Determinants of Modern Contraceptive Use in Jordan:

Further Analysis of the Jordan Population and Family Health Survey 2017-18

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ABSTRACT

Use of modern contraceptive methods has decreased in Jordan over the past 8 years. Since understanding of modern contraceptive use allows family planning programs to improve messaging and better meet the needs of women, we use data from 12,126 currently married, non-pregnant women interviewed in the 2017-18 Jordan Population and Family Health Survey to identify correlates of contraceptive use. We use multinomial logistic regression models to contrast patterns in modern contraception use with traditional contraception use.

Equal proportions of women in the sample were using no method or a modern method (42%), while 16% were using a traditional method. Contraceptive use differed by all covariates except for experience of domestic violence.

Sociodemographic covariates of age, education, husband's education, governorate, and number of living children were significantly associated with modern contraceptive use, even after controlling for other covariates. Women have a lower risk of using modern methods when they want another child in the next 2 years compared to not wanting any more children, and if their husband wants more children than they do, compared to wanting the same number of children. Discussions with a health-care worker about family planning and being involved in family planning decisions increase a woman's risk of using a modern method. Two additional models included a variable on domestic violence experience, which had no effect on risk of modern method use, and under-5 child health visits, which were associated with an increased likelihood of modern method use. While most covariates had similar patterns of association for modern and traditional method use, some, including husband's education and exposure to FP media messages, were associated with higher risk of modern method use, but not with traditional method use.

This study supports efforts to integrate family planning into other areas of health service delivery, and combine service delivery improvements with efforts that shift gender and empowerment norms and promote women's empowerment and gender equity.

Keywords: Family planning, modern contraceptive use, gender, service delivery, Jordan

ACRONYMS AND ABBREVIATIONS

CPR	contraceptive prevalence rate
DHS	Demographic and Health Survey
FP	family planning
IUD	intrauterine device
JCAP	Jordan Communication and Advocacy Project
JPFHS	Jordan Population and Family Health Survey
mCPR	modern contraceptive prevalence rate
RRR	relative risk ratio
tCPR	traditional contraceptive prevalence rate
TFR	total fertility rate
USAID	United States Agency for International Development

BACKGROUND

Introduction

Family planning (FP) allows women and their partners to manage when and how many children to have over the course of their lives. Benefits include lower rates of pregnancy-related complications and mortality and improved outcomes for babies and children, as well as positive effects on gender empowerment (Starbird, Norton, and Marcus 2016). From 1990 to 2010, use of contraception around the world increased 8.5% (Alkema et al. 2013). In the Middle East in the same period, use of contraception increased 13.4%, while in Jordan the increase was even larger at 18.2% (Alkema et al. 2013).

These trends are reflected in the contraceptive prevalence data from multiple rounds of the Jordan Population and Family Health Survey (JPFHS). Between 1990 and 2012, the JPFHS showed that contraceptive prevalence among married women in Jordan increased from 40% to 61%. During the same period, the modern contraceptive prevalence rate (mCPR) increased from 27% to 43%, while the traditional contraceptive rate (tCPR) increased from 13% to 19%. However, the 2017-18 JPFHS showed slight declines, with an overall contraceptive prevalence of 52%, an mCPR of 37%, and a tCPR of 14% (Department of Statistics (DOS) and ICF 2019). The two methods responsible for these declines – male condom and rhythm method – were not the most used methods in Jordan.

Normally, increased contraceptive prevalence rates would coincide with a decreasing total fertility rate (TFR). However, in Jordan, the TFR remained between 3.8 and 3.5 from 2002 to 2012, and then decreased in 2017-18 to 2.7 (Department of Statistics (DOS) and ICF 2019). This stagnation was the source of much discussion among researchers and stakeholders (Bietsch et al. 2020; Spindler et al. 2017). Multiple factors beyond contraceptive use are at play, including desired family size and rates of infertility (Bietsch et al. 2020).

Bongaarts and Casterline have classified Jordan as a pre-fertility transition country, which means there is little effort to reduce fertility among the population (Bongaarts and Casterline 2018). In fact, the desired number of children has stayed at approximately four since 2012 (Department of Statistics (DOS) and ICF 2019). Jordan is one of only a few countries outside of sub-Saharan Africa in this category.

Family Planning in Jordan

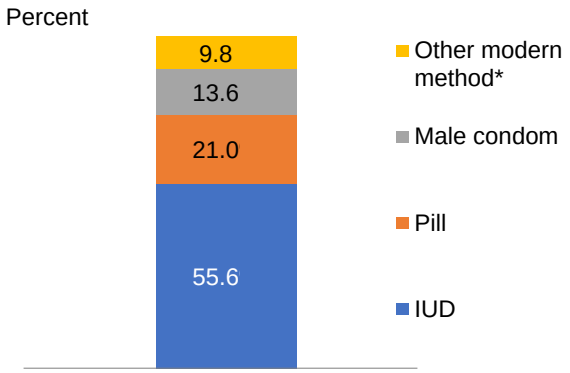
In the past years, measures of FP programming in Jordan have shown improvements. The Family Planning Effort Index measures the strength of national FP programming in a given country (Ross and Stover 2001). In 2014, Jordan scored a 60 out of 100 total possible points, with relatively robust scores across all four components: access, evaluation, policies, and services. The total score is an increase from the 2009 score of 51/100, with the increase due primarily to increases in the services and evaluation components rather than the access and policies components.[1] Significant investments from the United States Agency for

[1] The Family Planning Effort questionnaire and data are available from Avenir Health at http://www.track20.org/pages/data/FPE.

International Development (USAID) for FP programming in Jordan, particularly in service delivery, likely contributed to these improvements (Institute for Reproductive Health 2016).

In Jordan, there is excellent access to family planning. Nearly equal proportions of contraceptive users obtain their method from the private sector as the public sector (Department of Statistics (DOS) and ICF 2019). The Ministry of Health is the main supplier for family planning methods in Jordan. It provides contraceptive supplies to facilities in public and nonprofit sectors, including small NGOs, Noor Al-Hussein Foundation, Royal Medical Services, the Jordanian Association for Family Planning and Protection, the United Nations Relief and Works Agency, university hospitals, and the National Women's Health Care Center (Jordan Communication Advocacy and Policy Activity (JCAP) 2019). However, there is a limited method mix in the country, with the most frequently used methods including IUD (21%), withdrawal (13%), pill (8%), and male condom (5%) (Department of Statistics (DOS) and ICF 2019). Among women who use modern methods, the IUD is the most common (56%), along with the pill (21%) and male condoms (14%) (see Figure 1).

Figure 1 **Modern contraceptive method mix among ever-married women 15-49 using a modern method in Jordan, 2017-18 JPFHS**



**Other modern methods include: male and female sterilization, injectables, implants, female condoms, the lactational amenorrhoea method, and emergency*

Understanding the decreasing contraceptive prevalence rate (CPR) in Jordan can be enhanced by identifying determinants of contraceptive use, both modern and traditional. Research that used an earlier Jordan DHS identified women's location in the Central Region, urban residence, age, and parity as significant differences between modern and traditional contraceptive users (Almalik, Mosleh, and Almasarweh 2018). A more recent study identified husband's agreement on FP, knowledge of modern contraceptives, and lack of awareness of the risk of conception in the postpartum period, FP counseling, and the number of living children as associated with having FP demands satisfied with modern contraceptive methods (Komasawa et al. 2020). General knowledge about contraceptives is an issue in Jordan. A 2015 study found that only two-thirds of women in Jordan believed that modern methods were more effective than traditional methods (Jordan Communication Advocacy and Policy Activity (JCAP) 2015b).

Study Purpose

Given the current trend in FP use in Jordan, this study aims to examine patterns of modern contraception among married women in the country. Our main objective is to identify determinants of modern contraceptive use compared with women who do not use contraception. A secondary objective is to assess how determinants of traditional methods use compare with women who do not use contraception.

The specific research questions are:

1. How do women who are currently using modern contraceptive methods differ from those not using any contraceptive method?

2. How do women who are currently using traditional contraceptive methods differ from those not using any contraceptive method?
3. What programmatic, household, and sociodemographic characteristics are associated with modern and traditional contraceptive use?

This analysis provides valuable information on determinants of modern contraceptive use that will allow Jordan's FP programs to better understand the differences between these groups of women and adapt services to better meet their needs.

DATA AND METHODS

Data

This study used data from the 2017-18 JPFHS—a nationally representative, household survey of 14,689 women age 15-49, and 6,429 men age 15-59. The JPFHS included data on a wide range of sexual and reproductive health, population, maternal and child health, and nutrition indicators. In this study, only currently married, non-pregnant women were included. A total of 12,122 women were included in the analytic sample for the main regression analysis, as shown in Table 1.

Table 1 Weighted sample sizes, 2017-18 JPFHS

Ever-married women interviewed	14,689
Currently married women	13,616
Currently married, non-pregnant women	12,126
Analytic sample for main regression analyses	12,122
Domestic violence subsample	
Ever-married women interviewed	6,852
Currently married women	6,393
Currently married, non-pregnant women	5,723
Analytic sample for regression analyses	5,723
Child health subsample	
Ever-married women interviewed	14,689
Currently married women	13,616
Currently married, non-pregnant women	12,126
Currently married, non-pregnant women with children under 5	5,883
Analytic sample for regression analyses	5,879

Methods

Outcome measures

The primary outcome of this study was modern contraceptive use. Women who answered "no" to the question "Are you or your partner currently doing something or using any method to delay or avoid pregnancy?" were categorized as "not using a method". Women who answered "yes" were categorized as either "using a traditional method" or "using a modern method", depending on the method they are using. The traditional methods reported by women in the Jordan 2017-18 survey include rhythm method and withdrawal, while modern methods in Jordan include intrauterine devices (IUDs), contraceptive pills, female and male condoms, male and female sterilization, the lactational amenorrhea method, injectables, and implants.

Covariates

The following covariates were included in the bivariate and multivariate analyses:

- Sociodemographic/economic covariates
  - *Age.* A categorical variable was created to represent a woman's age.
  - *Education.* A woman's education was grouped by: none, primary and secondary or higher.
  - *Husband's education.* Husband's education was grouped by: none, primary and secondary or higher.

- *Residence*. Location of residence was categorized as urban or rural.
- *Governorate*. Women were categorized by the Governorate in which they live.
- *Household wealth quintile.* Wealth quintiles are constructed with information from the household interview about household characteristics and household assets.
- *Employment status*. A woman is coded as currently working if she reports having done any work in the previous 7 days, other than her own housework. Women who are not currently working are the reference category.
- *Number of living children.* The number of a woman's living children was included as a continuous variable.

▪ Fertility intention covariates
- *Desire for another child*. Women were grouped into one of five categories. First, women who indicated that they wanted no more children or who had been sterilized or whose partner had been sterilized, were categorized as "not wanting a(nother) child." The second category identified women who indicated they wanted a(nother) child within the next 2 years. Third, those who wanted a child after 2 years, wanted a child but were unsure about timing, and those who were undecided were categorized as "wants later." Fourth, women who had been declared infecund were categorized as "infecund." Finally, women who were undecided about a(nother) child were categorized as "undecided."
- *Ideal number of children*. Women were asked to name the number of children that they would choose if they could choose the exact number of children to have in their entire life. These options were grouped into the following: "0", "1-2", "3-4", or "5+".
- *Spousal agreement on family size.* Women were asked if their husband wants the same number of children, more children, fewer children, or if they do not know their husband's preference.

▪ Engagement with health system and health messages
- *Discussed FP with a health care worker.* Women who visited a health facility in the previous 12 months and were told about FP at the facility were categorized as "yes", while women who visited a health facility in the last 12 months and were not told about FP at the facility or women who did not visit a health facility in the last 12 months were categorized as "no".
- *Exposure to FP messages.* Women were categorized as "yes" if they had heard or seen FP messages on the radio, on TV, in newspaper/magazines, or via text messages in the last few months.
- *Any child health visit (subpopulation).* Women with children under age 5 were categorized as having received any child health visit if their child had any one of the following: a baby-focused postnatal care visit for their last pregnancy, or a visit to a health care provider for diarrhea or fever/cough in the past 2 weeks.

▪ Empowerment
- *Decision making about contraceptive use or nonuse.* Women were categorized into one of four groups. They were categorized as having sole decision making if they make contraceptive decisions alone, and categorized as having joint decision making if they state that it is mainly a joint decision with their husbands. If the main decision maker is the husband or someone else, women were categorized as having someone else making the decision to use or not use contraception.

- Domestic violence
  - *Any domestic violence (subpopulation).* Women were categorized as having experienced any domestic violence if they responded yes to having any experience of physical, emotional, or sexual violence by their husband or partner in the past 12 months.

Analysis

In this study, we present differentials and determinants of modern and traditional contraceptive use among currently married, non-pregnant women in Jordan. We examine if sociodemographic, fertility, and decision-making differentials in modern contraceptive use are statistically significant using a chi-square ($\chi 2$) test of independence for categorical variables and one-way ANOVA for continuous variables. Next, we identify factors associated with the use of modern contraceptive methods by estimating multivariable multinomial logistic regression models. Although the primary aim of this study is to identify determinants of modern contraceptive use, previous research has shown that there are important differences between traditional method users and nonusers (Rossier and Corker 2017). Therefore, combining these two groups could potentially bias our results. Our main multinomial model uses a three-category outcome for contraceptive use: uses any modern method of contraception, uses any traditional method, and uses no method of contraception. The "No method of contraception" group is used as the reference group.

Three separate models are estimated: first with the full analytic sample, second with only the subsample of women selected to participate in the domestic violence module, and the last with the subsample of women who have children under age 5.

All potential covariates were tested for collinearity. Several expected correlations were identified, specifically among age, number of living children, desire for more children, and among the woman's and husband's education. For each, the degree of correlation was small ($r \leq 0.53$) and all variables were retained. All data are weighted and robust standard errors were computed to account for the clustered sampling design.

For all multinomial regressions, we present relative risk ratios (RRRs), which, like odds ratios, are the exponentiated coefficient β. We present adjusted RRRs from multivariable models that control for multiple factors simultaneously. Significant associations are defined as those with a p-value less than 0.05.

RESULTS

Sample Characteristics

Table 2 shows the characteristics of the respondents. Equal proportions of women use modern contraception and use no method of contraception (42%), while only 16% of women use traditional methods of contraception. Most women (91%) and their husbands (88%) have a secondary level of education or higher. Most women (90%) live in urban areas of Jordan, and 40% live in the Amman Governorate. Only 14% of women are currently working.

Table 2 Background characteristics of study population, 2017-18 JPFHS (N=12,126)

	%	N (weighted)
Contraceptive use		
Modern contraception	42.1	5,105
Traditional contraception	16.1	1,952
No contraception	41.8	5,069
Age		
15-24	10.7	1,299
25-29	15.7	1,902
30-34	18.4	2,227
35-39	18.8	2,281
40-44	18.6	2,259
45-49	17.8	2,160
Education		
None	2.1	254
Primary	7.0	844
Secondary or higher	90.9	11,029
Husband's highest education (N=12,122)		
None	2.5	306
Primary	9.4	1,138
Secondary or higher	88.1	10,678
Residence		
Urban	89.7	10,883
Rural	10.3	1,243
Governorate		
Amman	40.2	4,872
Balqa	5.0	609
Zarqa	14.5	1,763
Madaba	2.2	272
Irbid	17.7	2,143
Mafraq	5.7	691
Jarash	2.9	349
Ajloun	2.2	268
Karak	3.8	465
Tafiela	1.5	179
Ma'an	1.7	205
Aqaba	2.6	311
Employment status		
Not currently working	86.4	10,478
Currently have a job	13.6	1,649
Household wealth quintile		
Lowest	19.0	2,310
Second	21.0	2,541
Middle	21.2	2,571
Fourth	20.9	2,536
Highest	17.9	2,168

Continued…

Table 2—*Continued*

	%	N (weighted)
Ideal number of children		
0	4.8	578
1-2	14.6	1,772
3-4	54.2	6,570
5+	26.4	3,206
Desire for another child		
Want no more children	52.0	6,310
Want more children	48.0	5,817
Desire for another child		
Want no more children	52.0	6,310
Yes, within 2 yrs	17.6	2,135
Yes, later/sometime	16.5	1,995
Infecund	7.7	929
Undecided	6.2	758
Spousal agreement on family size		
Both want same	58.9	7,145
Husband wants more	26.3	3,187
Husband wants fewer	9.0	1,087
Don't know	5.8	707
Discussed FP with health worker		
No	79.4	9,622
Yes	20.6	2,504
Exposure to FP media messages		
No FP messages seen/heard	20.2	2,444
Heard FP media messages	79.8	9,682
Decision making on FP		
Self	9.8	1,188
Joint with husband	81.3	9,858
Husband or other	8.8	1,066
Ever used any contraceptive method		
No	25.6	3,108
Yes	74.4	9,019
Number of living children (mean)	3.28	
Interpersonal violence (subset of women who had DV module), N=5,723		
Ever experienced any physical or sexual or emotional violence	24.9	1,425
No physical, sexual, or emotional violence	75.1	4,298
Child Health visits (subset of women with children under 5), N=5,883		
Have had CH visit	57.9	3,406
Have not had CH visit	42.1	2,477

Slightly more than half (54%) of women report that the ideal number of children is three or four, while the mean number of children is just over three. Just over half (52%) of women want no more children. A slight majority (59%) of women say that their husband wants the same number of children as themselves.

Most women (80%) had heard or seen FP messages recently, although only 21% of women had discussed FP with a health worker in the last 12 months. Over 81% of women report that decision making for FP was done jointly with her husband. Nearly three-quarters of the women (74%) have ever used any contraceptive method.

In the subsample of women who responded to the domestic violence module, three-quarters (75%) have not experienced any physical, sexual, or emotional violence.

In the subsample of women with children under 5, 58% have had a child health visit.

Determinants of Modern and Traditional Contraceptive Use

Bivariate associations

Table 3 displays bivariate associations between current contraceptive use status and covariates. All covariates were statistically significantly associated with current contraceptive use status, except for experience of domestic violence. Use of modern methods is lowest for women 15-24 (29%), and increases until the 40-44 age group, at which point it decreases. Use of modern methods ranges from 28% in Ma'an Governorate to 47% in Jarash Governorate. The mean number of living children differed significantly by current contraceptive status (2.6 vs 3.5 vs 3.8; $p<0.001$). Fertility intentions, which were captured by a woman's and husband's desire for another child, are also statistically different by current contraceptive use status. Women who wanted no more children had the highest proportion of modern contraceptive use (55%), while 18% of women who want a(nother) child within 2 years were using a modern method. Nearly half (49%) of women who had discussed FP with a health worker were using a modern method of contraception, while 33% of this group of women were not using any contraception, and only 18% of women were using a traditional form of contraception, and these differences were statistically different. Exposure to FP media and current contraceptive use status were statistically significantly associated, as was decision making on FP. Just over half (53%) of women who were not involved in FP decisions were not currently using contraception, while 15% were using traditional methods, and 31% were using modern methods.

Among women with children under age 5, current contraceptive use status differed significantly ($p<0.05$) by child health visit. Half (50%) of women with at least one child under age 5 who had a child health visit were using a modern contraceptive method, 20% were using a traditional method, while 30% were using no contraception.

Table 3 Cross-tabulation of study population characteristics by current contraceptive use status, 2017-18 JPFHS (N=12,126)

	No method		Traditional method		Modern method		
Characteristic	**% (row)**	**95% CI**	**% (row)**	**95% CI**	**% (row)**	**95% CI**	**p-value**
Age							***
15-24	55.7	[51.3-59.9]	15.0	[12.5-17.9]	29.3	[25.7-33.3]	
25-29	38.6	[35.4-41.9]	17.8	[15.3-20.6]	43.6	[40.4-46.7]	
30-34	39.0	[35.8-42.3]	18.4	[15.9-21.3]	42.6	[39.4-45.8]	
35-39	35.3	[32.1-38.6]	15.1	[12.9-17.7]	49.6	[46.3-52.8]	
40-44	36.8	[33.5-40.1]	16.5	[14.1-19.1]	46.8	[43.6-50.0]	
45-49	51.3	[47.5-55.2]	13.8	[11.6-16.2]	34.9	[31.6-38.4]	
Education							***
None	66.7	[58.4-74.1]	9.2	[5.3-15.5]	24.1	[18.0-31.3]	
Primary	52.8	[47.8-57.8]	12.2	[9.4-15.6]	35.0	[30.6-39.6]	
Secondary+	40.4	[38.7-42.1]	16.6	[15.5-17.8]	43.0	[41.4-44.6]	
Husband's education							***
None	71.6	[63.7-78.4]	5.9	[2.9-11.6]	22.5	[17.2-28.8]	
Primary	46.7	[42.5-51.0]	15.4	[12.2-19.2]	37.9	[33.8-42.3]	
Secondary+	40.4	[38.7-42.1]	16.5	[15.4-17.7]	43.1	[41.5-44.7]	
Residence							*
Urban	42.0	[40.2-43.8]	15.7	[14.6-16.9]	42.3	[40.7-43.9]	
Rural	40.1	[36.8-43.5]	20.0	[17.5-22.7]	39.9	[36.6-43.3]	

Continued…

Table 3—*Continued*

Characteristic	No method		Traditional method		Modern method		
	% (row)	95% CI	% (row)	95% CI	% (row)	95% CI	p-value
Governorate							***
Amman	42.4	[38.8-46.0]	14.6	[12.6-16.9]	43.0	[40.0-46.0]	
Balqa	50.8	[46.2-55.4]	12.9	[10.4-16.0]	36.2	[32.2-40.4]	
Zarqa	39.4	[36.2-42.6]	16.6	[14.1-19.5]	44.0	[40.8-47.3]	
Madaba	47.0	[43.3-50.6]	11.9	[9.7-14.7]	41.1	[37.8-44.5]	
Irbid	39.7	[36.6-42.8]	18.1	[15.6-20.9]	42.3	[38.6-46.0]	
Mafraq	41.0	[37.7-44.4]	21.9	[19.7-24.4]	37.1	[33.9-40.3]	
Jarash	35.4	[32.2-38.7]	17.2	[14.8-19.8]	47.4	[44.2-50.6]	
Ajloun	35.5	[32.0-39.0]	19.0	[16.5-21.7]	45.6	[42.6-48.6]	
Karak	42.4	[37.8-47.1]	17.1	[14.3-20.2]	40.5	[36.6-44.5]	
Tafiela	34.4	[30.4-38.6]	20.2	[17.3-23.4]	45.4	[41.5-49.4]	
Ma'an	55.3	[50.6-59.8]	16.7	[13.2-20.8]	28.0	[23.5-33.1]	
Aqaba	48.7	[43.2-54.2]	13.4	[10.6-16.8]	37.9	[33.7-42.4]	
Employment status							*
Not currently working	41.3	[39.7-43.0]	15.8	[14.8-16.9]	42.8	[41.2-44.5]	
Currently have a job	44.7	[39.8-49.8]	18.2	[15.0-22.0]	37.0	[33.3-41.0]	
Household wealth quintile							*
Lowest	44.3	[41.6-47.0]	15.2	[13.4-17.2]	40.5	[37.8-43.2]	
Second	41.8	[39.1-44.6]	16.4	[14.4-18.8]	41.7	[39.0-44.5]	
Middle	39.0	[35.8-42.3]	18.3	[16.2-20.6]	42.7	[39.8-45.7]	
Fourth	39.4	[36.1-42.7]	17.5	[15.3-20.1]	43.1	[39.9-46.4]	
Highest	45.3	[40.5-50.2]	12.7	[10.1-15.7]	42.1	[37.8-46.5]	
Number of living children (mean)	2.6	[2.5-2.7]	3.5	[3.4-3.6]	3.8	[3.8-3.9]	***
Ideal number of children							**
0	50.6	[44.6-56.6]	13.2	[9.9-17.4]	36.1	[31.1-41.5]	
1-2	43.8	[39.7-47.9]	13.4	[11.2-15.9]	42.8	[39.0-46.8]	
3-4	40.3	[38.3-42.4]	17.8	[16.3-19.3]	41.9	[40.0-43.9]	
5+	42.2	[39.5-45.0]	14.9	[13.2-16.7]	42.9	[40.3-45.5]	
Desire for another child							***
Want no more children	27.2	[25.3-29.2]	18.2	[16.8-19.8]	54.5	[52.4-56.6]	
Yes, within 2 yrs	71.1	[68.1-73.9]	11.0	[9.1-13.2]	17.9	[15.6-20.5]	
Yes, later/sometime	36.7	[32.8-40.8]	21.2	[18.6-24.1]	42.0	[38.7-45.4]	
Infecund	82.0	[77.3-86.0]	5.8	[3.5-9.4]	12.2	[9.4-15.6]	
Undecided	44.6	[38.6-50.8]	12.6	[9.7-16.2]	42.8	[37.3-48.5]	
Spousal agreement on family size							***
Both want same	38.9	[37.1-40.8]	17.1	[15.7-18.5]	44.0	[42.1-46.0]	
Husband wants more	47.3	[44.1-50.5]	15.9	[14.0-18.1]	36.8	[33.9-39.8]	
Husband wants fewer	42.6	[37.9-47.3]	17.0	[13.7-21.0]	40.4	[35.8-45.2]	
Don't know	45.1	[39.7-50.7]	6.3	[4.3-9.1]	48.6	[43.1-54.1]	
Discussed FP with health worker							***
No	44.1	[42.5-45.8]	15.7	[14.5-16.9]	40.2	[38.6-41.8]	
Yes	32.9	[29.5-36.5]	18.0	[15.8-20.5]	49.1	[45.6-52.6]	
Exposure to FP media messages							***
No FP messages seen/heard	48.2	[45.1-51.4]	14.3	[12.3-16.7]	37.4	[34.6-40.4]	
Heard FP media messages	40.2	[38.4-42.0]	16.6	[15.5-17.8]	43.2	[41.6-44.9]	
Decision making on FP							***
Self	50.4	[46.0-54.7]	10.5	[8.1-13.5]	39.2	[35.1-43.4]	
Joint with husband	39.5	[37.8-41.3]	16.9	[15.8-18.1]	43.6	[41.9-45.2]	
Husband/other	53.4	[48.2-58.6]	15.3	[12.5-18.7]	31.3	[27.4-35.5]	
Total	41.8	[40.2-43.5]	16.1	[15.1-17.3]	42.1	[40.1-43.6]	

Continued…

Table 3—*Continued*

Characteristic	No method		Traditional method		Modern method		p-value
	% (row)	95% CI	% (row)	95% CI	% (row)	95% CI	
Interpersonal violence (subset of women who had DV module) n=5,723							0.65
Ever experienced any physical or sexual or emotional violence	43.8	[40.1-47.7]	14.6	[12.0-17.7]	41.6	[37.4-45.9]	
No physical, sexual, or emotional violence	42.3	[39.7-44.9]	16.1	[14.5-17.8]	41.6	[39.3-44.0]	
Total	42.7	[40.5-44.8]	15.7	[14.3-17.2]	41.6	[39.6-43.7]	
Child Health visits (subset of women with children) n=5,883							*
Have had CH visit	29.7	[27.1-32.3]	20.1	[17.9-22.5]	50.2	[47.6-52.8]	
Have not had CH visit	35.0	[32.1-37.9]	18.8	[16.7-21.0]	46.3	[43.5-49.1]	
Total	31.9	[30.0-33.9]	19.6	[18.0-21.3]	48.6	[46.5-50.6]	

*p<0.05; **p<0.01; *** p<0.001

Multivariable associations

Results of the main multivariable multinomial logistic regression for modern contraceptive use are shown in Table 4. The reference category of the outcome is no contraceptive use, against which we compare modern contraceptive use and use of traditional contraceptives. Results are presented as relative risk ratios.

In the main model, after controlling for other factors, women's age below age 40 showed limited association with modern contraceptive use, with only women age 25-29 having 1.4 times the risk of using a modern method compared to women age 15-24. The two age groups over 40 (40-44 and 45-49) both had lower risk of using a modern method compared to women age 15-24 (age 40-44, 46% lower risk; age 45-49, 73% lower risk). There is a similar pattern with traditional contraceptive use, with older women having lower risk of using a traditional method (age 35-39, 32% lower risk; age 40-44, 40% lower risk; 45-49, 64% lower risk) compared to women age 15-24.

Table 4 Covariates associated with use of modern or traditional contraception, 2017-18 JPFHS. Results of main multinomial logistic regression (N=12,122)

	Main model (N= 12,122)			
	Modern method (ref: No contraceptive method)		Traditional method (ref: No contraceptive method)	
	Adjusted RRR	CI	Adjusted RRR	CI
Age				
15-24	ref		ref	
25-29	1.39*	1.08 - 1.78	1.19	0.87 - 1.64
30-34	0.98	0.75 - 1.29	1.01	0.74 - 1.38
35-39	0.79	0.59 - 1.05	0.68*	0.48 - 0.96
40-44	0.54***	0.40 - 0.74	0.60**	0.41 - 0.87
45-49	0.27***	0.19 - 0.38	0.36***	0.24 - 0.54
Education				
None	ref		ref	
Primary	1.49	0.93 - 2.37	1.08	0.54 - 2.15
Secondary+	2.43***	1.57 - 3.78	1.87	0.97 - 3.62
Husband's education				
None	ref		ref	
Primary	1.38	0.86 - 2.24	2.36	0.98 - 5.65
Secondary+	1.82**	1.20 - 2.76	2.72*	1.15 - 6.44
Residence				
Urban	ref		ref	
Rural	0.97	0.77 - 1.21	1.21	0.96 - 1.54
Governorate				
Amman	ref		ref	
Balqa	0.79	0.61 - 1.01	0.81	0.57 - 1.15
Zarqa	0.95	0.76 - 1.19	1.08	0.80 - 1.45
Madaba	0.90	0.71 - 1.14	0.72	0.50 - 1.04
Irbid	0.92	0.73 - 1.15	1.19	0.90 - 1.58
Mafraq	0.80	0.62 - 1.04	1.41*	1.05 - 1.89
Jarash	1.07	0.83 - 1.38	1.16	0.85 - 1.58
Ajloun	1.03	0.80 - 1.33	1.26	0.91 - 1.74
Karak	0.92	0.70 - 1.21	1.02	0.72 - 1.43
Tafiela	1.32*	1.01 - 1.73	1.74***	1.26 - 2.39
Ma'an	0.67*	0.50 - 0.91	1.08	0.70 - 1.65
Aqaba	0.95	0.70 - 1.28	0.93	0.63 - 1.39
Employment status				
Not currently working	ref		ref	
Currently have a job	0.89	0.73 - 1.09	1.19	0.90 - 1.58
Household wealth quintile				
Lowest	ref		ref	
Second	1.06	0.88 - 1.28	1.08	0.85 - 1.38
Middle	1.18	0.97 - 1.45	1.27	0.99 - 1.64
Fourth	1.14	0.90 - 1.45	1.27	0.94 - 1.70
Highest	1.15	0.88 - 1.51	0.96	0.67 - 1.37
Number of living children	1.41***	1.33 - 1.49	1.31***	1.22 - 1.41
Ideal number of children				
0	ref		ref	
1-2	1.55*	1.08 - 2.22	1.19	0.75 - 1.88
3-4	1.54**	1.12 - 2.12	1.59*	1.05 - 2.41
5+	1.35	0.97 - 1.88	1.18	0.77 - 1.81
Desire for another child				
Want no more children	ref		ref	
Yes, within 2 years	0.17***	0.14 - 0.22	0.27***	0.20 - 0.36
Yes, later/sometime	0.56***	0.45 - 0.70	0.76*	0.58 - 0.99
Infecund	0.13***	0.09 - 0.18	0.17***	0.10 - 0.30
Undecided	0.49***	0.37 - 0.65	0.43***	0.30 - 0.63

Continued…

Table 4—*Continued*

	Main model (N= 12,122)			
	Modern method (ref: No contraceptive method)		Traditional method (ref: No contraceptive method)	
	Adjusted RRR	CI	Adjusted RRR	CI
Spousal agreement on family size				
Both want same	ref		ref	
Husband wants more	0.73***	0.62 - 0.88	0.85	0.69 - 1.05
Husband wants fewer	0.77*	0.61 - 0.99	0.90	0.67 - 1.21
Don't know	1.15	0.88 - 1.50	0.41***	0.26 - 0.64
Discussed FP with a health worker				
No	ref		ref	
Yes	1.51***	1.26 - 1.81	1.36**	1.11 - 1.68
Exposure to FP media messages				
No FP messages seen/heard	ref		ref	
Heard FP media messages	1.19*	1.01 - 1.40	1.16	0.94 - 1.43
Decision making on FP				
Self	ref		ref	
Joint with husband	1.38**	1.10 - 1.73	1.92***	1.39 - 2.66
Husband/other	0.90	0.65 - 1.25	1.62*	1.04 - 2.52

*p<0.05; **p<0.01; *** p<0.001

Education, both of the woman and her husband, is positively associated with modern method use. Women with a secondary or higher level of education have 2.4 times the risk of using a modern method compared to women with no education, while women whose husband has a secondary or higher level of education have 1.8 times the risk of using a modern method compared to husbands with no education. There was no difference in risk of traditional method use by woman's education, although women whose husbands had a secondary and higher level of education had higher risk (2.7 RRR) of using traditional methods compared to husbands with no education.

Specific governorates have a higher or lower risk of contraceptive use compared to Amman, although the results are not consistent across the two types of methods. Compared with the Amman Governorate, Ma'an have a lower risk (0.67 RRR) of modern contraceptive use while Tafiela has higher risk (1.32 RRR). Women in both Mafraq and Tafiela have increased risk of traditional contraceptive use (Mafraq: 1.4 RRR; Tafiela: 1.7 RRR) when compared to women in Amman.

Risk of modern contraceptive use and risk of traditional contraceptive use do not differ by employment status, place of residence, or household wealth quintile.

The number of living children has a positive association with both modern and traditional contraceptive methods. For each additional living child, a woman's risk of using modern contraception increases 1.4 times, while her risk of using traditional contraception increases 1.3 times.

Women whose ideal number of children was one to two (1.6 RRR) or three to four (1.5 RRR) children have higher risk of using a modern method compared to women who ideally wanted no children. Women who reported that the ideal number of children is three to four children have 1.6 times higher risk of using a traditional method compared to women who ideally wanted no children.

Women who report wanting another child within 2 years have lower risk of using either modern or traditional methods compared to women to want no more children (modern: 83% lower risk; traditional: 73% lower risk). Wanting another child later/sometime has a 44% lower risk of modern method use while for traditional methods these women have a 24% lower risk compared with women who want no more children. Women who are undecided about having another child have 51% and 57% lower risk of modern and traditional method use, respectively, when compared with women who want no more children. Women who report that their husband wants more children than they do have 27% lower risk and women who report that their husband wants fewer children than they do have 23% lower risk of using modern methods compared to women who reported that they want the same number of children as their husband, while there is no difference in the risk of traditional method use in either category. However, women who do not know what their husband's ideal number of children is have a 60% lower risk of using traditional methods of contraception compared to women who reported the same as their husband.

Having discussed FP with a health worker has a positive association with both modern and traditional contraceptive methods compared to nonusers. Women who discussed FP with a health worker had a 1.5 times higher risk of using modern contraception, and a 1.4 times higher risk of using traditional contraception compared to women who did not have a discussion on FP with a health worker.

Exposure to FP media messages and decision making on FP are positively associated with modern method use. Women who had heard FP media messages have 1.2 times the risk of modern contraceptive use compared to women who had not, and women who make decisions on FP jointly with their husband have a 1.4 times higher risk of modern method use compared to women who make FP decisions alone. Similarly, women who make decisions about FP jointly with their husbands have 1.9 times higher risk and women who are not involved in their FP use decisions have a 1.6 times higher risk of traditional method use compared to women who make their own FP decisions.

Table 5 presents the multivariable multinomial logistic regression models for the two subpopulations. In the subpopulation of women who responded to the domestic violence module, many of the same covariates are significantly associated with modern or traditional contraceptive method use. A few covariates lost their significance in this subpopulation. Notably, spousal agreement on family size lost all significance with any form of contraceptive use, decision maker for FP lost its association with modern method use, and discussion of FP with health worker lost its association with traditional method use. Modern or traditional method use did not differ from nonusers by experience of domestic violence.

Similarly, in the subpopulation of women with living children under age 5, the same patterns of significant covariates emerge, with a few exceptions. Husband's education lost its association with both types of contraceptive use, while decision maker for FP lost its association with modern contraceptive use and discussion of FP with health worker lost its association with traditional method use. In this subpopulation, women living in rural areas have 1.5 times higher risk of using traditional methods compared to women living in urban areas. There is no significant difference in modern method use by residence (urban/rural). Women who had a child health visit had 1.3 times higher risk of modern method use compared with women who did not have a child health visit. Traditional method use did not differ by a child health visit.

Table 5 Covariates associated with use of modern or traditional contraception, 2017-18 JPFHS. Results of multinomial logistic regression models with domestic violence and child health subpopulations

	Domestic violence module subpopulation (N= 5,723)				Child health visit subpopulation (N=5,879)			
	Modern method (ref: No contraceptive method)		Traditional method (ref: No contraceptive method)		Modern method (ref: No contraceptive method)		Traditional method (ref: No contraceptive method)	
	Adjusted RRR	CI	Adjusted RRR	CI	Adjusted RRR	CI	Adjusted RRR	CI
Age								
15-24	ref		ref		ref		ref	
25-29	1.42	0.96 - 2.10	1.33	0.79 - 2.23	1.16	0.88 - 1.54	1.07	0.76 - 1.51
30-34	0.98	0.65 - 1.45	1.22	0.74 - 2.01	0.88	0.64 - 1.19	0.97	0.69 - 1.38
35-39	0.78	0.51 - 1.21	0.72	0.41 - 1.28	0.79	0.55 - 1.14	0.66	0.43 - 1.03
40-44	0.45**	0.28 - 0.73	0.55*	0.31 - 0.99	0.51**	0.32 - 0.81	0.70	0.42 - 1.19
45-49	0.29***	0.17 - 0.48	0.39**	0.21 - 0.75	0.20***	0.09 - 0.43	0.26**	0.10 - 0.71
Education								
None	ref		ref		ref		ref	
Primary	2.27*	1.09 - 4.75	1.12	0.45 - 2.81	1.51	0.76 - 3.01	1.31	0.51 - 3.37
Secondary+	3.80***	1.90 - 7.60	2.58*	1.20 - 5.52	2.08*	1.09 - 4.00	1.96	0.78 - 4.95
Husband's education								
None	ref		ref		ref		ref	
Primary	1.41	0.65 - 3.10	3.83**	1.53 - 9.59	1.13	0.56 - 2.28	1.54	0.67 - 3.56
Secondary+	1.28	0.63 - 2.60	3.78**	1.62 - 8.82	1.48	0.77 - 2.82	1.83	0.81 - 4.16
Residence								
Urban	ref		ref		ref		ref	
Rural	0.96	0.72 - 1.29	1.22	0.84 - 1.78	1.03	0.80 - 1.32	1.54**	1.15 - 2.06
Governorate								
Amman	ref		ref		ref		ref	
Balqa	1.15	0.83 - 1.60	0.88	0.57 - 1.38	0.70	0.49 - 1.00	0.70	0.43 - 1.15
Zarqa	1.18	0.86 - 1.61	1.38	0.94 - 2.04	0.96	0.71 - 1.30	1.03	0.69 - 1.54
Madaba	0.98	0.68 - 1.40	0.59*	0.36 - 0.98	1.02	0.75 - 1.40	0.74	0.47 - 1.17
Irbid	1.04	0.76 - 1.44	1.20	0.81 - 1.78	1.06	0.78 - 1.44	1.42	0.97 - 2.07
Mafraq	0.94	0.64 - 1.37	1.71*	1.12 - 2.61	0.95	0.68 - 1.34	1.62*	1.09 - 2.42
Jarash	1.43	0.99 - 2.06	1.48	0.97 - 2.25	1.07	0.75 - 1.52	1.36	0.90 - 2.07
Ajloun	1.08	0.75 - 1.55	1.45	0.96 - 2.19	1.19	0.85 - 1.66	1.34	0.87 - 2.06
Karak	1.04	0.71 - 1.52	1.19	0.75 - 1.88	1.00	0.69 - 1.44	1.12	0.70 - 1.81
Tafiela	1.48*	1.03 - 2.14	2.53***	1.64 - 3.90	1.25	0.86 - 1.82	1.72*	1.13 - 2.61
Ma'an	0.66	0.43 - 1.04	1.09	0.63 - 1.88	0.60*	0.39 - 0.91	1.07	0.58 - 1.96
Aqaba	0.91	0.62 - 1.33	0.87	0.51 - 1.46	0.96	0.68 - 1.35	0.91	0.58 - 1.45
Employment status								
Not currently working	ref		ref		ref		ref	
Currently have a job	0.89	0.67 - 1.18	1.02	0.69 - 1.51	0.95	0.71 - 1.26	1.30	0.88 - 1.91
Household wealth quintile								
Lowest	ref		ref		ref		ref	
Second	0.99	0.73 - 1.34	0.89	0.59 - 1.33	1.13	0.88 - 1.46	1.21	0.91 - 1.63
Middle	1.28	0.95 - 1.74	1.25	0.83 - 1.86	1.31*	1.00 - 1.71	1.37*	1.00 - 1.86
Fourth	1.16	0.82 - 1.64	1.30	0.88 - 1.91	1.16	0.86 - 1.56	1.21	0.82 - 1.78
Highest	1.34	0.91 - 1.98	1.14	0.69 - 1.90	0.83	0.58 - 1.20	0.67	0.40 - 1.11
Number of living children	1.36***	1.24 - 1.50	1.26***	1.13 - 1.41	1.18***	1.08 - 1.30	1.10	0.99 - 1.23
Ideal number of children								
0	ref		ref		ref		ref	
1-2	1.94*	1.12 - 3.36	1.33	0.69 - 2.55	1.43	0.87 - 2.35	1.62	0.90 - 2.92
3-4	1.69*	1.01 - 2.80	2.05*	1.12 - 3.78	1.42	0.90 - 2.24	1.97*	1.13 - 3.43
5+	1.53	0.91 - 2.57	1.72	0.95 - 3.12	1.52	0.95 - 2.44	1.72	0.98 - 3.04
Desire for another child								
Want no more children	ref		ref		ref		ref	
Yes, within 2 years	0.18***	0.12 - 0.25	0.21***	0.14 - 0.33	0.26***	0.19 - 0.36	0.46***	0.31 - 0.68
Yes, later/sometime	0.57**	0.40 - 0.80	0.69	0.47 - 1.01	0.55***	0.42 - 0.71	0.74	0.53 - 1.03
Infecund	0.11***	0.07 - 0.18	0.16***	0.08 - 0.31	0.15***	0.08 - 0.30	0.06***	0.03 - 0.15
Undecided	0.43***	0.26 - 0.70	0.42**	0.23 - 0.77	0.47***	0.34 - 0.65	0.43***	0.28 - 0.65

Continued…

Table5—*Continued*

	Domestic violence module subpopulation (N= 5,723)				Child health visit subpopulation (N=5,879)			
	Modern method (ref: No contraceptive method)		Traditional method (ref: No contraceptive method)		Modern method (ref: No contraceptive method)		Traditional method (ref: No contraceptive method)	
	Adjusted RRR	CI	Adjusted RRR	CI	Adjusted RRR	CI	Adjusted RRR	CI
Spousal agreement on family size								
Both want same	ref		ref		ref		ref	
Husband wants more	0.82	0.63 - 1.05	0.89	0.66 - 1.20	0.82	0.65 - 1.03	0.93	0.71 - 1.23
Husband wants fewer	0.78	0.55 - 1.11	0.72	0.47 - 1.11	0.67**	0.51 - 0.90	0.77	0.53 - 1.13
Don't know	1.30	0.86 - 1.96	0.56	0.31 - 1.01	1.23	0.79 - 1.92	0.66	0.37 - 1.17
Discussed FP with a health worker								
No	ref		ref		ref		ref	
Yes	1.73***	1.33 - 2.25	1.24	0.91 - 1.71	1.27*	1.00 - 1.61	1.22	0.95 - 1.56
Exposure to FP media messages								
No FP messages seen/heard	ref		ref		ref		ref	
Heard FP media messages	0.99	0.77 - 1.27	0.93	0.68 - 1.27	1.11	0.88 - 1.40	0.92	0.70 - 1.22
Decision making on FP								
Self	ref		ref		ref		ref	
Joint with husband	1.24	0.90 - 1.70	1.73*	1.09 - 2.77	1.40	0.99 - 1.98	1.91**	1.26 - 2.90
Husband/other	0.88	0.55 - 1.40	1.39	0.74 - 2.63	0.90	0.57 - 1.42	1.74	0.96 - 3.16
Domestic violence								
No physical, sexual, or emotional violence	ref		ref					
Ever experienced any physical or sexual or emotional violence	0.93	0.73 - 1.18	0.94	0.70 - 1.27				
Child Health visits								
No child health visit					ref		ref	
Have had child health visit					1.28**	1.07 - 1.54	1.25	0.99 - 1.59

*p<0.05; **p<0.01; *** p<0.001

DISCUSSION

This study aimed to identify factors associated with the use of modern contraception. In the primary multivariate analysis, we find that age, education, husband's education, governorate, number of living children, ideal number of children, fertility desires, spousal agreement on ideal number of children, discussing FP with a health worker, exposure to FP messages, and engagement in decision making on FP are important correlates of modern contraceptive use, even after controlling for other factors. Experiences of domestic violence were not significantly associated with modern or traditional contraceptive use among women who responded to the domestic violence module. Child health visits were significantly associated with modern contraceptive use among women with children under age 5.

Our study demonstrates that sociodemographic factors play a key role in modern contraceptive use in Jordan. Increasing age has a negative influence on the risk of modern contraceptive use, which highlights the importance of the Jordanian societal expectation to bear children, often earlier in life (Jordan Communication Advocacy and Policy Activity (JCAP) 2015; Kridli and Libbus 2001). As women get older, they may also stop using contraception as their perceived risk of conception decreases (Almalik, Mosleh, and Almasarweh 2018).

Parity has been shown to be a differentiating factor between modern and traditional contraceptive users in Jordan (Almalik, Mosleh, and Almasarweh 2018). This study identified an increasing number of living children as a significant predictor of both modern and traditional contraceptive use.

Although education did not emerge as a differentiating factor between modern and traditional contraceptive users in past research in Jordan (Almalik, Mosleh, and Almasarweh 2018), our study demonstrated that education has a clear, consistently positive association with using modern contraception across all three models. Education was not associated with traditional method use. In other contexts, education has been shown to have a positive association with modern contraceptive use (O'Regan and Thompson 2017; Philomina et al. 2018; Wang and Cao 2019).

Many fertility intention factors are associated with modern contraception, but these are not always in the expected direction. In our primary model, wanting a child at a later time is associated with lower risk of modern contraceptive use compared to women who want no more children. It may be that women who want children at some point are concerned with side effects of modern contraceptive methods, including infertility, which has been cited as a common cause for nonuse of modern contraceptive methods in Jordan (Jordan Communication Advocacy and Policy Activity (JCAP) 2016; Sedgh, Ashford, and Hussain 2016; Spindler et al. 2017). Women who want to have a child but are unsure about the timing may therefore be less likely to use modern contraception if they are concerned that it would negatively affect future fertility. These women do not appear to be turning to traditional contraceptive methods, however, since women who want a child at a later time also have lower risk of traditional contraceptive use compared to women who want no more children, although the association is not as strong. Programs to educate women on the role of modern contraception in delaying pregnancy must provide clear and correct information on method side effects.

Women whose husbands want more children than they do have a 27% lower risk of using modern contraception compared to women who want the same number of children as their husband, but this was

not significant for traditional contraception. Jordanians' desire for large families and influence of husbands and in-laws have been cited as factors in TFR stagnation (Alyahya et al. 2019; Spindler et al. 2017). This finding indicates that they may be acting on TFR at least in part through a contribution to the reduction in mCPR.

Engagement with health care systems emerged as an important determinant of modern contraceptive use. Our study found that both discussing FP with a health worker (in all models) and having had any child health visits (in the women with children under age 5 model) were significantly associated with modern contraceptive use, which agreed with earlier findings from Jordan (Almalik, Mosleh, and Almasarweh 2018; Komasawa et al. 2020). Although discussing FP with a health care worker was associated with both modern and traditional method use, the magnitude of the effect was greater on the risk of modern method use compared to not using a method than on traditional method use compared to not using a method in all populations. Discussions with health care workers may have focused on modern contraceptive methods, which may have led women who participated in these discussions to adopt modern contraceptive methods.

In this analysis, exposure to FP media messages is associated with an increased risk of modern contraceptive use. FP messages on television and radio have been shown to have a positive effect on modern contraceptive use, especially in countries with low CPR (Westoff 2012). This study's result of an association between exposure to FP messaging and modern method use reinforces those findings. In Jordan, past research has shown that women in Jordan trust traditional media, such as TV, radio, newspaper, and magazines, more than other media sources for FP messaging (Jordan Communication Advocacy and Policy Activity (JCAP) 2015a). However, this study indicates that trust may be shifting, as only exposure to FP messages via text message was found to be significantly positively associated with contraceptive use, both modern and traditional, compared to nonuse, when source of messaging was accounted for (results not shown).

Women's empowerment has been shown to be important for the uptake and continued use of contraception. The findings of this study add to that body of literature. In our study, women who make FP decisions by themselves or jointly with their husbands have 1.5 times the risk of using modern methods as those for whom FP decisions are made solely by the husband or someone else. Mothers-in-law and other family members can often be involved in FP decisions in Jordan (Kridli and Libbus 2001) and therefore need to be included in any FP education programs.

Domestic violence was not associated with modern contraceptive use in this study. Although one study in Jordan found evidence of a negative association between experience of physical abuse and contraceptive uptake (Gharaibeh et al. 2011), overall evidence of a relationship between domestic violence and contraception has been inconsistent in previous cross-sectional work (Kacanek et al. 2013; Raj and McDougal 2015), and includes numerous occasions of null findings (Adjiwanou and N'Bouke 2015; Oluwaseyi and Latifat 2015; Williams, Larsen, and McCloskey 2008). This may require a more focused study to assess the complex contributing factors.

Results from this study should be interpreted with its limitations. Because the 2017-18 JPFHS is a cross-sectional dataset, our results demonstrate associations between variables and do not establish causality. In addition, as this is a secondary analysis, we were limited to the variables available in the dataset. We were not able to explore sociocultural practices and beliefs that may facilitate or inhibit modern contraceptive use. Finally, more than half of women in Jordan who use modern methods use an IUD. In this research, we

grouped all women who use a modern method of contraception together. However, there may be determinants of IUD use that differ from those for all modern methods, and these should be explored. Additional research into these areas is warranted.

CONCLUSIONS

In summary, our findings suggest that differences exist in the characteristics of women who use modern methods of contraception versus those who do not use contraception, and that those differences vary when compared with the characteristics of women who use traditional methods versus those who do not use contraception. The unmet need for contraception in Jordan is 14%. Additionally, our study shows that 42% of women use a modern method and 16% use a traditional method. Jordan's TFR remains above the replacement level that they aim to reach and sustain. In order to provide modern methods of contraception to those who are seeking to space or limit births, FP programming can work to address both demand- and supply-side barriers to modern contraceptive use. On the demand side, this research suggests that efforts to reduce women's barriers to using modern contraception need to include not only women, but also their husbands and other family members such as their mothers-in-law who have influence on their fertility and reproductive health decisions. Media messages are an important way to communicate FP messages to women. Such messages can emphasize the value of modern methods of contraception for spacing of births. On the supply side, our evidence suggests that integration of services is a valuable opportunity to provide additional FP messaging during immunization, well child, and other types of engagement with the health care system.

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