 2005. Ecological perspectives in health research. J. Epidemiol. Community 59 (1), 6–14.
Metheny, N., Stephenson, R., 2017. How the community shapes unmet need for modern contraception: an analysis of 44 demographic and health surveys. Stud. Fam. Plann. 48 (3), 235–251.
Miller, E., Decker, M.R., Silverman, J.G., Raj, A., 2007. Migration, sexual exploitation, and women's health: a case report from a community health center. Violence against Women 13 (5), 486–497.
Moreira, L.R., Ewerling, F., Barros, A.J., Silveira, M.F., 2019. Reasons for nonuse of contraceptive methods by women with demand for contraception not satisfied: an assessment of low and middle-income countries using demographic and health surveys. Reprod. Health 16 (1), 1–15.
Mutumba, M., Wekesa, E., Stephenson, R., 2018. Community influences on modern contraceptive use among young women in low and middle-income countries: a cross-sectional multi-country analysis. BMC Publ. Health 18 (1), 1–9.
Nyarko, S.H., Tahiru, A.M., 2018. Harsh Working Conditions and Poor Eating Habits: Health-Related Concerns of Female Head Porters (Kayayei) in the Mallam Atta Market, Accra, Ghana. BioMed research international.
Opare, J.A., 2003. Kayayei: the women head porters of southern Ghana. J. Soc. Dev. Afr. 18 (2).
Parks, J., 2019. Myths, Misconceptions Still Discourage Use of Family Planning. Retrieved from. https://www.prb.org/myths-misconceptions-still-discourage-use-of-family-planning/.
Ramirez-Ferrero, E., Lusti-Narasimhan, M., 2012. The role of men as partners and fathers in the prevention of mother-to-child transmission of HIV and in the promotion of sexual and reproductive health. Reprod. Health Matters 20 (39), 103–109.
Saleem, S., Bobak, M., 2005. Women's autonomy, education and contraception use in Pakistan: a national study. Reprod. Health 2 (1), 1–8.
Sedgh, G., Ashford, L.S., Hussain, R., 2016. Unmet Need for Contraception in Developing Countries: Examining Women's Reasons for Not Using a Method.
Shamsu-Deen, Z., 2013. Migration and health nexus: a case of female porters (Kayayei) in Accra, Ghana. Res. Humanit. Soc. Sci. 3 (3), 103–109.
Steele, F., Curtis, S.L., Choe, M., 1999. The impact of family planning service provision on contraceptive-use dynamics in Morocco. Stud. Fam. Plann. 30 (1), 28–42.
Sumankuuro, J., Crockett, J., Wang, S., 2017a. Maternal health care initiatives: causes of morbidities and mortalities in two rural districts of Upper West Region, Ghana. PLoS One 12 (8), e0183644.
Sumankuuro, J., Crockett, J., Wang, S., 2017b. The use of antenatal care in two rural districts of Upper West Region, Ghana. PLoS One 12 (9), e0185537.
Sumankuuro, J.C., Wang, Shaoyu, 2017. The use of antenatal care in two rural districts of Upper West Region, Ghana. PLoS One 12 (9), e0185537.
Thang, N.M., Anh, D.N., 2002. Accessibility and use of contraceptives in Vietnam. Int. Fam. Plann. Perspect. 214–219.
Thomas, F., Chase, E., Aggleton, P., 2019. Health Education and Migration. SAGE Publications Sage UK, London, England.
UN, 2020. World Fertility and Family Planning 2020. Retrieved from. https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/files/documents/2020/Oct/undesa_pd_wfp2019_10_key_messages_10jan2020.pdf.
van Enk, A., 1994. International conference on population and development in Cairo. Ned. Tijdschr. Geneeskd. 138 (45), 2259–2261.
Williamson, L.M., Parkes, A., Wight, D., Petticrew, M., Hart, G.J., 2009. Limits to modern contraceptive use among young women in developing countries: a systematic review of qualitative research. Reprod. Health 6 (1), 1–12.
Yeboah, M.A., Appiah-Yeboah, K., 2009. An examination of the cultural and socio-economic profiles of porters in Accra, Ghana. Nord. J. Afr. Stud. 18 (1), 21.
Yue, K., O'Donnell, C., Sparks, P.L., 2010. The effect of spousal communication on contraceptive use in Central Terai, Nepal. Patient Educ. Counsel. 81 (3), 402–408.