

# Modern contraceptives use among women in Terekeka County, Central Equatoria State, South Sudan

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## ABSTRACT

**Introduction:** The South Sudan health sector strategic plan indicates that only 1.2% of women aged 15-49 years have their need for family planning met, and the contraceptive prevalence rate of 6% is lower than the rate of 17% in the whole of sub-Saharan Africa. The use of modern contraceptives contributes to women's health and reduces maternal mortality related to pregnancy and childbirth complications globally. The study investigated the utilization of modern contraceptives among women of reproductive age (WRA) in Terekeka County of South Sudan.

**Method:** We employed cross-sectional, qualitative, and quantitative research involving in-depth interviews with key informants. Respondents were selected purposively and through a multistage random sampling technique. Data were analysed using thematic content analysis.

**Results:** There were 384 respondents. The results indicate that 21.4% of the women use modern contraceptives. Demographic factors such as education, religion, marital status, knowledge, access to contraceptive information, and partner support are positively associated with the use of modern contraceptives in Terekeka County.

**Conclusion:** We conclude that if all WRA had access to education and family planning information, many would use modern contraceptives. The study recommends more studies to explore the use of modern contraceptives in the whole country.

**Keywords:** Modern contraceptives, contraceptive use, women of reproductive age, family planning, South Sudan

## Introduction

To measure progress towards Sustainable Development Goals (SDG 3.7), we need to know the extent of both modern contraceptive use and the unmet need for family planning: "By 2030, ensure universal access to sexual and reproductive healthcare services, including for family planning, information and education,

and the integration of reproductive health into national strategies and programs.”<sup>[1]</sup> According to the World Health Organization,<sup>[2]</sup> globally, only 842 million women of reproductive age used contraceptives, but 270 million had an unmet need for contraception, and 1.1 billion needed family planning compared to the 1.9 billion population.<sup>[2]</sup>

The prevalence of modern contraceptive use among married women of reproductive age (MWRA) has increased worldwide between 2000 and 2019 by 2.1 percentage points from 55.0% to 57.1%, but this is below the SDG target of 75.7%.<sup>[3]</sup>

The prevalence of modern contraceptive use ranges from 7% in the Gambia to 29% in Uganda, and aspects of the issues vary substantially across countries.<sup>[4]</sup> A study conducted in Uganda revealed that most women (99%) had knowledge of contraceptive use compared to about 40% uptake.<sup>[5]</sup>

According to a 2017 report in Warap State, South Sudan, only 1.2% of WRA were using family planning methods.<sup>[6]</sup> According to the South Sudan FP2030 indicator summary sheet for modern contraceptive use, modern contraceptive use was 3.4% in 2018, 3.6% in 2019, and 3.7% in 2020.<sup>[7]</sup> South Sudan has some of the worst social indicators globally, particularly for women and girls; for example, the maternal mortality ratio is estimated at 1,150 per 100,000 live births. Most of these deaths are preventable through the provision of essential maternal health commodities, such as contraceptives and essential medicines.<sup>[8]</sup> However, Terekeka County has limited information on modern contraceptive utilization. Therefore, this study aimed to bridge the knowledge gap to provide better family planning services.

### Method

This was a descriptive cross-sectional study that employed both quantitative and qualitative data collection methods to determine modern contraceptive utilization among WRA (15-49 years) in Terekeka County. The data were collected from August to September 2021.

The study used multistage systematic random selection – where selection started at County, Payam, Boma, village, and finally, household levels, respectively, for quantitative data. The data were collected from 384 women of reproductive age at their homes in rural and semi-urban areas using a structured questionnaire. Purposive sampling was used to collect qualitative data through ten focused group discussions with women who did not

participate in the structured questionnaire interviews and six key informant interviews with the health facility and the midwife in charge. Cochran’s formula was used to calculate the sample of 384 for a large population and an unknown proportion using modern contraception.

To ensure the quality of the data, competent research assistants and supervisors were recruited and trained, and study tools were translated into the local Bari language and tested before data collection. Focused group discussions were tape-recorded, and the research team was under daily supervision, in addition to the researcher’s collection and storage of completed tools.

Prior approval of the study was obtained from the Research Ethics Committee (REC) of Uganda Christian University (UCU) and the Ministry of Health Research Ethics Review Board (MOH-RERB), South Sudan. Informed consent was sought from the respondents before administering the study tools.

Data analysis was done using IBM SPSS Statistics version 23.0. Chi-squared tests and logistic regression were used to analyse the quantitative data, while thematic content analysis was used for qualitative data. The significance level was set to 95%.

### Results

The socio-demographic characteristics of the sample, and use of modern contraceptives are shown in table 1. Overall, 21.4% of respondents used modern contraception (CI 17.5 - 25.7).

Chi-squared tests showed that the factors associated with modern contraceptive utilization were the age of the partner (p-value=0.018), education level of women (p-value <0.001) and partner’s education level (p-value <0.001), occupation of women (p-value <0.001), partners occupation (p-value <0.001) and religion of women (p-value=0.02).

Table 2 shows the results of unadjusted and adjusted logistic regression analysis. The adjusted analysis showed that only women’s education was a significant factor. Women who had either primary (AOR 2.86, CI 1.32 – 6.22) or secondary/college/university (AOR= 8.68, CI: 3.22-23.42) education had higher odds of using modern contraception.

However, some key informants had a different perception, for example:

**Table 1: Socio-demographic characteristics of sample and modern contraceptive use (N=384)**

		Percentage n (%)	User n (%)	Non-user n (%)	p-value
<b>Women age (years)</b>	15 - 24	125 (32.6)	26 (20.8)	99 (79.2)	0.120
	25 - 30	133 (34.6)	27 (20.3)	106 (79.7)	
	31 - 35	51 (13.3)	17 (33.3)	34 (66.7)	
	36 - 49	75 (19.5)	12 (16.0)	63 (84.0)	
<b>Partners age (Years)</b>	20-29	41 (13.1)	11 (26.8)	30 (73.2)	0.018
	30 -34	64 (20.5)	14 (21.9)	50 (78.1)	
	35 - 39	70 (22.4)	12 (17.1)	58 (82.9)	
	40 - 44	65 (21.0)	22 (33.8)	43 (66.2)	
<b>Marital status</b>	45 - 62	72 (23.1)	08 (11.1)	64 (88.9)	0.700
	Single	83 (21.6)	19 (22.9)	64 (77.1)	
<b>Woman's education</b>	Married	301 (78.4)	63 (20.9)	238 (79.1)	<0.001
	None	232 (60.4)	23 (09.9)	209 (90.1)	
<b>Partner's education</b>	Primary	80 (20.8)	25 (31.3)	55 (68.8)	<0.001
	Secondary or above	72 (18.8)	34 (47.2)	38 (52.8)	
	None	190 (60.9)	18 (09.5)	172 (90.5)	
<b>Woman's occupation</b>	Primary	45 (14.4)	08 (17.8)	37 (82.2)	<0.001
	Secondary or above	77 (24.7)	41 (53.2)	36 (46.8)	
<b>Partner's occupation</b>	Peasant/small scale business	351 (91.4)	65 (18.5)	286 (81.5)	<0.001
	Formal employment	33 (8.6)	17 (51.5)	16 (48.5)	
<b>Family income (SSP)</b>	Peasant/small scale business	248 (79.5)	34 (13.7)	214 (86.3)	0.090
	Formal employment	64 (20.5)	33 (51.6)	31 (48.4)	
	0 – 2500	126 (32.8)	18 (14.3)	108 (85.7)	
	2501 – 5000	75 (19.5)	17 (22.7)	58 (77.3)	
<b>Religion</b>	5001 – 10,000	54 (14.1)	12 (22.2)	42 (77.8)	0.020
	10001 & above	129 (33.6)	35 (27.1)	94 (72.9)	
	Catholic	268 (69.8)	50 (18.7)	218 (81.3)	
<b>Ethnicity</b>	Protestant	98 (25.5)	24 (24.5)	74 (75.5)	0.340
	Muslim	18 (4.7)	08 (44.4)	10 (55.6)	
	Mundari	347 (90.4)	72 (20.7)	275 (79.3)	
<b>Number of children alive</b>	Others	37 (9.6)	10 (27.0)	27 (73.0)	0.660
	0	78 (20.3)	14 (17.9)	64 (82.1)	
	1 – 5	210 (54.7)	48 (22.9)	162 (77.1)	
<b>Total</b>	6 – 12	96 (25.0)	20 (20.8)	76 (79.2)	
	<b>Total</b>	<b>384 (100)</b>	<b>82 (21.4)</b>	<b>302 (78.6)</b>	

Seventy-two respondents did not answer partners' age, education, and occupation questions.

**Table 2: Logistic regression exploring the relationship between socio-demographic characteristics and use of modern contraceptives.**

		COR (95% CI)	AOR (95% CI)
<b>Age of women (years)</b>	15 – 24	1.00	1.00
	25 – 30	0.97 (0.53 – 1.78)	0.56 (0.23 – 1.40)
	31 – 35	1.90 (0.92 – 3.93)	1,26 (0.40 – 3.92)
	36 – 49	0.72 (0.34 – 1.54)	0.47 (0.14 – 3.33)
<b>Marital status</b>	Single/divorced/widow	1.00	1.00
	Married	0.89 (0.50 – 1.60)	0.68 (0.09 – 2.95)
<b>Education Level of woman</b>	None	1.00	1.00
	Primary	4.13 (2.18 – 7.83)	2.86 (1.32 – 6.22) *
	Second-ary/College/University	8.13 (4.32 – 15.29)	8.68 (3.22 – 23.42) *
<b>Occupation of woman</b>	Peasant/small scale business	1.00	1.00
	Formal employment	4.68 (2.24 – 9.74)	1.85 (0.65 – 5.22)
<b>Family income (SSP)</b>	0 – 2500	1.00	1.00
	2501 – 5000	1.76 (0.84 – 3.67)	2.05 (0.79 – 5.30)
	5001 – 10000	1.71 (0.76 – 3.86)	1.20 (0.43 – 3.35)
	10001 & above	2.23 (1.19 – 4.20)	1.60 (0.68 – 3.73)
<b>Religion</b>	Catholic	1.00	1.00
	Protestant	1.41 (0.81 – 2.46)	1.12 (0.55 – 2.26)
	Muslim	3.49 (1.31 – 9.29)	2.48 (0.63 – 9.72)
<b>Number of live children</b>	0	1.00	1.00
	1 – 5	1.35 (0.69 – 2.63)	4.55 (0.72 – 28.81) *
	6 – 12	1.20 (0.56 – 2.57)	5.36 (0.66 – 43.79) *

Seventy-two respondents did not answer partners' age, education, and occupation questions.

“... In this community, the age of the partner of the women influences the utilization of modern contraceptive” (In-charge of the Primary Health Centre).

Knowledge of, access to, and use of modern contraceptives amongst the sample are shown in Table 3.

Attendees at private health facilities were more likely to use modern contraception (p-value= 0.004). Other significant factors were the cost of modern contraceptives (p-value <0.001), safety on the road (p-value <0.001), waiting time at health facilities (p-value <0.001), waiting time fair (p-value <0.001), husband support for modern contraceptives (p-value <0.001) and type of support provided by husband (p-value <0.001).

Table 4 shows the results of unadjusted and adjusted logistic regression analysis. Women who felt safe/secure on the road were more likely to use modern contraception (AOR=2.76, CI: 1.10-6.98), as were women who waited for less than 30 minutes at health facility (AOR=6.80, CI: 2.41-19.15) and those who waited nearly an hour (AOR=5.31, CI: 2.14-13.17).

Comments from the qualitative analysis included:

“...Some women and men in this community believe that implants can move to other parts of the body. As a result, the woman will not get pregnant anymore, and it is being witch/wizard when you use modern contraceptives” (Midwife Primary Health Care Centre).

Table 3: Knowledge of, access to, and use of modern contraceptives (N=384)

		Percentage n (%)	User n (%)	Non-user n (%)	p-value
Heard about modern contraceptives	Yes	256 (66.7)	71 (27.7)	185 (72.3)	<0.001
	No	128 (33.3)	0 (0.0)	128 (100.0)	
Sources of information	Health facility	199 (77.7)	52 (26.1)	147 (73.9)	0.440
	/Relatives/ Radio/TV/News papers	57 (22.3)	12 (21.1)	45 (78.9)	
Why are modern contraceptives good?	Healthy children	113 (49.1)	38 (33.6)	75 (66.4)	0.810
	Healthy mothers	65 (28.3)	20 (30.8)	45 (69.2)	
	Saves Family incomes	52 (22.6)	15 (28.8)	37 (71.2)	
Health facilities with modern contraceptives	Yes	259 (67.4)	71 (27.4)	188 (72.6)	<0.001
	No	125 (32.6)	11 (8.8)	114 (91.2)	
Type of health facilities	Public PHCCs/PHUs	296 (92.5)	70 (23.6)	226 (76.4)	0.004
	Private health facilities	24 (7.5)	12 (50.0)	12 (50.0)	
Cost of modern contraceptives (South Sudanese Pound)?	No payment	285 (74.2)	63 (22.1)	222 (77.9)	<0.001
	500 or less	81 (21.1)	8 (9.9)	73 (90.1)	
	Above 500	18 (4.7)	11 (61.1)	7 (38.9)	
Cost affects modern contraceptives use	Yes	87 (22.7)	18 (20.7)	69 (78.3)	0.860
	No	297 (77.3)	64 (21.5)	233 (78.5)	
Distance to health facility (Km)	3 & above	60 (16.7)	13 (21.7)	47 (78.3)	0.860
	1 - 2	177 (49.2)	40 (22.6)	137 (77.4)	
	Less than 1	123 (34.1)	25 (20.3)	98 (79.7)	
Distance affects modern contraceptives use	Yes	126 (32.8)	24 (19.0)	102 (81.0)	0.440
	No	258 (67.2)	58 (22.5)	200 (77.5)	
Safe to travel to health facilities	Safe	240 (62.5)	68 (28.3)	172 (71.7)	<0.001
	Unsafe	144 (37.5)	14 (9.7)	130 (90.3)	
Waiting time for modern contraceptives	1 hour & above	164 (42.7)	18 (11.0)	146 (89.0)	<0.001
	30 minutes to 1 hour	121 (31.5)	31 (25.6)	90 (74.4)	
	Less than 30 minutes	99 (25.8)	33 (33.3)	66 (66.7)	
Waiting time at health facilities fair	Yes	150 (39.1)	50 (33.3)	100 (66.7)	<0.001
	No	234 (60.9)	32 (13.7)	202 (86.3)	
Husband support use of modern contraceptives	Yes	136 (43.6)	45 (33.1)	91 (66.9)	<0.001
	No	176 (56.4)	22 (12.5)	154 (87.5)	
Type of support	Escort wife to FP clinic	26 (19.1)	8 (30.80)	18 (69.20)	<0.001
	Approve/Decide use of Modern Contraceptives	39 (28.7)	22 (56.40)	17 (43.60)	
	Financial support	71 (52.2)	15 (21.10)	56 (78.90)	
<b>Total</b>		<b>384 (100)</b>	<b>82 (21.4)</b>	<b>302 (78.6)</b>	

Notes on the table above: Not all questions were relevant to all respondents: 128 respondents did not answer source of information, 154 did not answer why modern contraceptives good, 64 did not answer types of health facilities, 24 did not answer distance to health facilities, 72 did not answer husband's support, and 248 did not answer type of husband's support.

**Table 3: Knowledge of, access to, and use of modern contraceptives (N=384)**

		COR (95% CI)	AOR (95% CI)
<b>Heard about modern contraceptives</b>	No	1.00	1.00
	Yes	4.08 (2.08 – 8.02)	3.70 (1.43 – 9.61) *
<b>Health facility with modern contraceptives</b>	No	1.00	1.00
	Yes	3.91 (1.99 – 7.69)	2.86 (1.11 – 7.39) *
<b>Payment for modern contraceptives</b>	Yes	1.00	1.00
	No	1.19 (0.67 – 2.12)	0.68 (0.28 – 1.66)
<b>Distance to health facility (Km)</b>	3 & above	1.00	1.00
	1 – 2	1.15 (0.61 – 2.18)	0.47 (0.19 – 1.21)
	Less than 1	1.01 (0.50 – 2.01)	0.22 (0.07 – 0.66)
<b>Safety on road to health facilities</b>	Unsafe	1.00	1.00
	Safe	3.67 (1.98 – 6.82)	2.76 (1.10 – 6.98) *
<b>Waiting time for modern contraceptives (hours)</b>	1 hour & above	1.00	1.00
	30 minutes > 1 hr	2.79 (1.47 – 5.28)	5.31 (2.14 – 13.17) *
	Less than 30 minutes	4.05 (2.13 – 7.72)	6.80 (2.41 – 19.15) *

\* Statistically significant results.

“... The modern contraceptives we provide include injectables, pills, implants, and condoms” (In-charge Primary Health Care Centre).

“...Modern contraceptives help in child spacing or prevent unwanted pregnancy and me as the mother of the child will be healthy” (Woman Tali Payam Focused group discussion).

“...My husband does not want me to use modern contraceptives; he said I will not get pregnant again when I use modern contraceptives, and I must respect him to avoid fighting at home” (Woman Muni Payam Focused group discussion).

## Discussion

The age of the partner was associated with modern contraceptive utilization, and this is because older men can make informed decisions, though this finding is not in line with a study in Ethiopia<sup>[9]</sup> where the age of the partner never had a positive relationship with modern

contraceptive utilization. The study also revealed that couples who are educated are more likely to use modern contraceptives because they know their importance, and this study agrees with the study in Juba City.<sup>[10]</sup> A study in Ethiopia<sup>[9]</sup> revealed that the occupation of women and their partners was associated with modern contraceptive utilization. In Nigeria, socioeconomic status has a significant influence on modern contraceptive utilization.<sup>[11]</sup> Another study in Nigeria also revealed that being Muslim (religion) was statistically significant to the utilization of modern contraceptives, and the authors stated that it was because women who are Muslim have fewer misconceptions about modern contraceptives.<sup>[12]</sup> A further study in Nigeria indicates that women with many children were more likely to use modern contraceptives.<sup>[13]</sup>

In Nepal, only 21% of women were using modern contraceptives due to a lack of media exposure.<sup>[14]</sup> Again, a study conducted in Nigeria revealed that the effect of

awareness of family planning methods on the increased use of modern contraceptives was significant.<sup>[11]</sup> Likewise, in Indonesia, a study indicated that access to health services and free services had a positive relationship with modern contraceptive utilization.<sup>[15]</sup>

## Conclusion

The study concluded that level of education, occupation, religion (Muslim) and having many children, knowledge about modern contraceptives, access, and partner's support were positively associated with modern contraceptive utilization while age, marital status, and traditional healers were not. Finally, modern contraceptive utilization was higher than the national prevalence.

We recommend increasing awareness of contraception, encouraging partners' support, and researching why Terekeka County has a higher prevalence of modern contraceptives.

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