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Original Research Article

Utilization of child spacing services and associated factors among riverine Somali communities in Mandera County, Kenya

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ABSTRACT

Background: Child spacing services are a range of healthcare and counselling services supporting one in making informed decisions about timed and spaced children. According to Kassim and Ndumbaro found that reproductive health (RH) right enable partners to decide to have or not to have children, number of children and when to do so.
Methods: A descriptive cross-sectional design study conducted in Mandera County between July 2024 to December 2024. SPPS version 25 was used for statistical analysis. Chi-square test was used to assess relationships between variables at a level of confidence of 95%.
Results: Results showed that the age of participants showed a statistically significant association with the uptake of child spacing services (p=0.014). Educational level attained was statistically linked with uptake of child spacing services (p=0.036), occupation (p=0.006), and number of children (p=0.028). However, the nuptial status did not show a significantly statistical linkage with the uptake of child spacing services (p=0.177). There was statistical relationship between knowledge level with the uptake of child spacing services ($\chi 2$=6.476, p=0.039). Religion, decision maker, threats by partner and stigma were social cultural factors that significantly affected uptake of child spacing services with a $p<0.05$.
Conclusions: The study further concludes that socio-demographic factors including age, educational level, occupation and number of children were significantly associated with uptake of child spacing services. Religion, decision makers, threats from partner and stigma were associated factors that influence uptake of child spacing services.

Keywords: Kenya, Child spacing, Women of reproductive age

INTRODUCTION

Globally, 25% of births are still occurring with shorter child spacing intervals of lower than the recommended 24 months.[1] Majority comes from Asia at 33% and Sub-Saharan Africa (SSA) at 20%.[1] However, this stands at 18% in Kenya. Internationally, unmet need for contraceptive use is approximately 215 million women, despite substantial financial investments from donors and countries aimed at addressing this issue. In SSA, this is high at 23%.[2] Furthermore, it is worrying that only 55% of SSA FP needs are met by modern methods of child spacing where one in every ten women are using traditional methods of child spacing.[3] In Kenya, contraceptive prevalence for any FP method is 62.5% while for the modern ones is 56.9% while in Mandera

County has the lowest modern contraceptive prevalence in the country standing at 1.9%.[4] Knowledge on child spacing is crucial to the uptake of services. However, research findings show that women especially in SSA lack access to adequate knowledge on child spacing, predisposing them to negative health and economic impacts of unplanned pregnancies.[5] There is a link between accessibility and use of child spacing services since the services are either unavailable, inaccessible or unaffordable. Sometimes these services may be available but are not tailored to meet the cultural norms of different communities.[6] Provision of information on child spacing is key especially among people with the strong cultural beliefs. This would shift their attitudes to accept and use various methods recommended for the child spacing.[7]

Objectives

Objectives of the study were to identify the socio-demographic factors associated with utilization of child spacing services among women of reproductive age, to determine the level of knowledge associated with utilization of child spacing services among women of reproductive age and to assess the socio-cultural factors associated with utilization of child spacing services among women of reproductive age in Riverine Somali Communities in Mandera County.

METHODS

Study site

The research took place in Mandera County, situated in north-eastern area within Kenya. This area had a population of 867,457 people and spanned 25,939.8 square kilometres.[8] Mandera East Sub-County is where the study was done specifically in Neboi Ward, where the Riverine Somali Communities of Gabawen and Shabele reside.

Study design

A descriptive cross-sectional study design was used in this study.

Study population

It comprised of WRA from the Riverine Somali Communities of Gabawen and Shabele in Mandera County. The study targeted WRA from these Riverine Somali communities who lived in Neboi Ward for at least nine months before the study to avoid imported cases.

Inclusion criteria

All WRA who have consented from the Riverine Somali Communities residing in Neboi Ward of Mandera County. Those who were inhabitants of this county for about 9 months or more before the study were recruited in this study.

Exclusion criteria

The WRA who were ill or away from home during the data collection period were excluded from the study.

Sample size estimation

A sample size 385 respondents were recruited for the study using formula by Yamane et al.

Sampling procedure

The County of Mandera was picked on purpose as the site of undertaking the study since it has low contraceptive prevalence, high fertility rates, and maternal mortality rates. Mandera East Sub-County and Neboi Ward were also purposively selected as they were home to the marginalized Riverine Somali Communities of Gabawen and Shabele.

Three out of the seven villages from Neboi Sub-Location, where the two marginalized communities resided, were randomly chosen: Garba Ado 3, Handadu, and Slaughter villages. The households were chosen with the use of systematic random sampling at within an interval of 13. Study subjects were selected from these households, with simple random sampling (using Yes/No riffles) used to choose the first respondent.

Data collection techniques

A structured questionnaires were used to collect such information. These questionnaires which contained questions focusing on the socio-demographics, knowledge, the health system, socio-cultural factors, as well as the utilization of the child spacing services. Surveys were administered in English, Kiswahili, and the Somali language based on the respondents' understanding levels.

Data management and analysis

Cleaning of data and editing was done to check inconsistent and missing values noted and adjusted before coding. Version 25.0 of statistical package for social sciences (SPSS) software assisted in analysing data descriptively. The test of Chi-square was employed to generate inferential statistics with cross tabulations used in presentations.

Ethical consideration

The Graduate School of Kenyatta University gave the study a go ahead. Ethical clearance was provided by Kenyatta University Ethics and Review Committee (KUERC).

A permit for research was sought from the National Council for Science, Technology and Innovation (NACOSTI).

RESULTS

The influence of socio-demographics and uptake of child spacing services

Table 1 Results revealed that 83 (97.6%) of those who were aged less than 19 years had not utilized the child spacing services. The age of participants showed a statistically significant association with the uptake of child spacing services (p=0.014). The majority, 193 (98.0%) of those who had no formal education had not utilized the child spacing services. The educational level attained was statistically linked with uptake of child spacing services (p=0.036).

Concerning marital status, 269 (95.0%) of those who were married had not utilized child spacing services. However, the nuptial status did not show a significantly statistical linkage with the uptake of child spacing services (p=0.177).

Knowledge level on child spacing services

Each correct answer given by the respondents was given single (1) point, while the wrong replies were given zero points. The minimum total score was zero (0) points, while the maximum score was 8 points. This was further categorized into high, moderate and low knowledge levels according to Bloom's cut-off points.[9]

Knowledge score of 7-8 was categorized as high, score of 5-6 as moderate and score of <5 as low.

Association between level of knowledge and uptake of child spacing services

Table 2 shows that majority 259 (97.7%) of these had low level of knowledge did not use child spacing services. Statistically, the knowledge level showed a significant linkage with the uptake of child spacing services ($\chi 2=6.476$, p=0.039).

Socio-cultural factors associated with uptake of child spacing services

Table 3 shows majority 310 (93.4%) of those who indicated they preferred a male child had not utilized child spacing services. There was no significant statistical association between preference for a specific sex of a child and uptake of child spacing services ($\chi 2=0.227$, p=0.649).

On religious beliefs allowing use of child spacing services, 330 (97.3%) of those who were Muslims had not utilized the services.

A statistical linkage that was critical existed concerning religious beliefs allowing use of child spacing services and uptake of the services (p=0.001).

Table 1: Socio-demographics associated with uptake of child spacing services, (n=351).

Independent variables	Respondent response	Uptake of child spacing services		Statistical significance
		Yes (%) (n=19)	No (%) (n=332)	
Age (in years)	≤19	2 (2.4)	83 (97.6)	Fisher's exact df=3 p=0.014
	20-29	4 (2.9)	132 (97.1)	
	30-39	9 (8.9)	92 (91.1)	
	40-49	4 (13.8)	25 (86.2)	
Highest level of education	No formal education	4 (2.0)	193 (98.0)	Fisher's exact df=3 p=0.036
	Primary	2 (2.3)	85 (97.7)	
	Secondary	8 (20.5)	31 (79.5)	
	Tertiary	5 (17.9)	23 (82.1)	
Marital status	Single	3 (6.1)	46 (93.9)	Fisher's exact df=2 p=0.177
	Married	14 (4.9)	269 (95.0)	
	Widowed/separated/ divorced	2 (10.5)	17 (89.5)	
Occupation	Employed	8 (34.8)	15 (65.2)	Fisher's exact df=2 p=0.006
	Self-employed	7 (7.9)	82 (92.1)	
	Not employed	4 (1.7)	235 (98.3)	
Monthly family income (KShs)	≤5,000	2 (3.0)	65 (97.0)	Fisher's exact df=3 p=0.444
	5,001-10,000	10 (5.3)	178 (94.7)	
	10,001-20,000	4 (5.7)	66 (94.3)	
	>20,000	3 (11.5)	23 (88.5)	
Number of children	1 child	1 (6.2)	15 (93.8)	Fisher's exact df=3 p=0.028
	2-3 children	7 (17.9)	32 (82.1)	
	4-5 children	6 (3.0)	193 (97.0)	
	More than 5 children	5 (5.2)	92 (94.8)	

Table 2: Association between level of knowledge and uptake of child spacing services, (n=351).

Independent variables	Respondent response	Uptake of child spacing services		Statistical significance
		Yes (%) (n=19)	No (%) (n=332)	
Level of knowledge on child spacing	High	8 (30.8)	18 (69.2)	χ^2=6.476 df=2 p=0.039
	Moderate	5 (8.3)	55 (91.7)	
	Low	6 (2.3)	259 (97.7)	

Table 3: Socio-cultural factors associated with uptake of child spacing services among respondents, (n=351).

Independent variables	Respondent response	Uptake of child spacing services		Statistical significance
		Yes (%) (n=19)	No (%) (n=332)	
Preference for a specific sex of a child	Female	5 (18.5)	22 (6.6)	χ^2=0.227 df=1 p=0.649
	Male	14 (4.3)	310 (93.4)	
My religious beliefs would allow me to use child spacing services.	Muslim	9 (2.7)	330 (97.3)	Fisher's exact df=3 p=0.001
	Christian	10 (83.3)	2 (16.7)	
Decision maker on child spacing services in the family	Myself	2 (18.2)	9 (81.8)	Fisher's exact df=2 p=0.020
	Mother-in-law	3 (10.0)	27 (90.0)	
	Husband	9 (6.9)	122 (93.1)	
	Husband and wife	5 (2.8)	174 (97.2)	
Partner involvement in any drug or substance abuse	Yes	6(11.8)	45 (88.2)	χ^2=0.259 df=1 p=0.611
	No	1 3(4.3)	287 (95.7)	
Threats by intimate partner on use of child spacing services	Yes	4 (22.2)	14 (77.8)	Fisher's exact df=3 p=0.018
	No	7 (4.9)	136 (95.1)	
	Cannot tell	8 (4.2)	182 (95.8)	
In your religion, you may be stigmatized by the society if you are using child spacing services	Strongly agree	3 (10.3)	26 (89.7)	Fisher's exact df=2 p=0.002
	Agree	4 (3.0)	130 (97.0)	
	Disagree	7 (6.4)	102 (93.6)	
	Strongly disagree	5 (6.3)	74 (93.7sss)	

DISCUSSION

The response rate was 91.2%. This surpassed the required minimum sample of 350. This was slightly higher than other studies conducted on child spacing among married women.[10,11] Statistically, age of the participant had a significant linkage with the utilization of child spacing services, with the highest uptake observed among women aged 30-39 years. This suggests that women in this age group are more empowered since they get SRH information through healthcare interactions, peer discussions, and previous pregnancy experiences. Additionally, by this stage in life, many women have likely completed their desired family size and are actively seeking ways to manage future pregnancies.[11] Conversely, women below 30 years had lower contraceptive uptake, which could be attributed to limited RH education, misinformation, cultural norms discouraging early contraceptive use, or fear of side effects. Many young women may also experience stigma when seeking contraception, especially in communities where discussions on sexual health remain taboo. On the other hand, women above 40 years also showed lower uptake, which may be due to the perception that their fertility is naturally declining, reducing their perceived need for contraception.[12]

A significant link was also observed between education level and FP use, with the highest non-use rates among those who were not educated completely. In regards to this, education enlightens people in making SRH decisions. Women with formal education have higher chances to access the right health information, understand the benefits of contraception, and make informed decisions regarding family planning.[13] In contrast, women with little or no formal education may be influenced by misinformation, traditional beliefs, or a lack of empowerment to make independent RH choices. Additionally, literacy levels can impact how well individuals understand family planning messages conveyed in written health materials, limiting their ability to make well-informed decisions.[14]

Civil status, however, wasn't critically linked with the uptake of child spacing services. This could indicate that marital status alone does not determine family planning decisions, but rather together with spousal influence, norms of culture, and fertility preferences. In many traditional societies, childbearing within marriage is seen

as a duty, and there may be social or religious pressures on married women to have large families Some women may also lack decision-making power in family planning matters if their husbands or extended family members oppose contraceptive use. Conversely, some married ladies may have better accessibility to getting health services and discussions with providers of health, which could encourage contraceptive use.[15]

Occupational status was significantly associated with uptake. This suggests that financial independence performs a task in FP decisions, as unemployed women may have limited access to healthcare or may rely on their partners for reproductive decisions. Employed women, particularly those engaged in stable or formal jobs, may have better health literacy, financial resources, and autonomy to make contraceptive choices. They may also be more exposed to family planning education through workplace wellness programs. In contrast, unemployed women, particularly those in rural areas, may experience barriers such as cost, transportation problems and inadequate prioritization of RH due to economic struggles.[16]

The parity of participants had a significant linkage with the usage of services for spacing children. This could show women with more children may have lower perceived risk of pregnancy or hold traditional beliefs discouraging contraception. This might be because socio-cultural customs may favour large families, religious beliefs discouraging contraception, or misunderstandings regarding the other effects of using the current contraceptives.[17] Additionally, some women with multiple children may perceive themselves as being less at risk of pregnancy due to age-related fertility decline. Others may have experienced complications or side effects from previous contraceptive methods, leading to discontinuation.[18]

The study revealed an alarmingly low uptake of child spacing services. This suggests that despite the availability of family planning options, factors such as cultural norms, misunderstandings about FP due to concern about other side consequences, and inadequate health education may be contributing to the low utilization rate. Additionally, structural barriers such as financial constraints, limited availability of contraceptive methods in local health facilities, and provider-related factors, including bias or inadequate counselling, could be impeding uptake. The findings also suggest that there may be gendered decision-making dynamics at play, where male partners or societal expectations influence a woman's ability to access contraception freely. Moreover, this low uptake rate could indicate a high unmet need for family planning, which is concerning given its potential implications for unintended pregnancies, maternal and child health outcomes, and broader RH goals.[19]

Concerning the reasons for non-uptake, most who were not utilizing child spacing services because of the desire for more children. This suggests that cultural and personal reproductive goals significantly shape contraceptive decisions, with some individuals prioritizing large family sizes over the benefits of birth spacing. This aligns with previous studies showing that fertility preferences, often influenced by societal expectations, family pressure, or religious beliefs, play a key role in contraceptive choices.[20]Research suggests that concerns about side effects including adding weight, menstrual irregularities, or perceived extended impairment of fertility, often deter women from adopting modern contraceptive methods. These results outlines the immediate need for enhanced contraceptive education and services aimed at counselling to address misconceptions and ensure that individuals receive accurate, evidence-based information to make informed decisions about family planning.[21]

The revelations of the study ascertain a low level of knowledge among many participants regarding child spacing services, with only a small proportion demonstrating moderate understanding. This limited awareness suggests gaps in health education, access to accurate information, and engagement with RH services. Inadequate exposure to family planning messages, cultural taboos surrounding contraception discussions, and reliance on misinformation from non-medical sources may contribute to this trend. The inadequate knowledge may result to formulation of misconceptions about FP methods, including fears of side effects and concerns about long-term fertility, further discouraging uptake.[22]

The research established a critical linkage of the level of knowledge with uptake of child spacing services, indicating that awareness and understanding of contraception play a crucial role in its utilization. The majority with minimal knowledge categories had not utilized child spacing services, suggesting that misinformation, lack of exposure to reproductive health education, and cultural or societal taboos may hinder contraceptive uptake. This corroborates evidence from a South African study which highlights that limited knowledge can contribute to misconceptions, such as exaggerated fears of side effects or the belief that contraception leads to infertility, ultimately discouraging individuals from using available services.[23]

A complex linkage of socio-cultural aspects with using child spacing services was noted. Preference for a specific sex of a child did not significantly influence the utilization of child spacing services. This suggests that, while son preference or gender-based family planning might be an important factor in some contexts, in this study population, it does not play a determining role in contraceptive decision-making. This could be attributed to shifting societal attitudes that prioritize the overall well-being of the family over strict adherence to gender preferences when planning for children.[24]However, the

lack of influence might also reflect a broader knowledge gap about how family planning methods can be used to achieve desired family composition.[25]

The beliefs of religion appear to perform a crucial part in influencing attitudes toward child spacing services. The significant statistical association between religious beliefs that allow child spacing and service uptake suggests that religion can be both an enabler and a barrier to family planning. For instance, a study conducted in in Sierra Leone states that individuals whose faith supports contraception are more likely to utilize child spacing services, whereas restrictive religious doctrines may hinder access and discourage use.[26]

Decision-making dynamics within families also significantly impact the uptake of child spacing services. This finding indicates that, despite joint decision-making, external pressures such as societal norms, misconceptions about contraception, or limited access to services still act as barriers. Additionally, it raises questions about the quality of discussions between partners regarding family planning, suggesting that simply involving both spouses in decision-making may not be sufficient unless they have access to comprehensive RH education.[27]

Partner involvement in drug or substance abuse does not appear to have a statistically significant association with the use of child spacing services. This finding may imply that substance use is not a primary factor influencing contraceptive uptake in this population, or that other factors such as accessibility, affordability, and personal or cultural beliefs play a more dominant role. However, it is also possible that the absence of an association is due to underreporting or a lack of clear causality between substance use and RH decisions.[28]

Intimate partner threats related to child spacing service use significantly impact uptake. Women who fear threats or domestic repercussions may avoid contraceptive methods despite understanding their benefits. This finding highlights the intersection between gender-based violence and RH autonomy. It suggests the need for interventions that empower women to make independent reproductive choices while simultaneously addressing domestic violence through community education, support services, and policy enforcement that protects women from coercion and harm.[29]

The study established a significant link between religious stigma and contraceptive use. Those who fear being stigmatized within their religious communities for using child spacing services are less likely to utilize them. This suggests that stigma acts as a strong deterrent, potentially due to misinformation, social pressure, or punitive religious norms.[30]

Limitations

The study faced some limitations in selecting Mandera East Sub-county, despite other regions being affected by the issue of child spacing service uptake in Mandera County. Consequently, the study excluded other sub-counties because that sub-county included the ward where the riverine communities reside. Additionally, the study encountered a challenge due to a lack of cooperation from some respondents, as the topic was culturally sensitive.

CONCLUSION

The study further concludes that socio-demographic factors including age category educational level, occupation and children number were significantly associated with uptake of child spacing services. On knowledge, the study concludes that the majority of the respondents had a low level of knowledge on child spacing services. The level of knowledge also significantly influenced the uptake of child spacing services, also concluded that socio-cultural beliefs such as religious decision-making dynamics intimate partner threats and stigma were associated with uptake of child spacing services.

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