

Analysis of the 2018 Afghanistan Household Survey

Understanding Regional Variations in Family Planning Use



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Abbreviations

AHS	Afghanistan Household Survey
CHW	community health worker
CMW	community midwife
CSO	Central Statistics Organization
D4I	Data for Impact
FHA	Family Health Action (group)
FP	family planning
FP2020	Family Planning 2020
LAM	lactational amenorrhea method
mCPR	modern contraceptive prevalence rate
MoE	Ministry of Education
MoIC	Ministry of Information and Culture
MoPH	Ministry of Public Health
TFR	total fertility rate
UN	United Nations
UNC-CH	University of North Carolina at Chapel Hill
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WRA	women of reproductive age

Executive Summary

Background: Understanding unmet need for family planning (FP) has been central to international FP efforts for decades. Addressing this need is essential to FP program strategies in developing countries, including in Afghanistan.

Afghanistan has one of the highest maternal mortality rates in the world, coupled with a high total fertility rate (TFR), at 5.3 children per women (Central Statistics Organization [CSO], Ministry of Public Health [MoPH], and ICF, 2017) and a very low modern contraceptive prevalence rate (mCPR), at 20 percent (World Bank, n.d.). Poverty, lack of access to health services, political insecurity, cultural sensitivities, lack of education, and gender inequality contribute to the great challenges that Afghan women and girls face in meeting their reproductive and sexual health needs.

Methods: This study aimed to determine the factors affecting unmet need for modern contraceptive use across all regions of Afghanistan. To do this, we conducted a secondary analysis of data from the 2018 Afghanistan Household Survey (AHS), which was implemented in 34 provinces. The research provided an estimate of the level of unmet need provincially and regionally.

Findings: There was significant variation in modern contraceptive use across the country. The Central and West regions had the highest prevalence, and the East and Southeast regions had the lowest. The most common factors associated with modern contraceptive use were education, age, parity (number of children), place of residence, and gravidity, which varied considerably across all regions. The findings suggested the strongest connection among educational level, age, and parity of women and increased contraceptive use. The most commonly used modern contraceptive methods were pills and injectables, whereas the methods most commonly known were traditional methods (abstinence and withdrawal). Health facilities were the main source of information about contraceptives. The least common sources of information were private clinics, pharmacies, community health workers (CHWs), and religious leaders.

Recommendations: Based on the study findings, several interventions are recommended to increase the use of modern contraceptives in all regions. First and foremost, improve education to increase and sustain the use of modern FP methods, especially in rural areas with very low literacy. Employ a multi-sectoral approach, in addition to school-based programs, where the MoPH, Ministry of Education (MoE), and Ministry of Information and Culture (MoIC) collaborate effectively to raise awareness about access to modern FP (especially in rural areas), focusing on women at risk of unwanted pregnancies. Disseminate messages through mass media campaigns, such as television and radio, by involving not only women, but also men and religious leaders to influence people's perceptions, especially in rural areas. Focus FP programmatic efforts on the regions with the greatest unmet need, through the availability of health facilities, an adequate numbers of skilled health workers, and access to a wider range of contraceptive methods. Ensure

that FP programs are providing high-quality counselling to FP clients and periodic follow-up to enable women to sustain their use of modern contraceptive methods.

The country's health care system has almost entirely depended on foreign aid for nearly two decades. When the United States abruptly withdrew in August 2021 and the Taliban reclaimed power, that aid was withdrawn. As a result, almost all health programs—including women's reproductive health services—have been severely affected.

The current economic collapse and increased livelihood pressures across Afghanistan have severely increased the plight of Afghan women of reproductive age due to decreased access to health services, especially to reproductive health services. There is an urgent need to address the current increased risk of maternal and child mortality, therefore, the current Afghan government should prioritize women's reproductive health and reinforce the FP program by ensuring the accessibility and availability of high-quality reproductive health services. Alternatively the international community should find the means to negotiate with or put pressure on the current regime to achieve tangible and immediate progress on accessibility and availability of reproductive health services, especially FP, and to ensure that the recommendations offered in this study will be considered and implemented.

Introduction

Globally, 222 million women in developing countries do not use any method of contraception despite wanting to delay or stop childbearing. In 2020, among 1.9 billion women of reproductive age (15–49 years), 1.1 billion women were considered to have a need for family planning (FP). Of these women, 851 million were using a modern method of contraception and 85 million were using a traditional method (United Nations [UN], New York, 2020). Limited method choice, limited access to contraception, fear of side effects, poor quality of available services, gender-based barriers, and cultural and/or religious opposition are the main factors for the gap (World Health Organization [WHO], 2018).

Failure to use modern contraceptive methods puts women's health at high risk (Salisbury, et al., 2016). Maternal mortality is unacceptably high in the world, with almost all maternal deaths (99%) occurring in developing countries (WHO, 2019). FP is among the most cost-effective and efficient strategies to reduce maternal and infant mortality and thereby improve the health of families (UN, 2020a; Prata, Sreenivas, Greig, Walsh, & Potts, 2010). Expanding access to contraception is an essential component of achieving universal access to sexual and reproductive health services, as called for in the 2030 Agenda for Sustainable Development (UN, 2015), but despite considerable global progress in meeting FP needs, significant international inequalities remain in access to modern contraceptive methods (Ahmed, Li, Liu, & Tsui, 2012).

FP in Afghanistan

Afghanistan has high rates of maternal and infant mortality, which is partly driven by high fertility and low modern contraceptive use (UN, 2020b). As of 2017, Afghanistan's total fertility rate (TFR) was 5.3 children per woman and 25 percent of married women in Afghanistan had an unmet need for FP (Central Statistics Organization [CSO], Ministry of Public Health [MoPH], and ICF, 2017). The modern contraceptive prevalence rate (mCPR) in 2020 was 20 percent, which was likely preventing from 20 percent to 34 percent of potential maternal deaths (Family Planning 2020 [FP2020], 2021).

In 2016, the Government of Afghanistan made an FP2020 commitment to achieve an mCPR of 30 percent and to reduce unmet need by 10 percent by 2020. Although the country made some progress (FP2020, 2021), it did not achieve its commitment because of structural barriers to FP use in Afghanistan, including a poor health system infrastructure, an insufficient number of female health providers, poverty, low educational attainment, and reduced access to services due to geographic and security limitations (MoPH, 2017; Tawfik, Rahimzai, Ahmadzai, Clark, & Kamgang, 2014; United Nations Population Fund [UNFPA], 2017). Moreover, individual- and community-level barriers, including misconceptions, limited knowledge about contraceptive methods and reproductive health, and negative attitudes about contraception, such as fear of side effects, beliefs that FP is counter to Islamic teachings, and norms surrounding women's autonomy in health decision making and mobility, also hindered FP uptake and use (Samar, et al., 2014).

Afghanistan was facing many challenges to reaching the mCPR goal of 30 percent and reducing unmet need by 10 percent, such as strengthening its supply chain management, addressing cultural barriers to FP, bolstering inter-sectoral coordination, and conducting FP advocacy aimed at decision makers.

Research Objectives

We aimed to investigate and quantify the magnitude of unmet need for FP among women in Afghanistan and its influencing factors at provincial and regional levels. We were interested in exploring the differences in FP use among women of reproductive age and whether other characteristics (education, age, number of children, number of pregnancies, FP knowledge, and place of residence) were associated with unmet need for FP. We also wanted to examine differences by region.

Our original research plan included investigating the impact of COVID-19 on access to and use of FP, the FP service delivery approaches adapted to the pandemic, and the quality of services provided during the pandemic through qualitative data collection and analysis. However, due to the unforeseen political crisis and rapidly deteriorating security situation that unfolded after the fall of the previous Afghan Republic government in August 2021, it was not feasible to conduct the qualitative data collection and key informant interviews. Therefore, the study was limited to secondary analysis of quantitative data from the 2018 Afghanistan Household Survey (AHS).

Our study findings were intended to provide insights and recommendations to help decision makers in the MoPH and key partners address the challenges associated with improving access to and use of FP services in Afghanistan.

Methods

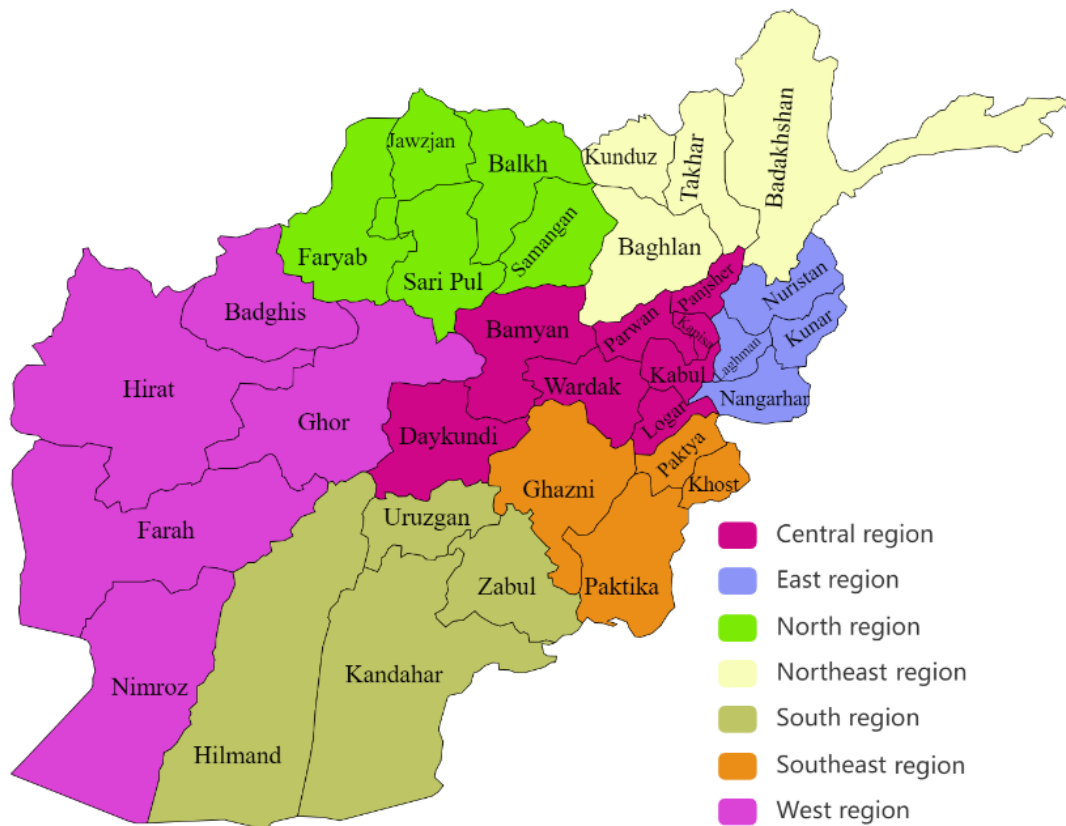
We obtained the 2018 AHS data set from the MoPH and conducted a secondary analysis of the women's datafile. The datafile included 22,319 records, of which 20,030 were women of reproductive age (WRA) (15–49 years old), one 14-year-old girl, and six women over 45 years old who had responded to the relevant FP questions. The variables related to FP were cleaned and recoded, as necessary, to allow descriptive and correlational analysis of the responses. The following relevant variables were categorized as **background variables**: literacy; number of women of childbearing age living in the household; number of under-five children living in the household; and use of health promotion messaging outlets, like radio, television, Internet, Family Health Action (FHA) groups, community health workers (CHWs), and religious leaders; and gravidity. We identified the **main FP variables** as follows: heard FP messages, pregnancy status, intention to use FP, awareness of FP methods, and use of FP methods.

The data analysis strategy involved comparing the variables of interest across provinces and regions. We used a chi-squared test to measure the variability of the provinces with respect to the variables. The descriptive data were cross tabulated with provinces and regions and between other

variables considered technically linked. We examined the level of association between various categorical variables using a chi-squared test. Simple linear regression was used to examine the correlation of multiple variables, where needed.

In the absence of an officially attested regional grouping of the provinces, the 34 provinces of Afghanistan were categorized into seven regions in line with the practical regional arrangements used by UN organizations and most nongovernmental organizations (Figure 1).

Figure 1. Regions of assessment used for the 2018 AHS FP data reanalysis



The data for the reanalysis were made publicly available by the MoPH and did not require submission to the institutional review board of the MoPH.

Results

General description of the data set

The 20,030 WRA represented all 34 provinces with significantly different proportions (unweighted). The smallest percentage of respondents came from Nooristan (1.6%), whereas the

most (4.5%) came from Paktika, with a median of 2.9 percent. At the regional level, the lowest contribution was from the South region¹ (10.3%) and the highest was from the Central region (24.1%), with the median proportion of respondents at the regional level at 13.7 percent (Table 1). The mean age of the participants was 30.1 years. The 21–30-year-old age group had the highest proportion of respondents (46.7%), followed by the 31–40-year-old age group (31.4%), under 20-year-old age group (11.7%), and last, the over-40-year-old age group (10.2%).

¹ In Zabul and Helmand (South region), and in Nooristan (East region), fewer than two-thirds of selected clusters were surveyed.

Table 1. Number and ages of women from the 2018 AHS included in the analysis

Region	Province	Number (%) of WRA	Age of WRA			
			Mean	Std. Err.	95% CI	
Central	Kabul	591 (3%)	30.6	0.3	30.0	31.2
	Kapisa	584 (2.9%)	30.7	0.3	30.1	31.4
	Parwan	604 (3%)	30.7	0.3	30.1	31.4
	Wardak	579 (2.9%)	31.1	0.3	30.5	31.7
	Logar	652 (3.3%)	31.7	0.3	31.2	32.3
	Panjsher	583 (2.9%)	31.4	0.3	30.7	32.0
	Bamyan	591 (3%)	30.3	0.3	29.7	30.9
	Dayakundi	635 (3.2%)	29.7	0.3	29.1	30.4
Subtotal		4819 (24.1%)	30.8	0.11	30.6	31.0
East	Nangarhar	685 (3.4%)	28.9	0.3	28.3	29.4
	Laghman	582 (2.9%)	30.1	0.3	29.5	30.7
	Kunarha	502 (2.5%)	29.8	0.4	29.1	30.5
	Nooristan	317 (1.6%)	28.6	0.4	27.7	29.4
Subtotal		2086 (10.4%)	29.4	0.17	29.1	29.7
North	Samagan	544 (2.7%)	29.8	0.3	29.2	30.5
	Balkh	525 (2.6%)	30.7	0.3	30.0	31.4
	Sar-E-Pul	559 (2.8%)	29.9	0.3	29.2	30.6
	Jawzjan	613 (3.1%)	31.7	0.3	31.2	32.3
	Faryab	502 (2.5%)	29.3	0.3	28.6	30.0
Subtotal		2743 (13.7%)	30.3	0.15	30.1	30.6
Northeast	Baghlan	569 (2.8%)	30.5	0.3	29.9	31.1
	Badakshan	527 (2.6%)	29.8	0.3	29.2	30.4
	Takhar	636 (3.2%)	30.3	0.3	29.7	30.9
	Kunduz	607 (3%)	30.8	0.3	30.2	31.4
Subtotal		2339 (11.7%)	30.4	0.16	30.1	30.7
South	Urozgan	736 (3.7%)	26.3	0.2	25.8	26.8
	Zabul	343 (1.7%)	30.6	0.4	29.8	31.3
	Kandahar	559 (2.8%)	29.9	0.3	29.2	30.5
	Helmand	423 (2.1%)	29.5	0.4	28.8	30.2
Subtotal		2061 (10.3%)	28.6	0.16	28.3	29.0
Southeast	Ghazni	657 (3.3%)	32.4	0.3	31.8	33.0
	Paktika	901 (4.5%)	31.6	0.2	31.1	32.1
	Paktya	800 (4%)	29.5	0.2	29.0	30.0
	Khost	869 (4.3%)	29.5	0.2	29.0	30.0
Subtotal		3227 (16.1%)	30.7	0.13	30.4	30.9
West	Ghor	604 (3%)	29.6	0.3	29.0	30.2
	Badghis	559 (2.8%)	28.5	0.3	27.9	29.1
	Herat	491 (2.5%)	29.4	0.4	28.7	30.0
	Farah	504 (2.5%)	30.8	0.4	30.1	31.5
	Nimroz	597 (3%)	29.1	0.3	28.5	29.7
Subtotal		2755 (13.8%)	29.4	0.15	29.2	29.7
Total		20,030	30.1	0.05	30	30.2

Age categories	N	Percent
Under 20	2335	11.7
21–30	9358	46.7
31–40	6293	31.4
Over 40	2044	10.2

Background variables

As presented in Table 2 (next page), an estimated 30.6 percent of women resided in a household with another woman eligible for the survey, reflecting a potential influence on attitudes toward FP. The presence of children under five years of age in the same household, which could also influence a participant’s attitude toward FP, was documented for 79.0 percent of the respondents.

Literacy (defined by the 2018 AHS as the ability to read) was self-reported by 15.1 percent of the participants. The proportion of literacy ranged from 0.8 percent in Paktika to 33.2 percent in Kabul. The provincial and regional variability of literacy was highly significant.

Most (69.5%) of the participants were the only women in the household eligible for the survey, whereas two and three other eligible women lived in the same household for 21.1 percent and 6.4 percent of the participants, respectively. No under-five children were living in the same household for 21.0 percent of the participants, whereas one, two, and three under-five children were living with the participants in 31.8 percent, 30.0 percent, and 9.9 percent of the participant households, respectively. Watching television (30.4%) and listening to the radio (35.4%) were reported by a minority of respondents. Use of the Internet was low, at 4.0 percent.

FHA² groups were known to 8.2 percent of the participants; 4.6 percent of the participants reported involvement in them. Gravidity was zero for 0.1 percent of the participants, in the range of one to four pregnancies for 48.9 percent, and in the range of five to nine pregnancies for 43.1 percent. Higher gravidity (10 or more pregnancies) was reported by 7.9 percent of the participants.

All background variables differed significantly by province and region. Regional estimates and provincial ranges are presented in Table 2.

² FHA groups are village-level volunteers that support the CHWs’ health promotion activities. As a priority for the MoPH, almost all FHA groups are female, with a few exceptions of mixed FHA groups in Bamyan Province. This analysis assumed that the reader was familiar with the basic structure of the health system, including FHA groups.

Table 2. Background characteristics of the survey participants

	Region							Total	Provincial Range	
	Central	East	North	Northeast	South	Southeast	West		Min	Max
Proportion of WRA who can read	1005/4804 (20.9%)	205/2085 (9.8%)	557/2739 (20.3%)	521/2336 (22.3%)	123/2055 (6%)	130/3222 (4%)	482/2754 (17.5%)	3023/19995 (15.1%)	7/899 (0.8%) [Paktika]	196/590 (33.2%) [Kabul]
Number and percent of WRA in the household										
1	3567 (74%)	1,436 (68.8%)	19,87 (72.4%)	1,764 (75.4%)	1,488 (72.2%)	1,549 (48%)	21,35 (77.5%)	13,926 (69.5%)	257 (1.9%) [Nooristan]	543 (3.9%) [Urozgan]
2	978 (20.3%)	427 (20.5%)	582 (21.2%)	443 (18.9%)	381 (18.5%)	936 (29%)	469 (17%)	4216 (21.1%)	49 (1.2%) [Zabul]	305 (7.2%) [Paktika]
3	216 (4.5%)	152 (7.3%)	136 (5%)	101 (4.3%)	129 (6.3%)	426 (13.2%)	114 (4.1%)	1274 (6.4%)	3 (0.2%) [Nooristan]	172 (13.5%) [Khost]
4 or more	58 (1.2%)	71 (3.4%)	38 (1.4%)	31 (1.3%)	63 (3.1%)	316 (9.8%)	37 (1.3%)	614 (3.1%)	0 (0%) [Zabul]	147 (23.9%) [Khost]
Number and percent of under-five children in the household										
0	1234 (25.6%)	343 (16.4%)	600 (21.9%)	489 (20.9%)	334 (16.2%)	566 (17.5%)	641 (23.3%)	4207 (21%)	56 (1.3%) [Nooristan]	177 (4.2%) [Kapisa]
1	1548 (32.1%)	565 (27.1%)	971 (35.4%)	783 (33.5%)	570 (27.7%)	873 (27.1%)	1059 (38.4%)	6369 (31.8%)	84 (1.3%) [Nooristan]	265(4.2%) [Paktika]
2	1380 (28.7%)	738 (35.4%)	793 (28.9%)	714 (30.5%)	748 (36.3%)	869 (26.9%)	761 (27.6%)	6003 (30%)	99 (1.6%) [Herat]	298 (5%) [Paktika]
3	434 (9%)	264 (12.7%)	257 (9.4%)	270 (11.5%)	217 (10.5%)	353 (10.9%)	189 (6.9%)	1984 (9.9%)	19 (1%) [Herat]	121 (6.1%) [Khost]
4 or more	221 (4.6%)	176 (8.4%)	122 (4.5%)	83 (3.6%)	192 (9.3%)	566 (17.5%)	105 (3.8%)	1465 (7.3%)	1 (0.1%) [Zabul]	277 (18.9%) [Khost]
Number and percent of participants reporting access to various means of health promotion										
Watch TV	1620/473 (33.8%)	823/2086 (39.5%)	448/2741 (16.3%)	517/2336 (22.1%)	925/2060 (44.9%)	1101/3226 (34.1%)	648/2755 (23.5%)	6082/19997 (30.4%)	60/634 (9.5%) [Dayakund]	456/652 (69.9%) [Logar]
Listen to radio	2160/4762 (45.4%)	460/2079 (22.1%)	1264/2727 (46.4%)	946/2331 (40.6%)	382/2053 (18.6%)	562/3217 (17.5%)	1269/2728 (46.5%)	7043/19897 (35.4%)	36/899 (4%) [Paktika]	442/578 (76.5%) [Kabul]
Use the Internet	218/4760 (4.6%)	27/2073 (1.3%)	163/2727 (6%)	146/2327 (6.3%)	60/2040 (2.9%)	71/3210 (2.2%)	115/2742 (4.2%)	800/19879 (4%)	0/315 (0%) [Nooristan]	88/581 (15.2%) [Kabul]
Aware of FHA group	401/4785 (8.4%)	180/2085 (8.6%)	166/2741 (6.1%)	373/2334 (16%)	124/2052 (6%)	114/3214 (3.6%)	268/2747 (9.8%)	1626/19958 (8.2%)	6/865 (0.7%) [Khost]	187/527 (35.5%) [Badakhshan]

	Region							Total	Provincial Range	
	Central	East	North	Northeast	South	Southeast	West		Min	Max
Participate in FHA group	237/4785 (5%)	77/2085 (3.7%)	102/2741 (3.7%)	144/2334 (6.2%)	26/2052 (1.3%)	37/3214 (1.2%)	127/2747 (4.6%)	127/2747 (4.6%)	1/582 (0.2%) [Laghman]	126/591 (21.3%) [Bamyan]
Gravidity										
0	13 (0.3%)	0 (0%)	0 (0%)	1 (0%)	0 (0%)	0 (0%)	0 (0%)	14 (0.1%)	1/481 (0.2%) [Badakhshan]	13/524 (2.5%) [Panjshir]
1–4	2090 (47.3%)	838 (44.1%)	1267 (50.9%)	980 (46%)	1009 (53.4%)	1523 (51.4%)	1249 (49.7%)	8956 (48.9%)	216/524 (41.2%) [Panjshir]	416/662 (62.8%) [Urozgan]
5–9	1912 (43.2%)	831 (43.8%)	1032 (41.5%)	951 (44.6%)	775 (41%)	1331 (44.9%)	1065 (42.4%)	7897 (43.1%)	241/662 (36.4%) [Urozgan]	318/624 (51.0%) [Ghazni]
10–19	407 (9.2%)	230 (12.1%)	188 (7.6%)	198 (9.3%)	106 (5.6%)	110 (3.7%)	200 (8%)	1439 (7.9%)	5/662 (0.8%) [Urozgan]	95/617 (15.4%) [Nangarhar]

Main FP variables

Around two-thirds of the participants asserted that they had heard about FP methods: 67.2 percent overall, with a provincial range of 54.8 percent to 84.4 percent (Table 3). The most popular FP method that the participants had heard about was periodic abstinence (median 94.7%) followed by withdrawal (median 92.8%). The least familiar methods were implants (median 0.6%) and lactational amenorrhea method (LAM) (median 2.1%). The provincial and regional differences in the proportion of participants who had heard about the different FP methods were highly significant (chi-squared tests always less than 0.001).

The proportion of women who had heard about FP was similar for pregnant and non-pregnant women (chi-squared test, p-value 0.061), but varied significantly depending on the number of WRA in the same household, with the highest for a single woman in the household (the participant) at 72 percent (chi-squared test p-value <0.001). The proportion of participants who had heard about FP was also significantly different based on the presence of under-five children in the same household, with the highest among women with one or two children (33.2% and 30.9%, respectively; chi-squared test p-value <0.001). As shown in Table 3, awareness of FP was lowest among women under 21 years old (51.8%), whereas about two-thirds of the women in the age groups 21–30 years, 31–40 years, and over 40 years were aware of FP (67.3%, 72.1%, and 69.7%, respectively, with still significantly different p values <0.001).

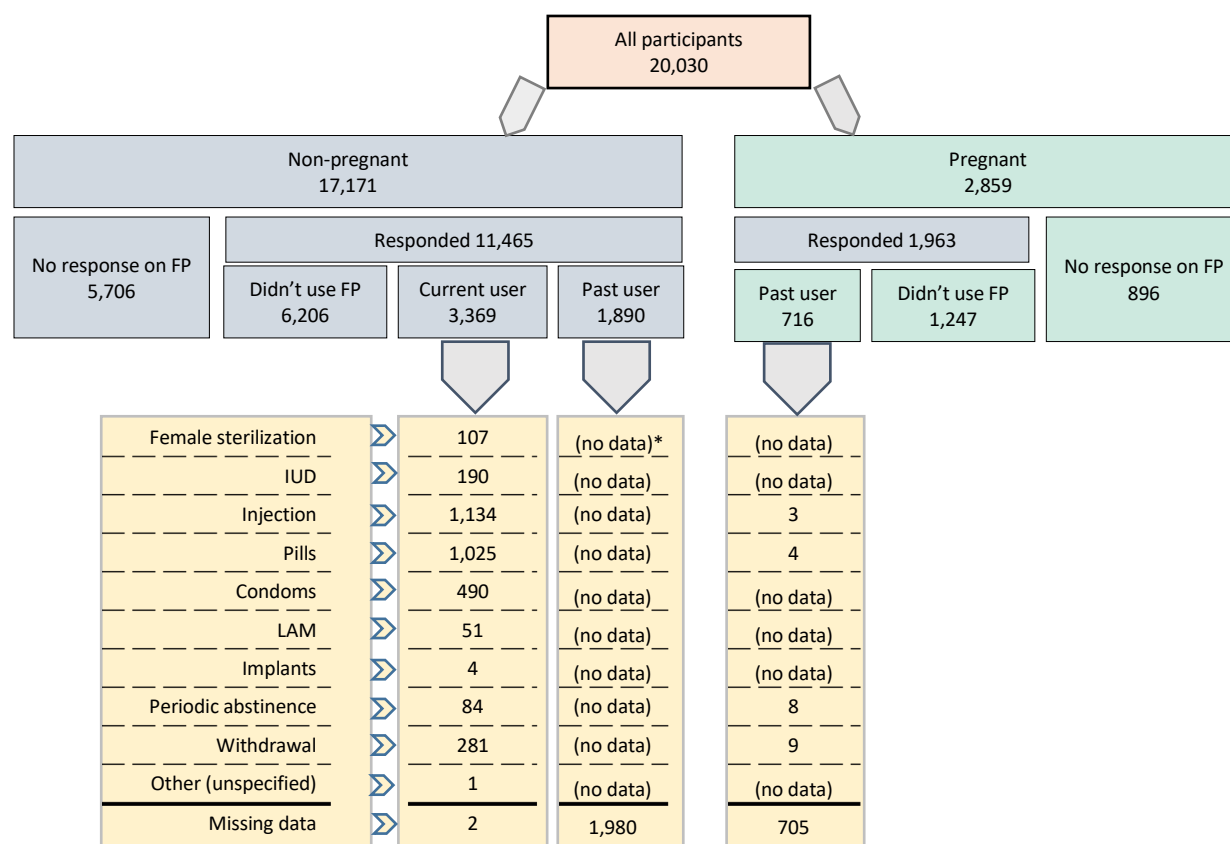
Table 3. Proportion of respondents (19,979) who had heard about FP, by respondent attributes

Category	Number and percent who had heard about FP
By region	
Central	3265/4789 (68.2%)
East	1419/2085 (68.1%)
North	1742/2739 (63.6%)
Northeast	1632/2334 (69.9%)
South	1286/2058 (62.5%)
Southeast	1768/3224 (54.8%)
West	2320/2750 (84.4%)
By method	
Female sterilization	553/13091 (4.2%)
IUD	2630/13250 (19.8%)
Contraceptive pills	11878/13381 (88.8%)
Contraceptive injections	11332/13340 (84.9%)
Condoms	5201/13214 (39.4%)
LAM	275/12982 (2.1%)
Implants	73/12985 (0.6%)
Abstinence	12290/12984 (94.7%)
Withdrawal	12093/13026 (92.8%)
By literacy status	
Illiterate	11,081/16,942 (65.4%)
Literate	2,339/3,016(77.6%)
By age group	
Up to 20 years	1203/2321 (51.8%)
21–30 years	6280/9338 (67.3%)
31–40 years	4531/6285 (72.1%)
Over 40 years	1418/2035 (69.7%)
By gravidity	
0	52/801 (0.9%)
1–4	2349/6218 (39.3%)
5–9	3163/5716 (52.9%)
10–19	411/693 (6.9%)
By number of WRA in the household	
1 (the respondent)	9671/13898 (72%)
2 women	2637/4201 (19.6%)
3 women	745/1269 (5.6%)
4 or more women	379/611 (2.8%)
By number of under-five children in the household	
0	2622/4193 (19.5%)
1	4454/6352 (33.2%)
2	4145/5993 (30.9%)
3	1294/1976 (9.6%)
4 or more	915/1463 (6.8%)
By source of information reported by the participants	
MoPH clinic	6221/13258 (46.9%)
MoPH hospital	2534/13033 (19.4%)
Private clinic	1442/12941 (11.1%)
Private pharmacy	919/12931 (7.1%)

Category	Number and percent who had heard about FP
CHW	286/12931 (2.2%)
Community midwife (CMW)	2312/12973 (17.8%)
Radio	1057/12930 (8.2%)
TV	1546/12972 (11.9%)
Religious leaders	149/12926 (1.2%)

Current and past use of FP among 11,465 non-pregnant women and past use of FP among 1,963 pregnant women were reported. More than half (55.5%) of all participants who provided information on FP use did not currently or previously use FP. Among the non-pregnant women, 3,369 (29.4%) reported current FP use, whereas 1,890 (16.5%) reported past FP use. The current users among the non-pregnant participants reported use of female sterilization (3.2%), IUD (5.6%), injectables (33.7%), pills (30.4%), condoms (14.5%), LAM (1.5%), implants (0.1%), periodic abstinence (2.5%), and withdrawal (8.3%). The non-pregnant women who reported past use of FP did not identify which methods they had used. The pregnant women reported past use of contraceptive injections (0.1%), oral contraceptive pills (0.1%), periodic abstinence (0.2%), and withdrawal (0.3%) (Figure 2).

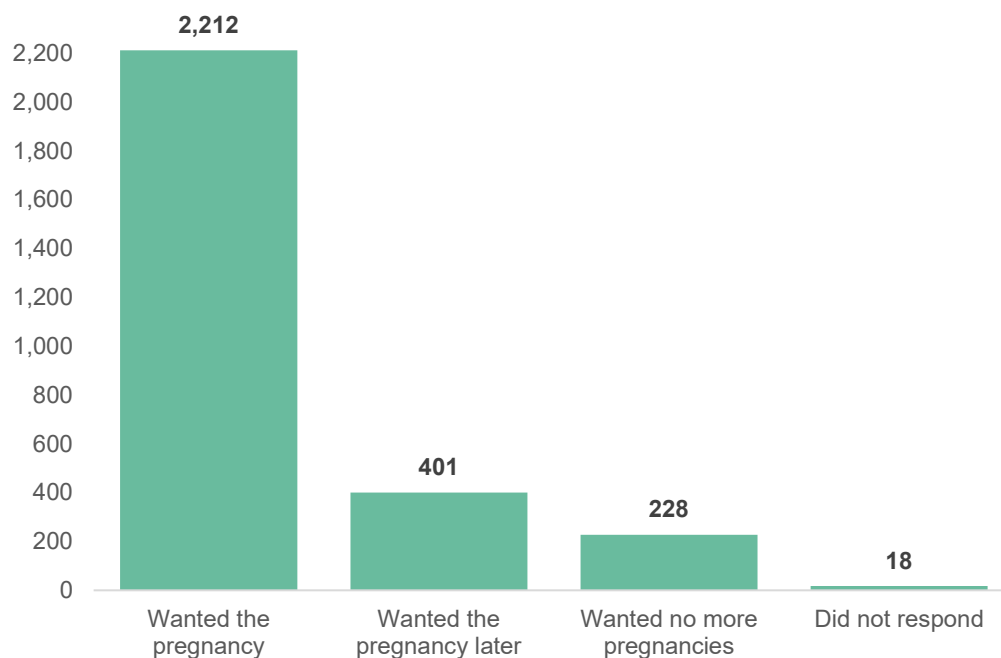
Figure 2. Use of FP reported among study participants



*No data represents missing data in the parent study data set.

Among the pregnant women surveyed, 2,212 (77.4%) said that they wanted to be pregnant; 401 (14.0%) said that the pregnancy was mistimed and that they had wanted it later; 228 (7.9%) stated that they wanted no more pregnancies; and 18 women (0.6%) did not respond (Figure 3).

Figure 3. Pregnancy intention among currently pregnant women



Among the 11,465 non-pregnant participants who responded to questions about using contraceptives, 29.4 percent were using contraceptives at the time of the survey, whereas 16.5 percent had used FP in the past (Table 4). Among the 1,963 pregnant women who responded to this query, 36.5 percent had used contraceptives in the past. The Central region showed the highest use of contraceptives for all categories (non-pregnant past users [31.1%], non-pregnant current users [29.5%], and pregnant past users [28.8%]), whereas the Southeast region reported the lowest use in all three categories (non-pregnant past users [8.9%], non-pregnant current users [8.9%], and pregnant past users [6.4%]).

The most reported methods were pills (non-pregnant past users [33.7%] and pregnant past users [36.4%]), and injectables (non-pregnant past users [30.4%] and pregnant past users [45.5%]). Implants were reported by only four non-pregnant past users (0.1%). The proportions of current users and past users among the 5,256 non-pregnant women who responded to the query about literacy status and who were illiterate were 78.9 percent and 84.4 percent, respectively, whereas 76.3 percent of the 716 pregnant women who responded to this question were illiterate.

Those reporting the highest contraceptive use were 21–30-year-olds and 31–40-year-olds (non-pregnant current users [40.7% and 43.1%, respectively]; non-pregnant past users [36.1% and 42.6%, respectively], and pregnant past users [61.0% and 30.0%, respectively]). The gravidity categories with the highest contraceptive use were one to four pregnancies and five to nine

pregnancies (non-pregnant current users [36.4% and 53.7%, respectively], non-pregnant past users [31.8% and 52.5%, respectively], and pregnant past users [51.4% and 45.0%, respectively]). The category that reported the highest FP use in all categories was being the only WRA in the household (non-pregnant current users [78.3%], non-pregnant past users [76.8%], and pregnant past users [79.3%]).

All categories of FP use were relatively high when there were one or two children under the age of five in the household (non-pregnant current users [38.3% and 29.3%, respectively], non-pregnant past users [30.9% and 29.5%, respectively], and pregnant past users [43.2% and 29.8%, respectively]). Use of FP was highest when a woman's source of information was a health facility (non-pregnant current users [75.3%], non-pregnant past users [75.0%], and pregnant past users [76.3%]). All reported proportions differed significantly for all categories among both non-pregnant and pregnant women (p values of the chi-squared tests were always greater than 0.001).

Table 4. Current and past FP use among pregnant and non-pregnant women

Category	Non-pregnant		Pregnant
	Current use	Past use	Past use
Overall	3369/11465 (29.4%)	1890/11465 (16.5%)	716/11465 (36.5%)
By region			
N	3369	1890	716
Central	993 (29.5%)	587 (31.1%)	206 (28.8%)
East	257 (7.6%)	192 (10.2%)	70 (9.8%)
North	365 (10.8%)	181 (9.6%)	70 (9.8%)
Northeast	350 (10.4%)	283 (15%)	87 (12.2%)
South	359 (10.7%)	119 (6.3%)	72 (10.1%)
Southeast	301 (8.9%)	169 (8.9%)	46 (6.4%)
West	744 (22.1%)	359 (19%)	165 (23%)
By method			
Female sterilization	107 (3.2%)		
IUD	190 (5.6%)		
Contraceptive pills	1134 (33.7%)		4 (36.4%)
Injectables	1025 (30.4%)		5 (45.5%)
Condoms	490 (14.6%)		
LAM	51 (1.5%)		
Implants	4 (0.1%)		
Abstinence	84 (2.5%)		1 (9.1%)
Withdrawal	281 (8.3%)		1 (9.1%)
Other unspecified	1 (0%)		
By literacy status			
Illiterate	2655/3367 (78.9%)	1594/1889 (84.4%)	546/716 (76.3%)
By age group			
Up to 20 years old	127 (3.8%)	63 (3.3%)	40 (5.6%)
21–30 years old	1370 (40.7%)	682 (36.1%)	437 (61%)

Category	Non-pregnant		Pregnant
	Current use	Past use	Past use
31–40 years old	1451 (43.1%)	805 (42.6%)	215 (30%)
Over 40 years old	421 (12.5%)	340 (18%)	24 (3.4%)
By gravidity			
0	1/3351 (0%)	0/1876 (0%)	0/703 (0%)
1–4	1220/3351 (36.4%)	597/1876 (31.8%)	361/703 (51.4%)
5–9	1800/3351 (53.7%)	984/1876 (52.5%)	316/703 (45%)
10–19	330/3351 (9.8%)	295/1876 (15.7%)	26/703 (3.7%)
By number of WRA in the household			
1 (the respondent)	2639/3369 (78.3%)	1452/1890 (76.8%)	568/716 (79.3%)
2 women	535/3369 (15.9%)	332/1890 (17.6%)	105/716 (14.7%)
3 women	129/3369 (3.8%)	69/1890 (3.7%)	29/716 (4.1%)
4 or more women	66/3369 (2%)	37/1890 (2%)	14/716 (2%)
By number of children under-five children in the household			
0	640/3369 (19%)	469/1889 (24.8%)	115/715 (16.1%)
1	1289/3369 (38.3%)	583/1889 (30.9%)	309/715 (43.2%)
2	988/3369 (29.3%)	558/1889 (29.5%)	213/715 (29.8%)
3	281/3369 (8.3%)	192/1889 (10.2%)	43/715 (6%)
4 or more	171/3369 (5.1%)	87/1889 (4.6%)	35/715 (4.9%)
By source of information reported by the participants			
Health facility	2521/3347 (75.3%)	1406/1874 (75%)	544/713 (76.3%)
CHW and CMW	618/3241 (19.1%)	389/1799 (21.6%)	139/686 (20.3%)
Radio and TV	651/3236 (20.1%)	302/1797 (16.8%)	144/686 (21%)
Religious leaders	42/3228 (1.3%)	27/1786 (1.5%)	11/683 (1.6%)
Note: The P values for the chi-squared tests in all reported categories in this table were always greater than 0.001 in both non-pregnant and pregnant women.			

Discussion

This study aimed to use the 2018 AHS to explore the unmet need for FP across Afghanistan, taking into account regional and provincial differences in FP use and awareness, the scale of the differences, and their association with different variables, such as education, age, number of young children in the household, number of WRA in the household, gravidity, and place of residence. Considering the wide range of provincial and regional respondents in this analysis (the highest share from the Central region and the lowest share from the South), the 2018 AHS may not be very balanced with regard to proportional representation from all provinces and regions.

We found that contraceptive use differed significantly in the study population, and even within the same region. Epidemiological factors, such as age of the woman, education, number of children, gravidity, and place of residence, may have influenced their reported contraceptive use. Our research findings supported previous research results, which showed individual-level characteristics like age, education, number of children, and wealth affecting contraceptive choice (Gereltuya, Falkingham, & Brown, 2007; Bertrand, Seiber, & Escudero, 2001). The majority of respondents knew at least one modern method of contraception but were not necessarily using it. This is in line with findings from the 2008–2009 Kenya Demographic and Health Survey that demonstrated almost universal knowledge about contraceptives (95% of all women ages 15–49 knew at least one modern method of FP) but relatively low FP use (55%) (Kenya National Bureau of Statistics & ICF Macro, 2010).

Our findings showed that the Northeast region had the second highest percentage of respondents who had heard about FP methods (with the West region having the highest percentage in this category) despite also having high gravidity. These results did not conform to the usual trend of having high gravidity in populations where awareness of FP methods was low. For example, the Southeast had the lowest percentage of respondents who had heard about FP and the highest percentage of gravidity among the regions.

Examining the number of WRA and young children in the same household was relevant for determining the association between these factors and FP use, knowledge, and the pressure to have more or fewer children. The results indicated that having multiple WRA in the same household was not necessarily associated with contraceptive use; however, the increased number of children under five in the same household was associated with an increase in FP use. This finding was similar to a previous study in Afghanistan that found that when the number of children increased, the number of women using contraception also relatively increased. This suggests that when women reach their desired number of children, their FP use increases (Osmani, Reyer, Osmani, & Hamajima, 2015). This variable may not be considered in many FP studies.

Our study found that literacy was one of the factors affecting FP use. Contraceptive use was higher among illiterate women compared with literate women. The possible explanation for this variation may be due to the high gravidity among illiterate women, forcing them to use contraception. Although the variability of regional and provincial literacy was highly significant in our findings, we found that contraceptive use was high in the Central and West regions, which had higher literacy

compared with the East and Southeast regions. This finding was also supported by another study that confirmed that parity and a woman's educational level were positively associated with the use of FP services, where completing secondary school was significantly associated with using FP, and women with four or fewer children were 1.72 times more likely to use FP compared with those with more children (Hakizimana & Odjidja, 2021).

A study in the United States suggested that as the level of education increased, the number of children desired decreased and contraceptive use increased dramatically. Sixty percent of married women with at least some secondary education used a contraceptive method compared with 40 percent of women with incomplete primary education and only 14 percent of those who never attended school (Mosher, Martinez, Chandra, Abma, & Willson, 2004). The reason for this can be explained by the opportunity to learn about FP and to raise awareness about the issue. It seems that empowerment of women through education plays an important role in contraceptive uptake. Studies have shown a positive association between women's schooling and contraceptive use (Pal & Makepeace, 2003).

A study in South Asian countries suggested the possibility of a negative relationship between female education level and TFRs in South Asian females. The main view was that a rise in female education rates at the population level would contribute to a decline in fertility, population growth, and infant and child mortality, indicating that improving female education may have significant health, economic, and social benefits for families, communities, and countries. The study recommended that South Asian countries further develop and expand their educational programs for girls and boys, with the primary aim of achieving the highest attainable standard of health and well-being for all women, men, adolescents, and children (Sheikh, & Loney, 2018).

Similarly, study findings from India showed that women's education had a direct effect on contraceptive use, fertility reduction, autonomy, age at marriage, and improved infant and child survival (Sarmad, Akhtar, & Manzoor, 2007).

Although inequalities in education are significant in South Asia as a whole, the situation in Afghanistan is especially dramatic. As of 2020, more than 10 million people were sub-literate in Afghanistan. The total literacy rate was 43 percent. For men it stood at 55 percent and fewer than one-third (30%) of women were literate (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2020). Our study found significant differences in the proportion of literate WRA across all regions and among provinces in the same region, with the highest literacy rates in the Northeast, Central, and North regions, and lowest rates in the Southeast, East, and South. Kabul had the highest literacy rate and Paktika had the lowest.

The 2018 AHS assessed the impact of health education through different channels to observe the increased use of contraceptives among all WRA. The findings indicated that health facilities were the main source of health information, followed by CMWs, TV, private clinics, and radio, whereas CHWs, FHA groups, pharmacies, and religious leaders were the least. This indicates that FP uptake could be increased in regions with low mCPR through overall health systems strengthening, including increasing access to health facilities; improving basic information on FP use, benefits,

and the side effects of methods; conducting regular, high-quality FP counselling; improving the availability of different FP methods; and strengthening health workers' capacity to administer FP methods.

The findings also suggested that mass media, such as TV and radio, could be better used to promote health education and increase the use of contraceptives because these two media channels were more common in Afghanistan than other media sources, although the use of TV and radio for health promotion varied significantly across the regions and provinces. Comparably, a study in Tanzania showed that women's exposure to FP messages through the media was associated with increased contraceptive use, especially for modern methods. Use of modern contraceptives was 11 times greater among women who were exposed to media sources compared with those who were not (Jato, et al.,1999). Other studies have also documented increased contraceptive use and other behavioral changes following specific communications interventions using one or more media channels (Olaleye & Bankole, 1994; Ryerson, 1994; Valente, Kim, Lettenmaier, Glass, & Dibba, 1994).

Gravidity was significantly different across the regions, with the South and Southeast regions having higher gravidity, followed by the East and Northeast, and similarly among the provinces. The highest gravidity was found in Urozgan (South), Ghazni (Southeast), and Nangarhar (East). Our study revealed the association between higher gravidity and contraceptive use among WRA, meaning that gravidity was positively associated with use of FP services. This was consistent with similar studies reported in Nigeria where women were more likely to use FP services if they had three or more children (Anate, 1995).

The most common FP methods that the women surveyed had heard about were traditional methods (periodic abstinence and withdrawal). A research study in The Philippines found that Filipinos had a high use of traditional methods and, therefore, a high number of unintended pregnancies, abortions, and perinatal mortality (Juarez, Cabigon, & Singh, 2005). Lack of education or FP awareness, limited access to modern contraceptives, and a poor standard of living may affect the choice to use traditional methods. The higher use of traditional methods has also been highlighted in other low- and middle-income countries. As of 2018, some 55 million married women used traditional methods. Many users may prefer traditional methods to avoid the negative side-effects of hormonal methods (Ajayi, Adeniyi, & Akpan, 2018). Others may prefer them as a transition to modern methods, or because a traditional method is the only option where access to modern methods is limited (Bertrand, Ross, & Glover, 2021).

A literature review conducted by the Queen's University of Kingston, Ontario suggested that religious and cultural factors had the potential to influence the acceptance and use of contraception by couples from different religious backgrounds, indicating that religious and cultural factors were equally important in couples' decisions about family size and contraception (Srikanthan & Reid, 2008).

Globally, the share of FP use from traditional methods fell from its highest levels of 46.6 percent in the 1960s and 32.1 percent in the 1970s, down to 20.8 percent in the 2000s and 15.3 percent by the

2010s (Bertrand, J, Ross, J, & Glover, A (2021). However, these methods were still popular in some countries. Moreover, we found low use and awareness of contraceptives among the youngest women (below age 21) in the survey. A woman's age plays an important role in the process of deciding when she will start and finish childbearing and what the birth spacing will be. The finding that younger women lacked awareness of FP and the implications for teenage pregnancy are very important to consider because maternal age at first birth is an important determinant of maternal and child health, overall fertility, and the general quality of life of the woman and child. One study in Uganda demonstrated that younger women often had a stronger fertility desire than older women; women ages 15–24 years wanted another child within two years compared with women ages 25–34 years (Asiimwe, Ndugga, Mushomi, & Manyenye Ntozi, 2014). When contraceptive use by married and fertile women was examined according to age, middle-aged women tended to use FP more than younger and older ones (Hacettepe University Institute of Population Studies, 2014).

Another study in line with our findings demonstrated that contraception use peaked around age 30 years for women (84.8%) and was the least at 20 years of age (2.2%) (Sharma, Mohan, Das, & Awasthi, 2012). Similarly, the National Family Health Survey in India reported more contraceptive use among women in a higher age group and parity (International Institute for Population Sciences & Macro International, 2007). Our findings also suggested that contraceptive use was lower among women over the age of 40 compared with younger women, which aligns with another study showing that as women get older, their need for contraception and the rate of contraceptive use decreases (Murarkar & Soundale, 2011). This may be due to the fact that many women believe that their fertility sharply declines after the age of 40, and if their periods have become irregular, they may believe that contraception can be abandoned. However, women can still have an unwanted pregnancy well into their 40s and until menopause if they do not use contraception.

In our study, among the current FP users, injectables and pills were the most used methods, and implants were the least used method. However, some studies in neighboring countries showed a different breakdown of contraceptive method use. A study in Pakistan found that the male condom was the most common contraceptive method (Meherali, Ali, Khaliq, & Lassi, 2021). Yet, our findings showed that condoms were less popular than pills and injectables. Another study in India showed that India's Family Welfare Programme was overdependent on female sterilization (Gulati, 1996); 97 percent of the sterilizations in India were tubectomies (International Institute for Population Sciences & Macro International, 2007). Individual factors (e.g., socioeconomic, health, religious, familial) and community factors can be important in choosing a contraceptive method. A country's FP program—whether it is inactive or active, and in what capacity—also plays a profound role on what FP method individuals choose.

We found significant variation in the use of contraceptives among the regions, with the Central and West regions showing the highest contraceptive use, and the East and Southeast regions showing the lowest. The age categories reporting the highest contraceptive use were 21–30-year-olds and 31–40-year-olds. This result may be due to the fact that in the Central region, which contains the largest urban population in the country, people had better access to education, FP programs, media exposure on health education, and different FP methods compared with the Southeast. A study in sub-Saharan Africa found that living in urban areas increased women's likelihood of being exposed

to FP messages and access to different methods and, therefore, increased the use of contraceptives (Bongaarts, 2011). Low contraceptive use in the Southeast region may be the result of the lack of education, inaccessibility of FP programs, and cultural sensitivities, (e.g., more traditional gender roles limiting women's ability to access and use contraceptives). Generally, the differences in regional contraceptive use may be due to the survey participants' age, level of education, place of residence, wealth, and exposure to FP messages, all of which influence contraceptive use.

The finding also reflected an increased use of contraceptives when the main source of FP information was a health facility. This indicates the importance of having skilled healthcare providers trained in high-quality consultation on a wide range of FP methods and services, where a woman can make optimum choices to meet her needs in a healthy and satisfactory manner. To scale up reproductive health service provision to meet current and future needs, a sufficient number of well-trained healthcare professionals should be available. The inadequacy of the healthcare workforce prevents the provision of FP services, especially in rural areas with low prevalence of modern contraceptives.

These research findings will help decision makers invest in and make the FP program a political priority, including training of healthcare workers as potential change agents in communities, enabling them to provide adequate and tailored health education, counseling, and follow-up to WRA to expand their knowledge about FP's benefits, and enhance the use of FP, prevent unwanted pregnancies, and improve health outcomes. The availability of different FP methods, and their accessibility and affordability are other critical factors in increasing the use of FP methods.

Limitations

The FP variables in the 2018 AHS were analyzed after a three-year gap during which the social and political conditions and the health situation in the country changed considerably. Therefore, a simple extrapolation of the findings of this analysis is not possible for the current FP situation in various regions and provinces of Afghanistan.

Moreover, Afghanistan's 34 provinces and the country's primary administrative units have not been officially approved by the Afghanistan government. However, the regions defined in this study are consistent with the definitions used by development projects implemented by national and international partners.

The participants eligible for the 2018 AHS were girls and women of all ages, ranging from 12 to 62 years old. We limited our analysis to WRA (15–49-years-old). However, one girl aged 14 years and six women over 45 years with FP-related data were also included.

Another limitation of this research is that the 2018 AHS datafile only included data on women. It would have been beneficial if the data had also included information on men's FP use, knowledge, attitudes, and engagement in relation to contraception and reproductive health.

The initial intent of this analysis was to carry out qualitative data collection following the reanalysis of the 2018 AHS' FP data set. However, due to the sudden and unforeseen collapse of the Afghanistan government, this exercise was not possible. As a result of the unstable political situation in the country and insecurity involved in engaging with the current Taliban government, it was not feasible to disseminate the findings in-country and to conduct a validation workshop with key stakeholders from the MoPH, Ministry of Education (MoE), Ministry of Information and Culture (MoIC), international donors (e.g., United States Agency for International Development [USAID], WHO, UNFPA), parliamentarians, religious leaders, and other international and local nongovernmental organization as was initially planned. Nonetheless, the findings will be available on the Data for Impact (D4I) and Organization for Research and Community Development (ORCD) websites, and the MoPH has full access to the report online. The dissemination of the findings is ongoing with the support of USAID inside and outside the country.

Recommendations

Based on our study findings, the authors make the following recommendations to the MoPH and related government agencies and to the international community (donors, nongovernmental organizations):

- Education can play a vital role in encouraging the use of modern contraceptives, especially in areas with low uptake. To support the uptake of modern FP methods, the Government of Afghanistan should consider a multisectoral approach, where the MoPH, MoE, and MoIC collaborate and initiate the most effective and efficient ways to educate and raise awareness about FP benefits and methods, in schools and elsewhere, with a focus on WRA. A study in Kenya found that more than half of married women with secondary and higher education used modern methods, compared with only 12 percent of women with no education (Kenya National Bureau of Statistics & ICF Macro, 2010).
- Mass media, primarily TV and radio, are currently the main means of disseminating information in Afghanistan. Visual and audio-visual media play an important role in providing information and creating awareness. We recommend mass media campaigns across the country to increase knowledge about FP use, advantages, methods, and accessibility. This would reach adolescents, WRA, and men too, which is critical because reproduction is a dual commitment. Although in most of the world, FP is often seen as the woman's sole responsibility, and traditional FP programs have focused mainly on women, effective and sustainable FP programs must involve men. An assessment of a male motivator project in Malawi provided evidence that male involvement in FP programs significantly increased spousal communication about FP and effectively promoted contraceptive uptake (Shattuck, Kerner, Gilles, Hartmann, Ng'ombe, & Guest, 2011).
- Regional cultures and traditions should be considered when tailoring FP messages and interventions. Specifically, a FP awareness program in Afghanistan should be sensitive to the needs and preferences of tribal societies in different regions, including their own religious and other subcultures, (e.g., the culture in the Central region is different from the

culture in the South and Southeast regions) that could affect perceptions and the use of contraceptives.

- Knowing that religion plays a critical role in shaping people's ideas, attitudes, and behaviors, especially among rural and less educated people, incorporating aspects of religion in FP interventions could yield positive impacts. Involving religious leaders in FP awareness initiatives is also strongly encouraged. Evidence from the Nigerian Urban Reproductive Health Initiative suggested that there was a significant association between contraceptive uptake and exposure to FP messages delivered by religious leaders (Adedini, Babalola, Ibeawuchi, Omotoso, Akiode, & Odeku, 2018).
- Health facilities were the main source of health information on the use of contraceptives across all regions. Considering the important role of health facilities in raising awareness and increasing the use of modern FP, high-quality FP services should be available and accessible across all regions, with more focus on the regions with lower use of modern contraceptives, such as the East, Northeast, South, and Southeast where gravidity was high. Health facilities should be well-staffed with trained healthcare professionals to support the provision of quality FP services, especially in rural areas. Health facilities should identify the attitudes and behaviors toward modern FP in each region and province to tailor their FP services and interventions for better outcomes. They should be working to improve their FP programs from various angles, such as completing missing information in FP registers so that programming can be informed by data; conducting awareness campaigns on the advantages and side effects of modern contraceptives; correcting false information and myths about FP; and encouraging men to participate in contraceptive communication and decision making, which may lead to increased use of FP, better management of side effects, and improved relationships. There is a need for further research to assess the quality of the FP services provided by health facilities to fill gaps in providing high-quality services for long-term impact.
- Considering the political and cultural context of Afghanistan, reproductive health programs and policies should consider effective collaboration with other stakeholders, such as private clinics, pharmacies, CMWs, and CHWs, to encourage the use and benefits of modern contraceptive, especially in rural areas.

Conclusions

This study provided evidence of significant regional variations in FP use and various factors that can influence WRA's intentions to use modern FP methods. We found an association among literacy, exposure to different sources of information about modern contraceptives, age, number of young children in the household, gravidity, place of residence, and use of modern contraceptives. Contraceptive use was higher during the peak childbearing years (21–40 years) and lower in the younger (below 21) and older (above 40) age groups. The Central and West regions had the highest modern contraceptive use for current and past users compared with the East and Southeast regions, which had the least use. The most commonly used methods were pills and injectables, although the methods that most women had heard about were traditional methods, (e.g., abstinence and withdrawal). Health facilities were the main source of health information in all regions, followed by CMWs and TV. CHWs, pharmacies, and religious leaders were the least popular sources of FP information. There was an association between the increased use of contraceptives and the number of young children in the household, although it varied significantly across the regions. The East and Southeast regions had high gravidity and low contraceptive use. There was a substantial positive association between education and contraceptive use.

For the past two decades, healthcare in Afghanistan had been largely funded by international donors, who, along with the former Afghan Republic government, prioritized the provision of primary healthcare to the entire country. One of the key areas of focus for improvements was access to better maternity care. Following the fall of the previous regime and the takeover by the Taliban, the lack of funding has severely impacted the healthcare system, in general, and maternal and childcare, in particular. Conditions have worsened due to a series of oppressive measures imposed on women. As a result, many WRAs are not able to access medical facilities or services. In addition, most health facilities are critically short-staffed and short-supplied, and the quality of the health services are poor. The current restrictions on women's access to healthcare, especially to FP, and the consequent unwanted pregnancies gravely affect both maternal and child health.

To tackle these challenges, the current Afghan regime should focus its efforts on making maternal healthcare a priority and ensure that it is available and accessible to all WRA to curtail unwanted pregnancies and maternal deaths. To improve the uptake of modern FP methods, the government should launch behavior change campaigns, supported by strong service delivery initiatives and impact evaluations, collaborate with other sectors through a multisectoral approach promoting the use and benefits of modern contraceptives, and use media sources and educational campaigns to build FP awareness and reduce misconceptions about FP. These efforts will empower Afghans to access and use modern contraceptives.

In light of our results, it is important to underline the importance of quality of care, the availability of skilled health providers, and access to different methods of modern contraceptives across all regions, with a focus on regions with low uptake.

References

- Adedini, S. A., Babalola, S., Ibeawuchi, C., Omotoso, O., Akiode, A., & Odeku, M. (2018). Role of religious leaders in promoting contraceptive use in Nigeria: evidence from the Nigerian Urban Reproductive Health Initiative. *Global Health, Science and Practice*, 6(3), 500–514. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6172128/>
- Ahmed, S., Li, Q., Liu, L., & Tsui, A. O. (2012). Maternal deaths averted by contraceptive use: an analysis of 172 countries. *Lancet (London, England)*, 380(9837), 111–125. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/22784531/>
- Ajayi, A. I., Adeniyi, O. V., & Akpan, W. (2018). Use of traditional and modern contraceptives among childbearing women: findings from a mixed methods study in two southwestern Nigerian states. *BMC Public Health*, 18(1), 604. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/29739372/>
- Anate, M. (1995). Factors influencing family planning use in Ilorin, Nigeria. *East African Medical Journal*, 72(7), 418–420. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/7498021/>
- Asiimwe, J. B., Ndugga, P., Mushomi, J., & Manyenye Ntozi, J. P. (2014). Factors associated with modern contraceptive use among young and older women in Uganda; a comparative analysis. *BMC Public Health*, 14, 926. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/25195645/>
- Bertrand, J. T., Seiber, E., & Escudero, G. (2001). Contraceptive dynamics in Guatemala: 1978-1998. *International Family Planning Perspectives*, 27(3), 112–136. Retrieved from https://www.jstor.org/stable/2673832#metadata_info_tab_contents.
- Bertrand, J., Ross, J., & Glover, A. (2021). Declining yet persistent use of traditional contraceptive methods in low- and middle-income countries. *Journal of Biosocial Science*, 1-18. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/34269170/>
- Bongaarts J. (2011). Can family planning programs reduce high desired family size in Sub-Saharan Africa? *International Perspectives on Sexual and Reproductive Health*, 37(4), 209–216. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/22227628/>
- Central Statistics Organization (CSO), Ministry of Public Health (MoPH), and ICF. 2017. *Afghanistan demographic and health survey 2015*. Kabul, Afghanistan: CSO. Retrieved from https://www.rhsupplies.org/uploads/tx_rhscpublications/Afghanistan - 2017.pdf
- Family Planning 2020 (FP2020). (2021). Afghanistan: commitment maker since 2016. Retrieved from <https://www.familyplanning2020.org/afghanistan>
- Gereltuya, A., Falkingham, J., & Brown, J. (2007). Determinants of current contraceptive use and method choice in Mongolia. *Journal of Biosocial Science*, 39(6), 801–817. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/17445329/>
- Gulati, S.C. (1996). Contraceptive methods use and choice in Kerala and Uttar Pradesh: Multinomial logit analysis of NFHS data. *Demography India*, 25(2):205-220. Retrieved from <https://paa2011.populationassociation.org/papers/110607>
- Hacettepe University Institute of Population Studies. (2014). *2013 Turkey demographic and health survey*. Ankara, Turkey: Hacettepe University Institute of Population Studies, T.R. Ministry of

Development and TÜBİTAK. Retrieved from

<http://www.openaccess.hacettepe.edu.tr:8080/xmlui/handle/11655/23339>

Hakizimana, S. & Odjidja, E.N. (2021). Beyond knowledge acquisition: factors influencing family planning utilization among women in conservative communities in rural Burundi. *Reproductive Health*, 18(1), 94. Retrieved from <https://freemedart.ru/beyond-knowledge-acquisition-factors-influencing-family-planning-utilization-among-women-in-conservative-communities-in-rural-burundi-by-sonia-hakizimana-2/>

International Institute for Population Sciences (IIPS) and Macro International. (2007). *National family health survey (NFHS-3), 2005–06: India: Volume I*. Mumbai: IIPS. Retrieved from <https://dhsprogram.com/pubs/pdf/frind3/frind3-vol1andvol2.pdf>

Islamic Republic of Afghanistan, Ministry of Public Health (MoPH). (2017). *National reproductive, maternal, newborn, child and adolescent health (RMNCAH) strategy 2017–2021*. Kabul, Afghanistan: MoPH. Retrieved from <http://www.rmncah.moph.gov.af/wp-content/uploads/2017/11/National-RMNCAH-Strategy-2017-2021-English-Final.pdf>

Jato, M.N., Simbakalia, C., Tarasevich, J.M., Awasum, D.N., Kihinga C.N.B., & Ngirwamungu, E. (1999). The impact of multimedia family planning promotion on the contraceptive behaviour of women in Tanzania. *International Family Planning Perspectives*, 25(2), 60-67. Retrieved from <https://www.guttmacher.org/journals/ipsrh/1999/06/impact-multimedia-family-planning-promotion-contraceptive-behavior-women>

Juarez, F., Cabigon, J. and S. Singh. High prevalence of traditional methods and unwanted pregnancies: barriers to obtaining family planning services in Philippines. Paper presented at the 2005 Population Association of America Annual Meeting, Philadelphia, Pennsylvania, March 31-April 2, 2005. Retrieved from <https://www.guttmacher.org/sites/default/files/pdfs/pubs/2006/08/08/PhilippinesUPIA.pdf>

Kenya National Bureau of Statistics (KNBS) and ICF Macro. (2010.) *Kenya demographic and health survey 2008-09*. Calverton, Maryland: KNBS and ICF Macro. Retrieved from <https://dhsprogram.com/pubs/pdf/fr229/fr229.pdf>

Mosher WD, Martinez GM, Chandra A, Abma JC, Willson SJ. Use of contraception and use of family planning services in the United States: 1982-2002. *Advance Data*. 2004; 10:1-3] Retrieved from [https://www.scirp.org/\(S\(351jmbntvnsjt1aadkposzje\)\)/reference/referencespapers.aspx?reference_id=105461](https://www.scirp.org/(S(351jmbntvnsjt1aadkposzje))/reference/referencespapers.aspx?reference_id=105461)

Meherali, S., Ali, A., Khaliq, A., & Lassi, Z. S. (2021). Prevalence and determinants of contraception use in Pakistan: trend analysis from the Pakistan Demographic and Health Surveys (PDHS) dataset from 1990 to 2018. *F1000Research*, 10, 790. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/34527219/>

Murarkar, S.K., & Soundale, S.G. (2011). Epidemiological correlates of contraceptive prevalence in married women of reproductive age group in rural area. *National Journal of Community Medicine*, 2(1), 78-81. Retrieved from <https://www.njcmindia.com/index.php/file/article/view/1848>

Olaleye, D.O. & Bankole, A. (1994). The impact of mass media family planning promotion on contraceptive behavior in Ghana. *Population Research and Policy Review*, 13(2), 161-177. Retrieved from <https://link.springer.com/article/10.1007/BF01080201>

- Osmani, A. K., Reyer, J. A., Osmani, A. R., & Hamajima, N. (2015). Factors influencing contraceptive use among women in Afghanistan: secondary analysis of Afghanistan Health Survey 2012. *Nagoya Journal of Medical Science*, 77(4), 551–561. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4664587/>
- Pal, S., & Makepeace, G.H. (2003). Current contraceptive use in India: has the role of women's education been overemphasised? *The European Journal of Development Research*, 15, 146-169. Retrieved from <https://www.semanticscholar.org/paper/Current-Contraceptive-Use-in-India%3A-Has-the-Role-of-Pal-Makepeace/a5b6c831bced105ecddaaa107d165c9d5aa2fab8>
- Prata, N., Sreenivas, A., Greig, F., Walsh, J., & Potts, M. (2010). Setting priorities for safe motherhood interventions in resource-scarce settings. *Health Policy (Amsterdam, Netherlands)*, 94(1), 1–13. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/19773090/>
- Ryerson, W.N. (1994). Population Communications International: Its role in family planning soap operas. *Population and Environment*, 15, 255-264. Retrieved from <https://www.semanticscholar.org/paper/Population-Communications-International%3A-Itsrole-Ryerson/53d4fb2d3abdf2cad77bce15483f8aa2f38b691>
- Salisbury, P., Hall, L., Kulkus, S., Paw, M. K., Tun, N. W., Min, A. M., ... McGready, R. (2016). Family planning knowledge, attitudes and practices in refugee and migrant pregnant and post-partum women on the Thailand-Myanmar border - a mixed methods study. *Reproductive health*, 13(1), 94. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/27543078/>
- Samar, S., Aqil, A., Vogel, J., Wentzel, L., Haqmal, S., Matsunaga, E., ... Abaszadeh, N. (2014). Towards gender equality in health in Afghanistan. *Global Public Health*, 9 Suppl 1, S76–S92. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/25034914/>
- Sarmad, R., Akhtar, S., & Manzoor, S. (2007). Relationship of female literacy to contraceptive use in urban slums of Khushab (Punjab). *Biomedica*, 23, 21-23. Retrieved from <http://www.thebiomedicapk.com/articles/89.pdf>
- Sharma, V., Mohan, U., Das, V., & Awasthi, S. (2012). Socio demographic determinants and knowledge, attitude, practice: survey of family planning. *Journal of Family Medicine and Primary Care*, 1(1), 43–47. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3893950/>
- Shattuck, D., Kerner, B., Gilles, K., Hartmann, M., Ng'ombe, T., & Guest, G. (2011). Encouraging contraceptive uptake by motivating men to communicate about family planning: the Malawi Male Motivator project. *American Journal of Public Health*, 101(6), 1089–1095. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/21493931/>
- Sheikh, S. M., & Loney, T. (2018). Is educating girls the best investment for South Asia? Association between female education and fertility choices in South Asia: a systematic review of the literature. *Frontiers in Public Health*, 6, 172. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/30057895/>
- Srikanthan, A., & Reid, R. L. (2008). Religious and cultural influences on contraception. *Journal of Obstetrics and Gynaecology Canada*, 30(2), 129–137. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/18254994/>
- Tawfik, Y., Rahimzai, M., Ahmadzai, M., Clark, P. A., & Kamgang, E. (2014). Integrating family planning into postpartum care through modern quality improvement: experience from Afghanistan. *Global Health, Science and Practice*, 2(2), 226–233. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4168614/>

United Nations. (2015). Resolution adopted by the General Assembly on 25 September 2015 (A/RES/70/1). Retrieved from https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_70_1_E.pdf

United Nations Department of Economic and Social Affairs, Population Division. (2020a). *World Family Planning 2020 highlights: Accelerating action to ensure universal access to family planning* (ST/ESA/SER.A/450). New York, NY: United Nations. Retrieved from https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/files/documents/2020/Sep/unpd_2020_worldfamilyplanning_highlights.pdf

United Nations Department of Economic and Social Affairs, Population Division. (2020b). Estimates and projections of family planning indicators 2020. Retrieved from https://www.un.org/en/development/desa/population/theme/family-planning/cp_model.asp

United Nations Educational, Scientific and Cultural Organization [UNESCO], 2020 Retrieved from <https://uis.unesco.org/en/country/af?theme=education-and-literacy>

United Nations Population Fund (UNFPA). (2017). *National family planning behavioral study on the use and non-use of contraceptives in Afghanistan*. New York, NY: UNFPA. Retrieved from <https://afghanistan.unfpa.org/sites/default/files/pub-pdf/Behaviour%20Study%20on%20use%20or%20none%20of%20contraceptives%20in%20Afghanistan%20final%20report.pdf>

Valente, T. W., Kim, Y. M., Lettenmaier, C., Glass, W., & Dibba, Y. (1994). Radio promotion of family planning in The Gambia. *International Family Planning Perspectives*, 20(3), 96-100. Retrieved from <https://www.cominit.com/children/content/radio-promotion-family-planning-gambia>

World Bank. (n.d.). Contraceptive prevalence, any method (% of women aged 15-49), 2000–2016. Retrieved from <https://data.worldbank.org/indicator/SP.DYN.CONU.ZS>

World Health Organization [WHO], 2018. Family planning/Contraception Retrieved from <https://apps.who.int/iris/bitstream/handle/10665/260156/9780999203705-eng.pdf>
World Health Organization. Maternal mortality. 2019- Retrieved from <https://www.who.int/news-room/fact-sheets/detail/maternal-mortality>

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