Fertility Preferences and Contraceptive Behaviors among Ever-married Women and Men:

An Analysis of the 2017-2018 Jordan Population and Family Health Survey

DHS Further Analysis Reports No. 139

December 2020

This publication was produced for review by the United States Agency for International Development. It was prepared by Christina Juan.

DHS Further Analysis Report No. 139

Fertility Preferences and Contraceptive Behaviors among Ever-married Women and Men:

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

Christina Juan[1,2]

ICF
Rockville, Maryland, USA

December 2020

[1] ICF
[2] The DHS Program

Corresponding author: Christina Juan, International Health and Development, ICF, 530 Gaither Road, Suite 500, Rockville, MD 20850, USA; phone: +1 301-407-6500; fax: +1 301-407-6501; email: christina.juan@icf.com

Acknowledgments: This study was supported by USAID/Jordan. The USAID mission in Jordan provided support and funding under the DHS-8 contract. I am thankful for my research and analysis team colleague, Dr. Sara Riese, for her support and our regular brainstorms about the development of the Jordan further analysis reports. I appreciate the valuable discussions with Dr. Thomas Pullum about fertility concepts, and with Thomas Fish who helped produce maps for the study. I would also like to thank my colleagues, Dr. Shireen Assaf and Yodit Bekele, for providing an internal review, as well as John Callanta, Jennifer Mason, Rawan Qurashi, and Joanna Michler for providing an external review.

Editor: Diane Stoy
Document Production: Joan Wardell

This report presents findings from a further analysis of the 2017-18 Jordan Population and Family Health Survey (JPFHS). ICF provided technical assistance for the project. This report is a publication of The DHS Program, which is designed to collect, analyze, and disseminate data on fertility, family planning, maternal and child health, nutrition, and HIV/AIDS. Funding was provided by the U.S. Agency for International Development (USAID) through the DHS Program (#720-OAA-18C-00083). The opinions expressed here are those of the authors and do not necessarily reflect the views of USAID and other cooperating agencies.

The JPFHS 2017-18 was implemented by Jordan's Department of Statistics (DOS) from early October 2017 to January 2018. The funding for the JPFHS was provided by the Government of Jordan, the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA), and USAID. ICF provided technical assistance through The DHS Program, a USAID-funded project that provides support and technical assistance in the implementation of population and health surveys in countries worldwide.

Recommended citation:

Juan, Christina. 2020. *Fertility Preferences and Contraceptive Behaviors among Ever-married Women and Men: An Analysis of the 2017-18 Jordan Population and Family Health Survey*. DHS Further Analysis Reports No. 139. Rockville, Maryland, USA: ICF.

CONTENTS

TABLES

FIGURES

ABSTRACT

Over the last three decades, Jordan has seen a decrease in the average number of children born to women in the country, from 5.6 children according to the 1990 Jordan Population and Family Health Survey (JPFHS) data, to 2.7 children in the 2017-18 survey. This further analysis examines fertility desires, intentions, and modern contraceptive method uptake among ever-married women and men of reproductive age in Jordan, using the 2017-18 JPFHS. This most recent JPFHS is the first to interview men and to examine men's fertility and contraception-related experiences.

Multivariable logistic regression analyses were carried out to examine the associations of socioeconomic factors, nationality, sex of the head of household, and other covariates with three outcome variables of interest—desire for three or more children, wanting to have children soon (within 2 years), and modern contraceptive use among women and men. Other variables of interest included exposure to family planning messages, number of living children, and governorate. Models that examined the fertility and contraception indicators with sex as a covariate were also analyzed.

The odds of women wanting three or more children are nearly two times higher compared with similar fertility desires of their male counterparts, after accounting for other factors. In contrast, there is a 35% reduction in the odds of women wanting children soon – in the next 2 years – compared to men. This finding aligns with the finding that women have three times greater odds of using a modern contraceptive method than men in the sample. The women and men in the study had strongly held fertility desires to have a larger family, which ideally would be three or more children.

The findings also illustrate disparities in covariates including education, governorate, and the number of living children. However, overall, there was little to no statistical evidence of a difference in wealth and residence with the outcomes. In general, different levels of education are associated with the three outcome variables of interest when examining women and men as subgroups. The analysis also suggests a negative association between wanting children soon and modern contraceptive method use among women in female-headed households. Further research on the gender dynamics, culture, and social norms surrounding fertility preferences, reproductive health, and family planning in Jordan is recommended.

Key words: fertility intentions, contraceptive method, gender, women, men, Jordan

ACRONYMS AND ABBREVIATIONS

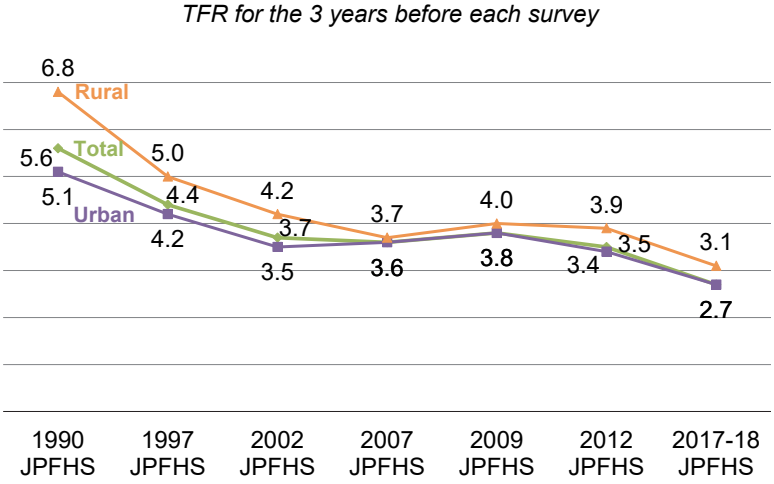
AOR	adjusted odds ratio
DOS	Department of Statistics
DHS	Demographic and Health Survey
FP	family planning
IUD	intrauterine device
JCAP	Jordan Communication, Advocacy, and Policy
JNPC	Jordan National Population Committee
JPFHS	Jordan Population and Family Health Survey
LAM	lactational amenorrhea
SHOPS	Strengthening Outcomes through the Private Sector
TFR	total fertility rate
UNICEF	United Nations Children's Fund
UNFPA	United Nations Population Fund
USAID	U.S. Agency for International Development
WHO	World Health Organization

1 BACKGROUND

1.1 Introduction

Over the last three decades, Jordan has seen a decrease in the average number of children born to women in the country, from 5.6 children in the 1990 Jordan Population and Family Health Survey (JPFHS) (Abdel Aziz Zou'bi, Poedjastoeti, and Ayad 1992), down to 3.5 in 2012, and then 2.7 children in the 2017-18 JPFHS data (Department of Statistics (DOS) and ICF 2019). Jordan has invested in its sexual and reproductive health and family planning (FP) program and policies over the years, such as continuing professional development for health professionals with licensure renewal to encourage the provision of quality care, increase in the use of modern contraceptive methods, and lowering of infant mortality rates (Rashad and Zaky 2013; Strengthening Outcomes through the Private Sector (SHOPS) 2015; USAID 2020). However, in the last few decades, Jordan continued to grapple with a stall in fertility decline (Cetorelli and Leone 2012; Sieverding, Berri, and Abdulrahim 2018), and remained in a state of pre-fertility transition (Bongaarts and Casterline 2018). Figure 1 illustrates the trends in Jordan's total fertility rate (TFR) (DOS and ICF 2019). Previously, it was reported that the ideal number of children in Jordan was 2.73 (Stanca 2012). At a TFR of 2.7 children from the most recent JPFHS, the country is above the 2.1 "replacement level fertility" rate that many countries, including Jordan, aim to reach and sustain (Cetorelli and Leone 2012; Searchinger et al. 2013; Spindler et al. 2017).

Figure 1 Trends in total fertility rate for the 3 years before each JPFHS survey, by residence



(Department of Statistics/DOS and ICF 2019)

There are many issues that affect changes in fertility in Jordan. Pressures to prove one's fertility after marriage, as well as fear of side effects and infertility concerns related to modern contraceptive method use, have contributed to the country's higher fertility (Buccholz 2005; El-Khoury et al. 2016; JCAP 2016; Spindler et al. 2017). In Jordan, marriage practices serve as markers for changes in fertility, with adults having children almost exclusively when married (Sieverding, Berri, and Abdulrahim 2018). Earlier work has pointed to husbands' negative attitudes toward the use of contraception, including their lack of desire to regulate fertility, perceptions that infertility could occur, and the belief that their wives would not have the same levels of satisfaction with sex (Petro-Nustas 1999).

Previous research has also suggested that changes in fertility are related to an increase in immigration from neighboring countries, due to ongoing conflicts in Iraq and Syria and shocks from the Arab Spring uprisings (Doocy et al. 2011; Khawaja 2003; Krafft and Assaad 2018; Petro-Nustas 1999; Price 2018). Jordan is a middle-income country that shares borders with Syria, Iraq, Saudi Arabia, Israel, and the West Bank of the Palestinian Territories. This contributes to Jordan's birth rate because the TFR is higher in neighboring countries (Paksima, Madanat, and Hawks 2002). In recent years, as Jordan's population has increased with refugees, the FP needs of migrants have not been met (Price 2018). There is limited data on the fertility and FP patterns of Syrian refugees in Jordan (Sieverding, Berri, and Abdulrahim 2018), and the data is even more limited on migrants from other countries such as Egypt and Iraq.

In recent decades, Jordan has focused on addressing the fertility needs of both women and men. In the late 1990s, for example, the Jordan National Population Committee (JNPC) considered strategies to target FP for men to improve their understanding of fertility and contraception-related attitudes and practices, given their predominant role as the household's main decision maker (Petro-Nustas 1999). More recent evidence suggests that gender dynamics are shifting in different ways, depending on education, place of residence, attitudes towards household division of labor, and women's evolving social status (Shteiwi 2015). Nonetheless, in Jordan, having many children is a marker of *izweh*, or social status, and where sons are preferred, FP is viewed as forbidden according to Islam and religious texts, and individuals continue to espouse traditional gender roles and norms (JCAP 2016).

In addition to JNPC's strategies that target the FP behaviors and needs of men, there have been other efforts that address fertility and contraception needs. Investments in health systems strengthening have been made, such as task shifting of intrauterine device (IUD) insertions among midwives, and policy and advocacy strategies that target private health sector facilities, such as the design and dissemination of an educational booklet for health providers on the health benefits of birth spacing (Health Policy Project 2011; Spindler et al. 2017; SHOPS 2015; USAID 2020). Despite these efforts, the country continues to grapple with and work to address the unique realities that many women and men living in Jordan face, which go beyond method mix and availability, and task-shifting efforts. The gender, social, and behavioral norms faced by women and men are shifting in a fast-growing population that has been affected by constraints on resources and opportunities in food security, housing, and employment (Bulletin of the World Health Organization 2011; Health Policy Project 2011). In addition, as a result of social and economic factors like challenging economic situations as well as higher rates of women with more education, marriages in Jordan and Middle Eastern countries are more delayed (Salem 2012; Sieverding, Berri, and Abdulrahim 2018). Norms may nonetheless promote the desire for a larger family, preference for sons, discontinuation of modern contraceptive methods, and an increased uptake in traditional method use (Bulletin of the World Health Organization 2011; JCAP 2016; Spindler et al. 2017).

Fertility desires and intentions, as well as contraceptive method uptake, affect fertility, although a central question remains about how and to what extent. In Jordan, it is argued that contraceptive use plays more of a role in changes in the country's fertility profile than marriage patterns in which women, for example, express their intent for no more children through contraceptive uptake (Rashad and Zaky 2013). However, provider bias and misconceptions are barriers to contraceptive method use in Jordan among those who do not use contraception or discontinue use (El-Khoury et al. 2015). Planning for children in Jordan often includes the involvement of a woman's partner or husband as well as her mother-in-law (Bulletin of the World Health Organization 2011; Spindler et al. 2017). This dynamic adds to the complexity of fertility intentions and decision making, with the role of the mother-in-law and other members of a respondent's social network exerting a strong influence, as seen in Jordan and in other countries (Char, Saavala, and Kulmala 2010; Khader, El-Qaderi, and Khader 2006; Staveteig and Juan 2018).

Given the fertility stall in Jordan since the late 1990s, better understanding of the preferences and behaviors of women and men in terms of fertility and contraception would be an important contribution to the work of other researchers, policymakers, health providers, and program implementers (Cetorelli and Leone 2012; Spindler et al. 2017). Through an analysis of the 2017-18 JPFHS data, we examine women's and men's fertility and contraception-related experiences. Since the most recent JPFHS is the first to interview men, this study will focus on understanding men's experiences. More specifically, we examine men's and women's fertility desires and intentions, as well as modern contraceptive method uptake.

1.2 Study Purpose

This study aims to examine the following research questions:

1. How do ever-married women and men in Jordan compare in fertility and contraceptive issues, by (but not limited to) age, education, and socioeconomic status?
2. What is the relationship between women's and men's fertility preferences and contraceptive behaviors after having one child, compared with the fertility preferences and contraceptive behaviors of those without children who want them?

2 DATA AND METHODS

2.1 Data

This study uses the 2017-18 JPFHS—a nationally representative, household survey of 14,689 women age 15-49 and 6,429 men age 15-59—for the analysis. Each PFHS collects information on behavioral, social, and demographic indicators, including reproductive health, fertility, child health, and nutrition indicators collected by ICF International in collaboration with the Government of Jordan and other organizations. In contrast to past surveys conducted in Jordan, the 2017-18 JPFHS—the seventh survey conducted by the Demographic and Health Surveys (DHS)—collected health and demographic information from men age 15-59, which included information on their reproductive, fertility, and FP experiences. Selection of the 2017-18 JPFHS for this analysis was based on the country's interest in examining trends related to sexual and reproductive health behavior among women as well as men. This was the first time Jordan has collected information about men's experiences. Table 1 shows the survey's sample size. The analysis focuses on ever-married women and men age 15-49 from the 2017-18 JPFHS, which interviewed only the ever-married respondents about their fertility intentions, desires, and contraceptive behavior experiences.

A weighted total of 12,477 women and 2,203 men was selected for this study. The analysis was first restricted to ever-married women and men. In addition, only respondents who were age 15 to 49 were included. The sample was further restricted by excluding respondents who reported being sterilized or infecund.

Table 1 Jordan PFHS 2017-18 analytic sample

Population and age	Sample (N)[1]	%
Ever-married women		
15-24	1,794	14.4
25-34	4,755	38.1
35-49	5,928	47.5
Total	12,477	100.0
Ever-married men		
15-24	59	2.7
25-34	684	31.1
35-49	1,460	66.3
Total	2,203	100.0

Notes:
[1] weighted
Men age 50-59 were excluded from this analysis.

2.2 Methods and Measures

2.2.1 Indicators

For the analysis, three indicators were included to examine the fertility desires and intentions as well as current modern contraceptive method uptake of ever-married women and men in Jordan. The indicators were examined with the following covariates: age, highest level of education completed, current work status, wealth quintile, place of residence, and governorate. Table 2 presents a list of all indicators and covariates, and the corresponding definition of each variable.

Other covariates include exposure to FP messages, nationality, and sex of the head of household. In Jordan, 12% of women are reported to be the head of the household, which suggests there are potential gender dynamics related to fertility, contraceptive behaviors, and intentions. A variable with the number of living children was included in the fertility intentions and timing models, but was not included in the models that assess use of current modern contraceptive methods due to the small sample size and multicollinearity with the age covariate.

Table 2 List of outcome variables and covariates of interest with corresponding definitions

Indicator	Definition
Outcome variables	
Ideal number of children	Percentage of women and men who declare, that if they could go back to the time when they did not have any children and could choose exactly the number of children to have in their whole life, a specific number of children. This was recoded to a binary variable with categories set to below replacement level—0-2 children—versus 3 or more children.
Desire for more children in the next 2 years	Percentage of ever-married women and men who want children within 2 years of the survey. This was recoded to a binary variable with those who want children within 2 years versus those who want children later or unsure on timing, are undecided, do not want anymore, or never had sex.
Current modern contraceptive method use	Percentage of ever-married sample who currently use a modern contraceptive method. This was recoded to a binary variable for those who currently use a modern method versus those who use a traditional method or no method. Modern methods category includes pill; IUD; injections; male condom; implants/Norplant; lactational amenorrhea (LAM); female condom; emergency contraception; and other modern method. No method and traditional methods category includes: not using; periodic abstinence; and withdrawal.
Socioeconomic variables	
Age	Respondents age 15-49 in the following categories: 15-24; 25-34; 35-49
Highest education level completed	Categories: none; primary; secondary or higher
Wealth index	Quintiles: lowest, second, middle, fourth, and highest
Nationality	Jordanian, Egyptian, Syrian, Iraqi, other Arab nationalities, and non-Arab nationalities
Work status	Respondents who are currently working versus those who are not currently working
Residence	Urban versus rural
Governorate	Amman, Balqa, Zarqa, Madaba, Irbid, Mafraq, Jarash, Ajloun, Karak, Tafiela, Ma'an, Aqaba
Other covariates of interest	
Exposure to FP messages	Ever-married sample who are exposed to FP messages in the last few months (radio, television, newspaper, texts)
Sex of the head of household	Female or male-headed household
Number of living children	The number of living children also includes any current pregnancy in the count.

2.2.2 Analysis

This study presents an analysis of fertility and contraceptive behaviors indicators with tables that display descriptive and bivariable statistics. The analysis fit multivariable logistic regression models for the fertility and modern contraceptive use indicators, accounting for socioeconomic characteristics, for women and men separately. For fertility, we examine number of ideal children desired and those who want to have children in the next 2 years. Age, education, and socioeconomic status characteristics of each subgroup are investigated, and whether fertility preferences and modern contraceptive use are mediated by these covariates. For the modern contraceptive method models, the living children variable was removed because of small sample sizes in cells due to multicollinearity with the age variable (respondents age 15-24 were less likely to report having five or more living children). Lastly, models were fit for each outcome variable of interest combining women and men in the same model with sex as a covariate.

In terms of statistical evidence, the number of asterisks displayed in the tables denotes the corresponding p-value: * is a p-value<0.05, ** is <0.01, and *** is <0.001. No asterisks denotes a lack of statistical evidence of an association between the covariate and the outcome variable of interest. Statistical testing was adjusted for the sample design and weights. Stata 16/MP was used to manage the data for all analyses. Extra care is needed when interpreting findings with wide confidence intervals due to small sample size.

3 RESULTS

Table 3 presents the characteristics of women and men in the analytic sample, using the factors in the regression models. The majority of ever-married women (81%) in the sample ideally want three or more children; similarly, but to a lesser extent, nearly three-quarters of the sample of male respondents (73%) ideally want three or more children. Almost one-fifth of ever-married women (19%) and over a quarter of ever-married men (26%) want children soon (in the next 2 years). In terms of current modern contraceptive method use, 38% of women in the sample use a form of modern methods, compared to 16% among men.

Among the female respondents, 14% of the ever-married sample are age 15-24, compared to 3% ever-married males. The majority of women and men are highly educated and have completed at least secondary-level education at 92% and 88%, respectively. Of all the nationalities in Jordan, 9% of all men and women are Syrian, and 87% are Jordanian. The majority of ever-married women (86%) in the sample do not currently work, while the inverse is true among ever-married men with 86% currently working. Most female and male respondents (90%) in Jordan live in urban areas, including Amman (40%). With exposure to FP messages in the last few months, four-fifths (80%) of women reported learning about FP through the media (radio, newspaper, television, or texts), while just over half (51%) of men reported some type of exposure to FP messages. Over half of female and male respondents – 54% and 55%, respectively – reported having between two and four living children, followed by just over one-fifth who reported having five or more children (23% among women and 22% among men).

Table 3 Analytic sample profile, Jordan PFHS 2017-18

	Women		Men	
Outcome variables of interest	N	%	N	%
Ideal number of children				
0-2	2,327	18.9	589	26.8
3+	10,010	81.1	1,610	73.2
Total	12,337	100.0	2,199	100.0
Desire for more children (in the next 2 years)				
Want later, undecided, or never had sex	10,106	81.0	1,634	74.2
Wants within 2 years	2,371	19.0	569	25.8
Total	12,477	100.0	2,203	100.0
Current modern contraceptive method use				
Not using or using traditional	7,698	61.7	1,855	84.4
Using modern	4,779	38.3	342	15.6
Total	12,477	100.0	2,197	100.0
Background characteristics				
Age				
15-24	1,794	14.4	59	2.7
25-34	4,755	38.1	684	31.1
35-49	5,928	47.5	1,460	66.3
Highest education level completed				
None	227	1.8	43	1.9
Primary	825	6.6	217	9.9
Secondary+	11,425	91.6	1,943	88.2

Continued...

Table 3—*Continued*

Background characteristics	Women		Men	
	N	%	N	%
Wealth index				
Lowest	2,502	20.1	454	20.6
Second	2,648	21.2	435	19.7
Middle	2,676	21.5	509	23.1
Fourth	2,609	20.9	475	21.6
Highest	2,042	16.4	331	15.0
Nationality				
Jordanian	10,810	86.6	1,907	86.6
Egyptian	85	0.7	33	1.5
Syrian	1,116	8.9	187	8.5
Iraqi	78	0.6	12	0.6
Other Arab nationalities	245	2.0	52	2.4
Non-Arab nationalities	144	1.2	12	0.5
Work status				
Currently not working	10,777	86.4	322	14.6
Currently working	1,700	13.6	1,882	85.4
Residence				
Urban	11,186	89.7	1,972	89.5
Rural	1,291	10.3	231	10.5
Governorate				
Amman	4,936	39.6	878	39.9
Balqa	591	4.7	108	4.9
Zarqa	1,824	14.6	318	14.4
Madaba	274	2.2	56	2.5
Irbid	2,240	18.0	384	17.4
Mafraq	748	6.0	130	5.9
Jarash	358	2.9	65	2.9
Ajloun	272	2.2	46	2.1
Karak	493	3.9	83	3.7
Tafiela	186	1.5	32	1.4
Ma'an	218	1.8	39	1.8
Aqaba	337	2.7	66	3.0
Exposure to FP messages				
No	2,513	20.1	1,088	49.4
Yes	9,964	79.9	1,115	50.6
Sex of head of household				
Male	11,991	96.1	2,183	99.1
Female	486	3.9	20	0.9
Number of living children				
0	1,332	10.7	232	10.5
1	1,602	12.8	278	12.6
2-4	6,738	54.0	1,220	55.4
5+	2,806	22.5	473	21.5
Total	12,477	100.0	2,203	100.0

Tables 4-6 display the distribution of covariates and key outcome variables of interest related to fertility intentions and timing, as well as current modern contraceptive uptake, displayed in row percentages. In Table 4, among ever-married women in the sample, approximately four-fifths reported ideally wanting three or more children, regardless of age bracket. However, there was no statistical evidence of an association between age and ideally wanting at least three children. Across all categories of covariates, the majority of women in the sample ideally want at least three children, compared to those who want zero to two children. Based on the bivariate results, residence, governorate, nationality, work status, and the number of living children variables displayed statistical evidence of an association with ideally wanting at least three children among women.

The majority of ever-married men also ideally want three or more children. Among men without education, the majority want three or more children (55%). There was strong statistical evidence of an association ($p<0.001$) between governorate and ideally wanting at least three children among men, ranging from 67% in Amman to

92% in Tafiela. Although there is no statistical evidence of an association, in terms of nationalities, 49% of Iraqi men ideally want at least three children compared to 76% of Syrian men, for example, who ideally want at least three children.

Finally, there are differences for both women and men by their number of living children in terms of ideally wanting at least three children. More than three-fourths (77%) of women ideally want at least three children when they do not have any living children, compared to 71% of men without any living children. A slightly smaller percentage of women (74%) ideally want at least three children after having one child; for men with one child, their desire for at least three children drops to 58%.

Table 4 Cross tabulation of wanting at least three children among women and men by background characteristics

	Wanting at least three children					
	Women			Men		
Characteristic	%	95% CI	p-value	%	95% CI	p-value
Socioeconomic variables						
Age			0.23			0.96
15-24	80.5	[77.6-83.2]		70.9	[51.3-84.9]	
25-34	80.3	[78.3-82.1]		73.5	[67.5-78.8]	
35-49	82.0	[80.3-83.6]		73.2	[69.2-76.8]	
Highest education level completed			0.08			0.13
None	73.4	[64.9-80.4]		55.0	[36.6-72.1]	
Primary	81.1	[77.1-84.5]		73.5	[64.1-81.1]	
Secondary+	81.3	[79.9-82.6]		73.6	[70.0-76.9]	
Wealth index			0.70			0.38
Lowest	81.3	[78.9-83.5]		71.8	[65.7-77.2]	
Second	80.7	[78.3-82.9]		78.8	[73.0-83.6]	
Middle	81.7	[79.4-83.7]		74.2	[67.3-80.0]	
Fourth	82.1	[79.2-84.7]		71.1	[64.2-77.1]	
Highest	79.6	[76.3-82.6]		69.4	[57.9-79.0]	
Residence			*			*
Urban	80.8	[79.3-82.1]		72.5	[68.7-75.9]	
Rural	84.4	[81.2-87.1]		79.7	[73.7-84.6]	
Governorate			*			***
Amman	81.5	[78.7-84.0]		66.6	[59.5-73.0]	
Balqa	73.7	[68.1-78.7]		78.9	[68.2-86.7]	
Zarqa	81.4	[78.7-83.8]		84.9	[78.6-89.5]	
Madaba	82.7	[79.2-85.7]		84.0	[76.3-89.5]	
Irbid	79.8	[76.9-82.5]		71.9	[62.9-79.4]	
Mafraq	82.4	[79.7-84.8]		78.9	[71.0-85.1]	
Jarash	85.7	[82.8-88.2]		61.8	[50.4-72.1]	
Ajloun	89.2	[86.9-91.2]		89.2	[83.1-93.3]	
Karak	80.6	[77.3-83.5]		70.9	[62.3-78.2]	
Tafiela	79.9	[75.4-83.9]		92.2	[87.7-95.1]	
Ma'an	81.4	[75.7-86.0]		77.0	[67.6-84.3]	
Aqaba	81.8	[77.8-85.3]		75.8	[67.6-82.4]	
Nationality			***			0.54
Jordanian	81.5	[80.1-82.8]		73.5	[69.9-76.7]	
Egyptian	74.6	[59.3-85.6]		54.2	[29.9-76.6]	
Syrian	84.5	[81.2-87.3]		76.0	[64.4-84.7]	
Iraqi	70.1	[49.2-85.0]		48.7	[11.2-87.8]	
Other Arab nationalities	74.1	[63.3-82.5]		72.9	[52.6-86.7]	
Non-Arab nationalities	50.5	[37.3-63.6]		70.2	[20.8-95.5]	
Work status			*			0.18
Currently not working	81.7	[80.4-82.9]		68.7	[61.2-75.3]	
Currently working	77.8	[74.3-80.9]		74.0	[70.2-77.5]	
Other covariates of interest						
Exposure to FP messages			0.71			0.63
No	80.7	[78.0-83.2]		72.4	[67.7-76.7]	
Yes	81.2	[79.8-82.6]		74.0	[69.0-78.4]	
Sex of head of household			0.06			0.43
Male	81.3	[80.0-82.6]		73.3	[69.9-76.5]	
Female	76.0	[69.7-81.3]		62.8	[33.5-85.0]	
Number of living children			***			**
0	77.1	[73.6-80.3]		71.0	[60.1-79.9]	
1	73.8	[69.9-77.4]		58.1	[48.1-67.4]	
2-4	81.7	[80.0-83.2]		75.3	[70.8-79.3]	
5+	86.1	[83.8-88.1]		77.9	[72.2-82.8]	

Notes: *p<0.05, **p<0.01, ***p<0.001

Figure 2 displays the geographic distribution of women age 15-49 wanting at least three children by governorate. Nearly three-fourths (74%) of women in Balqa ideally want at least three children, which represents the lowest

percentage of this fertility indicator across geographic regions. Nearly nine-tenths (89%) of women in Ajloun, at the upper end of the distribution, reported ideally wanting at least three children.

Figure 2 Map of the geographic distribution of women who ideally want at least three children by governorate

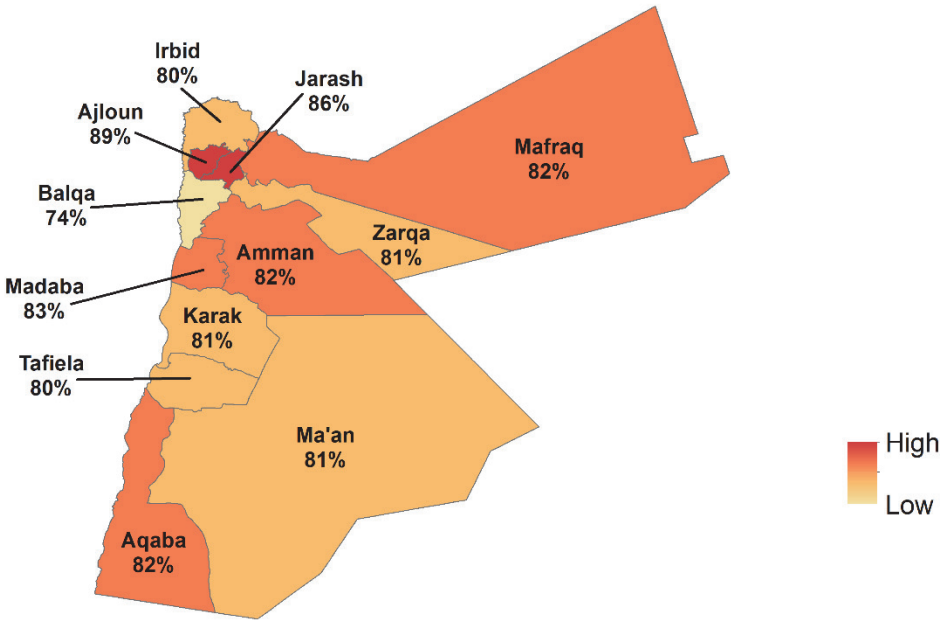
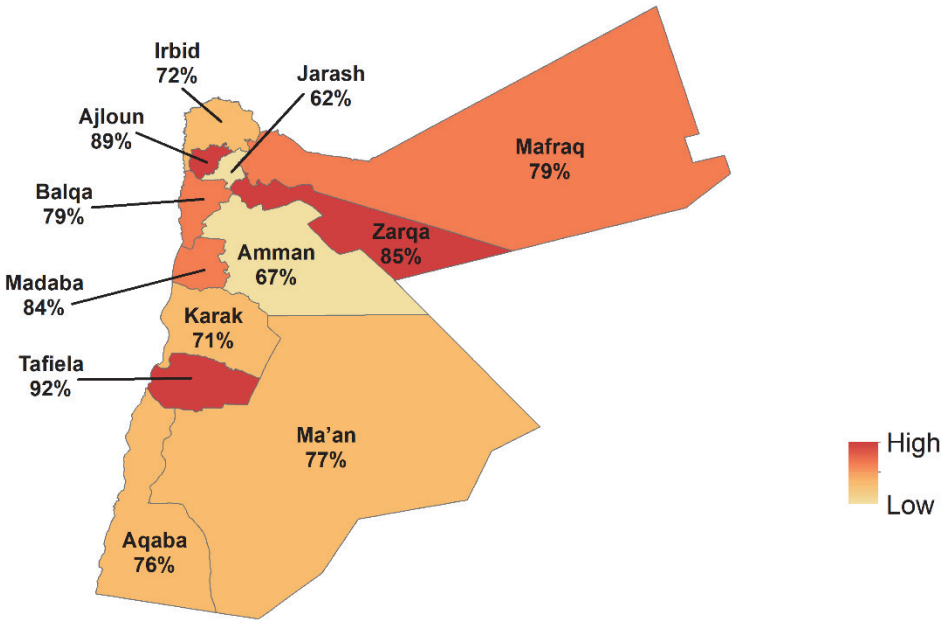


Figure 3 displays the geographic distribution of men age 15-49 wanting at least three children by governorate. Similar to the trends among women who want at least three children in Ajloun, 89% of men living in Ajloun report ideally wanting at least three children. Men in Tafiela report the highest desire of ideally wanting at least three children across geographic regions in Jordan, at 92%.

Figure 3 Map of the geographic distribution of men who ideally want at least three children by governorate



In terms of timing of fertility, Table 5 shows that 32% of women age 15-24 want children within 2 years. By age 35-49, just over one-tenth (11%) of women in the age cohort want children soon. There is strong statistical evidence of an association ($p<0.001$) between governorate and wanting children soon within 2 years. In Amman, 17% of women want children soon. In Ma'an, 31% of women want children soon. Two-thirds of Iraqi women (67%) in the sample want children soon. Among the sample of men, more than half age 15-24 (52%) want children within 2 years. The number of living children that a woman has is strongly associated with her fertility timing desires in that the percentage of women who want children soon decreases with more living children ($p<0.001$).

Among men, there is statistical evidence of an association between timing of fertility and age, governorate, work status, and the number of living children. In Balqa, 11% of men want children soon, within the next 2 years. Across geographic regions, 42% of men in Aqaba want children soon. Current employment is associated ($p<0.01$) with wanting children soon in that 27% of men who currently work want children soon, compared to 17% of men who do not currently work. Similar to the trend of fertility timing displayed for women above, as the number of living children increases, the percentage of men wanting children soon decreases.

Table 5 Cross tabulation of wanting (more) children within 2 years among women and men by background characteristics

	Wanting at least 3 children					
	Women			Men		
Characteristic	%	95% CI	p-value	%	95% CI	p-value
Socioeconomic variables						
Age			***			***
15-24	32.3	[29.2-35.4]		51.1	[33.9-68.1]	
25-34	23.7	[21.8-25.7]		36.3	[31.2-41.8]	
35-49	11.2	[10.0-12.5]		19.9	[16.9-23.2]	
Highest education level completed			0.24			0.20
None	13.4	[9.2-19.0]		12.2	[5.1-26.2]	
Primary	18.8	[15.1-23.3]		23.0	[15.7-32.3]	
Secondary+	19.1	[18.0-20.3]		26.4	[23.5-29.6]	
Wealth index			0.07			0.37
Lowest	19.1	[17.3-21.2]		27.1	[22.4-32.4]	
Second	20.8	[18.8-23.0]		28.7	[23.7-34.3]	
Middle	20.4	[18.3-22.7]		26.1	[20.5-32.4]	
Fourth	17.4	[15.1-19.9]		20.8	[16.0-26.5]	
Highest	16.6	[13.7-20.0]		27.1	[19.4-36.5]	
Residence			0.14			0.28
Urban	18.8	[17.6-20.0]		25.4	[22.5-28.6]	
Rural	20.9	[18.4-23.6]		29.1	[23.3-35.7]	
Governorate			***			***
Amman	17.0	[14.8-19.3]		24.2	[19.2-30.0]	
Balqa	20.4	[16.9-24.3]		11.4	[6.8-18.4]	
Zarqa	19.0	[17.0-21.2]		17.9	[12.3-25.4]	
Madaba	22.8	[19.8-26.2]		38.8	[30.8-47.4]	
Irbid	18.2	[15.8-20.8]		32.7	[25.8-40.5]	
Mafraq	20.4	[18.0-23.1]		26.1	[20.1-33.2]	
Jarash	20.1	[17.2-23.3]		29.9	[22.8-38.2]	
Ajloun	21.6	[19.2-24.2]		31.9	[24.0-40.9]	
Karak	22.8	[19.7-26.3]		29.2	[21.3-38.5]	
Tafiela	24.1	[21.4-27.0]		34.3	[27.9-41.4]	
Ma'an	30.7	[26.3-35.6]		23.5	[13.1-38.5]	
Aqaba	26.5	[21.7-31.9]		41.8	[32.1-52.2]	
Nationality			0.06			0.71
Jordanian	18.6	[17.6-19.7]		26.4	[23.4-29.6]	
Egyptian	16.0	[7.5-30.7]		16.3	[4.5-44.8]	
Syrian	20.8	[17.4-24.6]		22.5	[15.7-31.2]	
Iraqi	38.0	[23.2-55.5]		18.3	[2.2-68.8]	
Other Arab nationalities	22.8	[15.9-31.6]		28.9	[13.5-51.5]	
Non-Arab nationalities	19.5	[11.0-32.1]		7.3	[0.9-41.2]	
Work status			0.50			**
Currently not working	18.9	[17.7-20.1]		17.1	[12.4-23.1]	
Currently working	19.9	[17.1-23.1]		27.3	[24.4-30.4]	
Other covariates of interest						
Exposure to FP messages			0.91			0.22
No	18.9	[16.7-21.3]		24.1	[20.4-28.3]	
Yes	19.0	[17.9-20.3]		27.5	[23.8-31.4]	
Sex of head of household			0.32			0.98
Male	18.9	[17.8-20.0]		25.8	[23.1-28.8]	
Female	21.7	[16.5-27.9]		26.2	[9.5-54.4]	
Number of living children			***			***
0	60.3	[56.0-64.3]		51.8	[40.8-62.5]	
1	33.3	[29.6-37.2]		48.2	[38.5-58.1]	
2-4	14.1	[12.9-15.5]		21.3	[18.2-24.8]	
5+	3.0	[2.3-3.8]		11.5	[8.0-16.4]	

Notes: *p<0.05, **p<0.01, ***p<0.001

Figure 4 displays the geographic distribution of women wanting (more) children within 2 years. In the northern part of Jordan, the percentage of women who want children soon ranges from 17-20% in Amman, Balqa, Irbid,

Jarash, Mafraq, and Zarqa. A higher percentage of women who want children within 2 years live in Southern Jordan, such as 31% of the sample of women living in Ma'an.

Figure 4 Map of the geographic distribution of women who want (more) children within 2 years by governorate

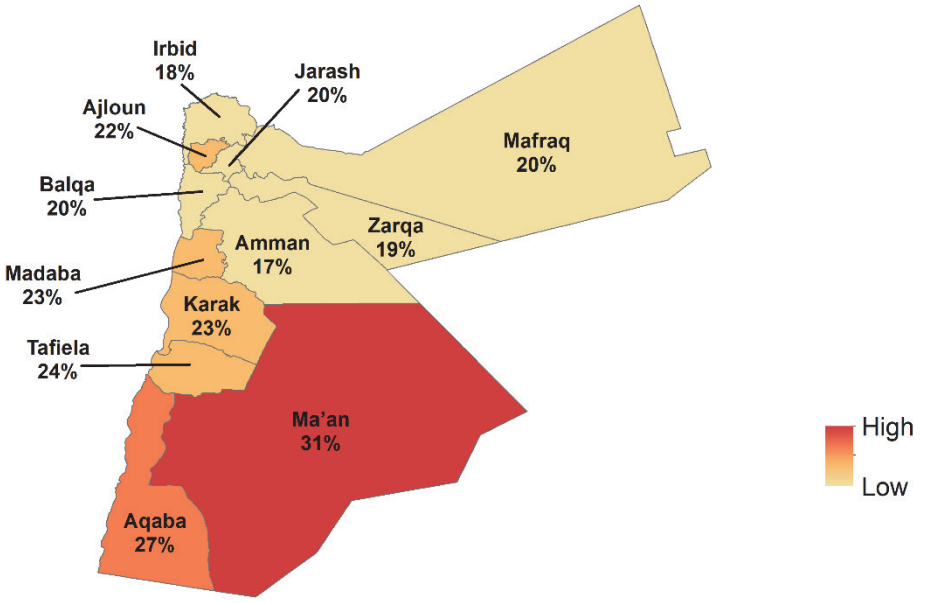


Figure 5 illustrates the geographic distribution of men who want (more) children soon. In contrast to the patterns seen among women in Figure 4, it appears that higher percentages of men in governorates on the western side of Jordan in general want (more) children within 2 years, ranging from 29% in Karak to 42% in Aqaba. Just over one-tenth (11%) of men in Balqa, however, want children soon.

Figure 5 Map of the geographic distribution of men who want (more) children within 2 years by governorate

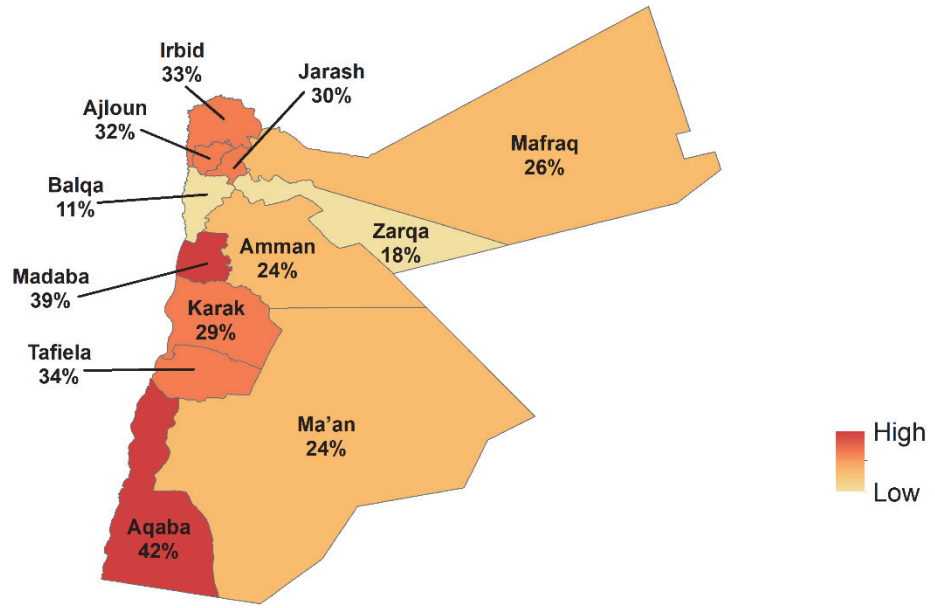


Table 6 displays bivariable results of using a modern contraceptive method among women and men by background characteristics. For women, all covariates with the exception of residence displayed statistical evidence of an association with modern contraceptive method use. With increasing levels of education, there is strong statistical evidence ($p<0.001$) that a higher proportion of women report using modern contraceptive methods. Among women with no education, just over one-fifth (21%) report current modern contraceptive method use, compared to nearly two-fifths (39%) of women with at least secondary education. Across geographic regions, one-fourth (25%) of ever-married women currently use a modern contraceptive method. In both Jarash and Ajloun, 42% of women reported using a current modern contraceptive method.

There are differences in modern contraceptive method use among women by nationality. More than half (56%) of Egyptian women use a modern contraceptive method and approximately one-third (32%) of Syrian women use a modern contraceptive method compared to 40% of Jordanian women. Exposure to FP messages and the sex of the head of household are both strongly associated with modern contraceptive method use ($p<0.001$). Of the women who reported exposure to FP messages, 40% use a modern contraceptive method. Nearly two-fifths (39%) of women who live in male-headed households report modern contraceptive method use, compared to the nearly one-fifth (19%) of women in female-headed households who use a modern contraceptive method.

For men, age, governorate, exposure to FP messages, and number of living children were statistically associated with modern contraceptive method use. In Aqaba, 6% of men reported current use of a modern contraceptive method. In Balqa, 8% of men reported current use of a modern method. In both Irbid and Karak, 23% of men use a modern contraceptive method. Of the men who were exposed to FP messages, 18% use a modern method. This differs from the 13% of men who reported modern contraceptive method and were not exposed to FP messages.

For both women and men, use of modern methods increases as the number of living children increases.

Table 6 Cross tabulation of using a modern contraceptive modern method among women and men by background characteristics

	Using a modern contraceptive method					
	Women			Men		
Characteristic	%	95% CI	p-value	%	95% CI	p-value
Socioeconomic variables						
Age			***			**
15-24	21.2	[18.4-24.3]		3.4	[1.1-9.9]	
25-34	36.9	[34.8-39.0]		12.3	[9.0-16.5]	
35-49	44.6	[42.6-46.7]		17.6	[14.8-20.8]	
Highest education level completed			***			0.14
None	20.9	[15.1-28.4]		6.3	[2.3-16.4]	
Primary	32.2	[28.1-36.6]		19.5	[13.2-27.9]	
Secondary+	39.1	[37.6-40.6]		15.3	[13.1-17.9]	
Wealth index			*			0.73
Lowest	34.3	[31.8-36.9]		17.8	[13.5-23.0]	
Second	37.6	[35.2-40.1]		17.0	[13.0-22.1]	
Middle	39.5	[36.6-42.4]		14.6	[10.7-19.5]	
Fourth	39.6	[36.3-43.1]		13.7	[9.6-19.2]	
Highest	40.8	[36.7-45.1]		14.8	[9.3-22.7]	
Residence			0.13			0.58
Urban	38.6	[37.0-40.2]		15.7	[13.3-18.4]	
Rural	35.9	[32.8-39.0]		14.2	[10.2-19.5]	
Governorate			***			***
Amman	40.1	[37.2-43.0]		11.1	[7.6-16.0]	
Balqa	33.9	[30.1-37.9]		8.0	[4.5-13.7]	
Zarqa	40.2	[37.1-43.3]		21.6	[15.7-28.9]	
Madaba	36.8	[33.8-39.9]		17.6	[12.0-25.1]	
Irbid	38.0	[34.6-41.6]		23.1	[17.3-30.1]	
Mafraq	32.2	[29.1-35.5]		13.0	[8.4-19.6]	
Jarash	41.7	[38.7-44.7]		19.0	[11.7-29.3]	
Ajloun	41.6	[38.9-44.4]		15.2	[10.5-21.4]	
Karak	36.0	[32.2-39.9]		23.0	[15.9-32.1]	
Tafiela	38.4	[34.9-42.2]		13.9	[9.3-20.2]	
Ma'an	24.5	[20.6-29.0]		15.1	[9.7-22.7]	
Aqaba	32.6	[28.8-36.7]		6.3	[3.7-10.4]	
Nationality			***			0.77
Jordanian	39.2	[37.7-40.8]		15.9	[13.5-18.6]	
Egyptian	56.2	[36.7-74.0]		14.9	[4.3-40.7]	
Syrian	32.4	[28.4-36.6]		13.2	[8.3-20.4]	
Iraqi	28.7	[15.5-47.0]		0.0	ND	
Other Arab nationalities	35.5	[27.1-44.8]		13.3	[6.0-26.9]	
Non-Arab nationalities	15.2	[7.6-28.1]		29.8	[4.5-79.2]	
Work status			*			0.73
Currently not working	38.9	[37.4-40.5]		14.7	[10.0-21.1]	
Currently working	34.5	[31.0-38.2]		15.7	[13.4-18.4]	
Other covariates of interest						
Exposure to FP messages			***			*
No	33.6	[31.0-36.4]		12.8	[10.2-16.0]	
Yes	39.5	[37.9-41.1]		18.2	[14.9-22.1]	
Sex of head of household			***			0.42
Male	39.1	[37.6-40.5]		15.5	[13.3-18.0]	
Female	19.0	[14.9-24.0]		23.8	[7.8-53.6]	
Number of living children			***			***
0	0.3	[0.1-1.8]		2.1	[0.4-9.6]	
1	19.8	[16.9-23.2]		7.9	[4.5-13.6]	
2-4	45.3	[43.3-47.3]		18.4	[15.4-21.8]	
5+	50.1	[47.2-52.9]		19.4	[14.3-25.8]	

Notes: *p<0.05, **p<0.01, ***p<0.001

Figure 6 displays the distribution of women who use a modern contraceptive method. The highest percentages of reported modern contraceptive method use among women are in Tafiela and Irbid (both 38%), Amman and Zarqa (both 40%), as well as Ajloun and Jarash (both 42%).

Figure 6 Map of the geographic distribution of women who use a modern contraceptive method by governorate

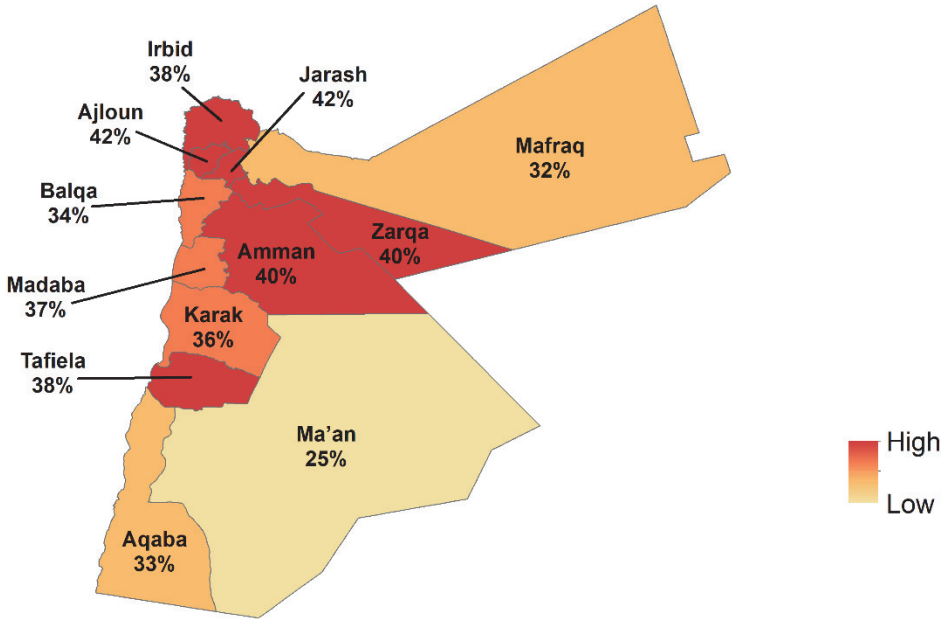
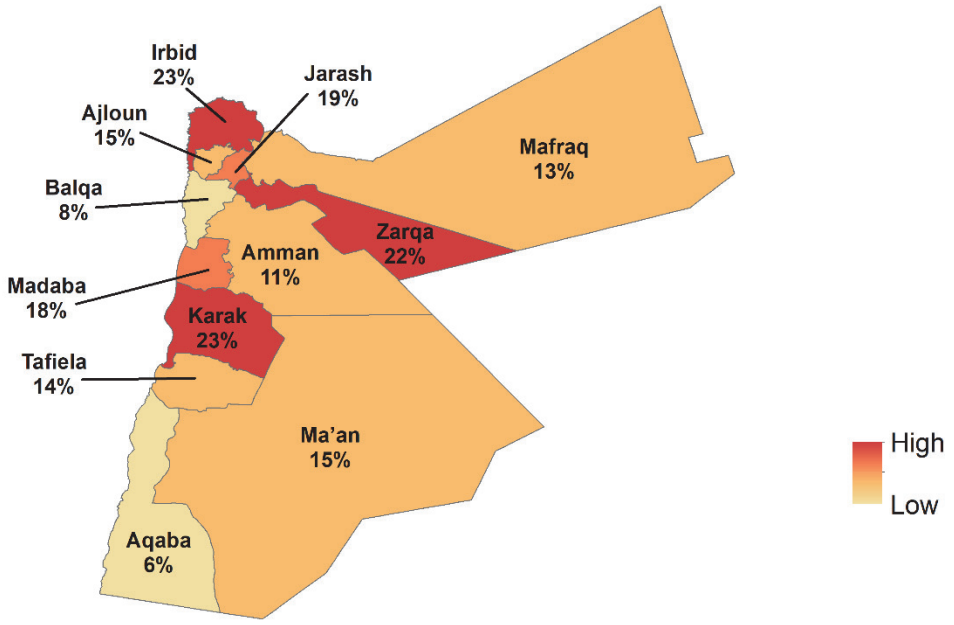


Figure 7 displays the geographic distribution of men who use a modern contraceptive method. Over one-fifth of men living in Zarqa (22%), Irbid (23%), and Karak (23%) use a modern contraceptive method. These trends of the highest reported use of a modern contraceptive method among men are similar to the trends of modern contraceptive method use among women in Irbid and Zarqa.

Figure 7 Map of the geographic distribution of men who use a modern contraceptive method by governorate



In this study, the main focus is the result of multivariable logistic regressions that examine women's and men's experiences for the three outcome indicators of interest – wanting at least three children, wanting children soon (in the next 2 years), and modern contraceptive method use, which are displayed in Tables 7-9. With fertility intentions, the analysis compared women and men who ideally want three or more children (Table 7). In addition, the analysis looked at respondents who want children soon (Table 8). Modern contraceptive method uptake was also examined among men and women (Table 9). Results are presented as adjusted odds ratios (AORs).

Table 7 Adjusted odds ratios of the multivariable logistic regression for ideally wanting at least three children, Jordan PFHS 2017-18

	Ideal number of children			
	3+ children (ref=0-2 children)			
	Women		Men	
Characteristic	AOR[1]	95% CI	AOR[1]	95% CI
Socioeconomic variables				
Age				
15-24 (ref)				
25-34	0.80	0.63 - 1.01	0.99	0.39 - 2.51
35-49	0.73*	0.55 - 0.96	0.71	0.28 - 1.78
Highest education level completed				
None (ref)				
Primary	1.17	0.77 - 1.79	2.15	0.92 - 4.99
Secondary+	1.30	0.90 - 1.88	2.28*	1.07 - 4.85
Wealth index				
Lowest (ref)				
Second	0.97	0.78 - 1.22	1.51	0.97 - 2.36
Middle	1.11	0.89 - 1.38	1.33	0.87 - 2.04
Fourth	1.18	0.89 - 1.56	1.16	0.70 - 1.93
Highest	1.09	0.82 - 1.46	1.23	0.66 - 2.28
Residence				
Urban (ref)				
Rural	1.33*	1.01 - 1.74	1.32	0.90 - 1.94
Governorate				
Amman (ref)				
Balqa	0.58**	0.41 - 0.81	1.92	0.99 - 3.72
Zarqa	0.92	0.71 - 1.20	2.76***	1.63 - 4.66
Madaba	0.99	0.73 - 1.35	2.46**	1.38 - 4.39
Irbid	0.81	0.62 - 1.06	1.25	0.74 - 2.11
Mafraq	0.86	0.64 - 1.17	1.76	0.98 - 3.14
Jarash	1.21	0.88 - 1.66	0.68	0.38 - 1.22
Ajloun	1.66**	1.22 - 2.26	3.79***	2.02 - 7.11
Karak	0.86	0.64 - 1.14	1.06	0.62 - 1.83
Tafiela	0.83	0.59 - 1.17	5.29***	2.89 - 9.69
Ma'an	0.94	0.60 - 1.45	1.67	0.96 - 2.93
Aqaba	0.99	0.73 - 1.35	1.64	0.96 - 2.79
Nationality				
Jordanian (ref)				
Egyptian	0.70	0.34 - 1.44	0.55	0.18 - 1.70
Syrian	1.29	0.97 - 1.70	1.29	0.70 - 2.38
Iraqi	0.53	0.22 - 1.26	0.79	0.12 - 5.38
Other Arab nationalities	0.68	0.40 - 1.15	1.14	0.46 - 2.83
Non-Arab nationalities	0.29***	0.16 - 0.53	1.45	0.22 - 9.38
Work status				
Currently not working (ref)				
Currently working	0.92	0.76 - 1.10	1.34	0.89 - 2.02
Other covariates of interest				
Exposure to FP messages				
No (ref)				
Yes	0.93	0.78 - 1.13	1.24	0.87 - 1.75
Sex of head of household				
Male (ref)				
Female	0.92	0.65 - 1.30	0.82	0.19 - 3.49
Number of living children				
0 (ref)				
1	0.85	0.63 - 1.14	0.55	0.30 - 1.01
2-4	1.44**	1.12 - 1.85	1.41	0.78 - 2.56
5+	2.09***	1.50 - 2.90	1.86	0.94 - 3.69
Observations	12,337		2,199	

Notes: [1] The p-value indicates statistical strength of association of the covariate.
*p<0.05, **p<0.01, ***p<0.001

The adjusted logistic model for ideally wanting three or more children illustrates statistical evidence of an association with age, residence, governorate, nationality, and number of living children among women. Among men, only education and governorate showed statistical evidence of an association with ideally wanting three or more children. Women who reported having five or more children had 2.1 times higher odds of wanting three or more children (OR: 2.09; p<0.001; 95% CI: 1.50–2.90), compared to women who do not have children. Women living in Balqa had reduced odds of ideally wanting three or more children, compared to the reference group of women living in Amman. In Ajloun, in contrast, women had nearly twice the odds of ideally wanting three or more children compared to the reference group of women living in Amman.

Among men, education and governorate showed statistical evidence of a difference in terms of wanting three or more children. For example, the odds of ideally wanting three or more children were two times higher for men who completed secondary or higher education than for men without education (OR: 2.28; p=0.03; 95% CI: 1.07–4.85). In Tafiela, men had five times the odds of using a modern contraceptive method compared to men in Amman (OR: 5.29; p<0.001; 95% CI: 2.89–9.69). Age, wealth, residence, nationality, works status, exposure to FP messages, sex of the head of household, and number of living children did not display statistical evidence of an association with ideally wanting three or more children.

Table 8 Adjusted odds ratios of the multivariable logistic regression for wanting (more) children within 2 years, Jordan PFHS 2017-18

	Desire for (more) children soon			
	Wants children within 2 years (ref=others[2])			
	Women		Men	
Characteristic	AOR[1]	95% CI	AOR[1]	95% CI
Socioeconomic variables				
Age				
15-24 (ref)				
25-34	1.89***	1.51 - 2.37	0.86	0.39 - 1.92
35-49	1.54**	1.17 - 2.03	0.77	0.33 - 1.78
Highest education level completed				
None (ref)				
Primary	1.99*	1.13 - 3.49	2.07	0.76 - 5.65
Secondary+	1.43	0.87 - 2.36	2.05	0.84 - 4.99
Wealth index				
Lowest (ref)				
Second	1.07	0.87 - 1.32	0.76	0.50 - 1.16
Middle	1.04	0.83 - 1.31	0.67	0.44 - 1.03
Fourth	0.91	0.71 - 1.16	0.56*	0.34 - 0.92
Highest	0.90	0.63 - 1.27	0.97	0.54 - 1.74
Residence				
Urban (ref)				
Rural	1.07	0.88 - 1.30	1.12	0.76 - 1.65
Governorate				
Amman (ref)				
Balqa	1.52**	1.12 - 2.05	0.47*	0.23 - 0.94
Zarqa	1.36*	1.07 - 1.73	0.72	0.39 - 1.32
Madaba	1.69***	1.28 - 2.23	2.60***	1.51 - 4.48
Irbid	1.28	1.00 - 1.65	1.77*	1.08 - 2.92
Mafraq	1.63***	1.23 - 2.15	1.36	0.80 - 2.34
Jarash	1.73***	1.30 - 2.31	1.49	0.85 - 2.61
Ajloun	1.70***	1.32 - 2.19	1.87*	1.08 - 3.24
Karak	1.43**	1.10 - 1.85	1.14	0.67 - 1.96
Tafiela	1.75***	1.37 - 2.24	2.00**	1.22 - 3.28
Ma'an	2.35***	1.73 - 3.17	1.07	0.49 - 2.36
Aqaba	1.75***	1.26 - 2.44	2.13**	1.24 - 3.64
Nationality				
Jordanian (ref)				
Egyptian	0.90	0.35 - 2.32	0.40	0.12 - 1.35
Syrian	1.28	0.95 - 1.73	0.70	0.39 - 1.27
Iraqi	3.89**	1.70 - 8.90	0.62	0.08 - 5.07
Other Arab nationalities	0.98	0.61 - 1.58	1.20	0.38 - 3.80
Non-Arab nationalities	0.70	0.37 - 1.31	0.15	0.01 - 1.78
Work status				
Currently not working (ref)				
Currently working	0.91	0.72 - 1.16	1.64*	1.06 - 2.55
Other covariates of interest				
Exposure to FP messages				
No (ref)				
Yes	1.07	0.89 - 1.29	1.13	0.83 - 1.54
Sex of head of household				
Male (ref)				
Female	0.67*	0.48 - 0.93	0.51	0.15 - 1.77
Number of living children				
0 (ref)				
1	0.29***	0.22 - 0.37	0.85	0.45 - 1.61
2-4	0.08***	0.06 - 0.10	0.24***	0.14 - 0.42
5+	0.01***	0.01 - 0.02	0.12***	0.06 - 0.24
Observations	12,477		2,203	

Notes: [1] The p-value indicates statistical strength of association of the covariate.
[2] Others include those who want later/undecided on timing, report not wanting anymore children, and never had sex. Respondents who reported being infecund or sterilized were excluded.
*p<0.05, **p<0.01, ***p<0.001

The adjusted logistic regression models in Table 8 illustrate statistical evidence of associations of age, education, governorate, nationality, sex of the head of household, and living children among women. Women who completed primary school had two times the odds of wanting children soon compared with women without education. Across all governorates with the exception of Irbid, women had higher odds of wanting children soon compared to women in Amman. Women of Iraqi nationality served as a good predictor of wanting children soon (OR: 3.89; p=0.001; 95% CI: 1.70–8.90), although caution should be exercised given the smaller number of observations and wider confidence intervals of this finding. Ever-married women living in a female-headed household had 33% reduced odds of wanting children within 2 years compared with ever-married women who lived in male-headed households (OR: 0.67; p=0.02; 95% CI: 0.48–0.93). Women with increasing numbers of living children had decreasing odds of wanting children within 2 years. Wealth, residence, work status, and exposure to FP messages were not associated with women's fertility timing preferences.

Among men, there is statistical evidence of associations between wealth, governorate, work status, and number of living children and wanting children soon. Men in the fourth wealth quintile had 44% lower odds of wanting children soon compared to men in the lowest wealth quintile. The odds of wanting children within 2 years were at least two times higher in governorates including Madaba, Tafiela, and Aqaba, compared to their counterparts who live in Amman. In Ajloun and Irbid, men had a nearly two times higher odds of wanting children soon compared to men in Amman. However, in Balqa, the odds of wanting children soon were 50% lower compared to men in Amman. In addition, the odds of wanting more children soon were nearly two times higher for men who were working than for men who reported not working at the time of the survey (OR: 1.64; p=0.03; 95% CI: 1.06–2.55). Men with increasing numbers of living children displayed decreasing odds of wanting children soon. Age, education, residence, nationality, exposure to FP messages, and sex of the head of household were not associated with men's preference to have children soon.

Table 9 Adjusted odds ratios of the multivariable logistic regression for using a modern contraceptive method, Jordan PFHS 2017-18

	Modern contraceptive method uptake			
	Using modern contraceptive method (ref=not using or using a traditional contraceptive method)			
	Women		Men	
Characteristic	AOR[1]	95% CI	AOR[1]	95% CI
Socioeconomic variables				
Age				
15-24 (ref)				
25-34	2.18***	1.81 - 2.63	5.10*	1.43 - 18.20
35-49	3.01***	2.49 - 3.64	8.45***	2.46 - 29.02
Highest education level completed				
None (ref)				
Primary	1.60*	1.04 - 2.45	4.23*	1.11 - 16.16
Secondary+	2.07***	1.37 - 3.12	2.70	0.76 - 9.65
Wealth index				
Lowest (ref)				
Second	1.06	0.90 - 1.24	0.86	0.52 - 1.43
Middle	1.07	0.89 - 1.28	0.73	0.44 - 1.20
Fourth	1.00	0.82 - 1.21	0.66	0.36 - 1.18
Highest	1.04	0.84 - 1.30	0.82	0.41 - 1.62
Residence				
Urban (ref)				
Rural	0.95	0.80 - 1.13	0.86	0.55 - 1.34
Governorate				
Amman (ref)				
Balqa	0.77*	0.62 - 0.97	0.69	0.32 - 1.48
Zarqa	0.98	0.81 - 1.19	2.58**	1.44 - 4.64
Madaba	0.87	0.72 - 1.05	1.85	0.96 - 3.54
Irbid	0.94	0.77 - 1.14	2.82***	1.57 - 5.05
Mafraq	0.79*	0.64 - 0.97	1.37	0.68 - 2.73
Jarash	1.06	0.89 - 1.27	2.00	0.95 - 4.24
Ajloun	1.04	0.87 - 1.24	1.44	0.76 - 2.72
Karak	0.86	0.69 - 1.06	2.60**	1.34 - 5.06
Tafiela	0.96	0.79 - 1.17	1.27	0.66 - 2.45
Ma'an	0.52***	0.40 - 0.69	1.60	0.78 - 3.29
Aqaba	0.73**	0.58 - 0.91	0.57	0.28 - 1.14
Nationality				
Jordanian (ref)				
Egyptian	2.00	0.88 - 4.56	1.13	0.28 - 4.64
Syrian	1.04	0.83 - 1.30	0.66	0.35 - 1.25
Iraqi	0.53	0.24 - 1.16	ND	ND
Other Arab nationalities	0.94	0.61 - 1.43	0.71	0.32 - 1.58
Non-Arab nationalities	0.49	0.22 - 1.07	2.80	0.27 - 28.93
Work status				
Currently not working (ref)				
Currently working	0.79*	0.65 - 0.95	1.15	0.70 - 1.90
Other covariates of interest				
Exposure to FP messages				
No (ref)				
Yes	1.13	0.99 - 1.30	1.77**	1.23 - 2.54
Sex of head of household				
Male (ref)				
Female	0.42***	0.30 - 0.57	2.27	0.49 - 10.42
Observations (weighted)	12,477		2,185	

Notes: [1] The p-value indicates statistical strength of association of the covariate.
*p<0.05, **p<0.01, ***p<0.001

In the analysis of modern contraceptive method uptake, age, education, and governorate mattered for both women and men. For women, work status and sex of the head of household served as predictors of modern use, while among men, exposure to FP messages also was a predictor of modern use. As described previously, number of living children was excluded from these models due to sample size concerns and its multicollinearity with the age covariate. As women grew older, their odds of using a modern contraceptive method increased. Also, women who completed secondary or higher education had two times higher odds of using a modern method compared to their counterparts without education (OR: 2.07; p<0.001; 95% CI: 1.37–3.12). Women living in female-headed households had 58% lower odds of using a modern contraceptive method than women in male-headed households (OR: 0.42; p<0.001; 95% CI: 0.30–0.57). Women living in Balqa, Ma'an, and Aqaba had reduced odds of using a modern contraceptive method compared to their counterparts in Amman. Also, currently working women had 21% lower odds of using a modern contraceptive method compared to women who do not currently work. Lastly, women who live in female-headed households had lower odds of using a modern method compared to women living in male-headed households. Wealth, residence, nationality, and exposure to FP messages did not make a statistical difference in women's use of modern contraceptive methods.

Among men, age and education showed statistical evidence of an association with modern contraceptive method use. Men in the 25-34 age cohort had five times higher odds of using a modern method compared to men in the 15-24 age cohort. Moreover, men age 35-49 had eight times the odds of using a modern method compared to men age 15-24. Men who completed primary school had a fourfold increase in the odds of using a modern contraceptive method compared with men without education (OR: 4.23; p=0.03; 95% CI: 1.11–16.16). Men living in Zarqa, Irbid, and Karak had nearly three times of the odds of using a modern method compared to men living in Amman. In addition, men who were exposed to FP messages had nearly two times higher odds of using a modern contraceptive method than those who did not report exposure to FP messages (OR: 1.77; p=0.002; 95% CI: 1.23–2.54). Wealth, residence, nationality, work status, and sex of the head of household did not show statistical evidence of differences with using a modern contraceptive method among men.

Appendix Tables 1-3 display results of the three outcome indicators of interest with sex included in the models as an exposure variable. There is strong statistical evidence of an association between sex and ideally wanting three or more children, wanting children soon, and modern contraceptive method uptake. Women have 1.5 times higher odds of ideally wanting three or more children compared to men in the sample, after accounting for other factors (Appendix Table 1). In addition, having completed secondary or higher education, living in a rural area, living in Ajloun, and having at least two living children increased the odds of ideally wanting at least three children. Living in Balqa and having a non-Arab nationality reduced the odds of ideally wanting at least three children.

In contrast, Appendix Table 2 illustrates women's reduced odds in wanting children soon (AOR: 0.65) compared to men. Categories of sex, age, education, governorate, nationality, sex of the head of household, and number of living children showed statistical evidence of associations with wanting children in the next 2 years. In Madaba, Mafraq, Jarash, Ajloun, Tafiela, Ma'an, and Aqaba, women and men overall had approximately twice the odds of wanting children soon compared to women in the reference category of Amman. Respondents living in female-headed households and those with increasing numbers of living children had reduced odds of wanting children soon.

Finally, as displayed in Appendix Table 3, women had three times higher odds of using a modern contraceptive method compared to men (AOR: 3.31), after accounting for other factors. Sex, age, education, and exposure to FP messages were strongly associated with an increase in the odds of using a modern contraceptive method. In contrast, four governorates—Balqa, Mafraq, Ma'an, and Aqaba—compared to the reference category of

Amman, current work status, and living a female-headed household reduced respondents' odds of using a modern contraceptive method.

4 DISCUSSION

This study examines and compares the fertility desires and timing as well as modern contraceptive method use of women and men in Jordan. Socioeconomic factors as well as other covariates such as exposure to FP, the sex of the head of household, and current work status affect a respondent's intentions to have three or more children, wanting a(nother) child soon, and modern contraceptive method use. The women and men in the study share their preferences to ideally have three or more children, and education matters in terms of their fertility intentions and contraceptive use. Moreover, the type of education that men and women obtain and their exposure to FP messages have strong statistical evidence of an association with their use of modern contraceptive methods. In addition, the analysis found that the odds of women wanting three or more children were nearly two times higher compared with their male counterparts. In contrast, there was a 35% reduction in the odds of women wanting children soon – in the next 2 years – compared to men. In addition, women have three times greater odds of using a modern contraceptive method than men in Jordan, after controlling for other factors. This study contributes to the evidence about Jordan's fertility and reproductive health trends based on the behaviors of women as well as men. A unique feature of this analysis is that it focuses on understanding the demographic and health experiences of men along with those of women thanks to the JPFHS's most recent survey data on men.

There were important findings about the sex of the head of household and its relationship to women's fertility timing and contraception in Jordan. After accounting for other factors, living in a female-headed household served as a protective factor in the odds of wanting children soon (within 2 years) and using modern contraceptive methods. In other words, women in female-headed households were less likely to want children soon and use a modern contraceptive method. In addition, the adjusted logistic regression models with sex as an exposure variable illustrated that ever-married women living in a female-headed household had 33% reduced odds of wanting children soon (within 2 years) compared with ever-married women who lived in male-headed households (OR: 0.67; p=0.02; 95% CI: 0.48–0.93). Previous research points to the separation of refugee families that resulted in a growing number of female-headed households in Jordan (Abisaab et al. 2014). It may be that women in female-headed households are in less stable living situations (Farash 2016), for example, which would provide a disincentive to have children soon despite the women tending to want a larger family compared to men in this sample. Qualitative research that examines female-headed households in Jordan is recommended given their unique experiences and vulnerabilities. Currently, there is more research on the impact of male-headed households on fertility and contraceptive decision making (JCAP 2016; Petro-Nustas 1999). Research on the fertility and family planning preferences in female-headed households in Jordan appears to be limited.

Findings from this study have potential programmatic, policy, and research implications. Program implementers, government stakeholders, and health officials could identify targeted ways to increase men's exposure to FP messages, given the statistical evidence of its relationship with their use of modern contraceptive methods. An intervention that engages men agrees with previous research that calls for more tailored approaches to increasing men's participation in FP programs such as counseling in health facilities, which this study did not address (El-Khoury et al. 2016). These findings also concur with previous research that educating men on topics such as fertility and contraception have a notable impact on their general knowledge of FP, especially when targeted to those with fewer years of schooling (Petro-Nustas 1999). Further research and programming could focus on the types of FP messages that are disseminated, and the efficacy of mobile phone messaging in reaching men. Of the different forms of FP message exposure collected in the JPFHS, there was statistical evidence of an association between receiving FP messages through texts with modern contraceptive method use among women and men (results not presented). Since men have also previously noted their interest in television, it has been recommended that television shows in Jordan incorporate education around FP such as birth spacing (Petro-

Nustas 1999). Finally, preference for sons over daughters is strong in Jordan and may contribute to the stall in fertility in that parents may decide to have more children with this preference in mind. Since examining son preference was beyond the scope of this current study, one recommendation for future research would be to examine variables related to birth order and sex of each child before a contraceptive method is used for birth spacing (Bulletin of the World Health Organization 2011; Hailat 2016).

This study has some limitations. Data on ever-married men were collected, while data on unmarried, single men was not as comprehensive in the survey. Men who reported never being in a union were not asked questions related to contraceptive use. In terms of the number of living children reported, respondents who were pregnant were included in the count. A limitation of this study is that an ever-married sample of men and an ever-married sample of women were examined, but not necessarily those who are together. Further research focused on couples is recommended. In addition, although a portion of the sample used traditional contraceptive methods, one of the main objectives of this study was to understand the experiences and behaviors of women and men who use modern contraceptive methods. Thus, examining the experiences specific to women and men who use traditional methods was beyond the scope of this analysis. Future research that focuses on the traditional method users in Jordan is recommended, because previous research found that counseling efforts are shifting users from traditional to modern methods (El-Khoury et al. 2016). Understanding traditional method users and their reasons for using this type of contraception is recommended. Current research that examines contraceptive use intention and use of modern and traditional methods in Jordan is being conducted elsewhere (Riese 2020; Riese and Juan 2020). Another limitation of this study is that the men may not necessarily know what contraceptive method is being used by their partners. Further research on female- or male-controlled and cooperative methods is recommended (MacQuarrie et al. 2015), as well as the fertility and contraceptive experiences of men age 50-59.

As one of the first known attempts to analyze men's data in the Jordan PFHS, this study better prepares the field to examine and compare the experiences and behaviors of women and men related to fertility intentions and reproductive health. This is one of the first known studies that compares the fertility and contraception experiences of men and women in an Arab country. Residents in Jordan continue to want to have more children over the replacement level. Over half of both women and men in the sample reported having between two and four living children, followed by more than 20% who have five or more children. Further research on the gender dynamics, culture, and social norms surrounding fertility and reproductive health is recommended. In addition, the findings related to the nationality of women and men and governorate indicate that specific programmatic and policy interventions could be designed and implemented for these subpopulations as well as specific geographic areas based on the evidence gathered on their fertility intentions and modern contraceptive method behaviors. Nonetheless, examining the fertility intentions and timing and modern contraceptive method experiences of women as well as men in Jordan provides rich insights that help to inform the country's stall in fertility decline. The results call for deeper analysis of strongly held cultural beliefs and social and gender norms.

REFERENCES

Abdel Aziz Zou'bi, A., S. Poedjastoeti, and M. Ayad. 1992. *Jordan Population and Family Health Survey 1990*. Columbia, Maryland, USA: Department of Statistics (DOS)/Jordan, Ministry of Health/Jordan, IRD/Macro International. https://dhsprogram.com/pubs/pdf/FR20/FR20.pdf.

Abisaab, J., S. Balsari, Z. A. Siam, A. Fuller, K. Hamill, and J. Leaning. 2014. "Syrian Refugees in Jordan: Urgent Issues and Recommendations." Boston, MA: The FXB Center for Health and Human Rights at Harvard University. https://cdn2.sph.harvard.edu/wp-content/uploads/sites/114/2017/12/Jordan_2014-final.pdf.

Bongaarts, J., and J. B. Casterline. 2018. "From Fertility Preferences to Reproductive Outcomes in the Developing World." *Population and Development Review* 44 (4): 793-809. https://doi.org/10.1111/padr.12197.

Buccholz, B. 2005. "Family Planning Promotion in the Arab World: Practices Perceptions and the Effectiveness of Birth Spacing Campaigns in Amman." *Drake University Social Science Journal*. http://www.drake.edu/media/departmentsoffices/dussj/2006-2003documents/FamilyBuchholz.pdf.

Bulletin of the World Health Organization. 2011. *Family Planning Gains Ground*. Geneva, Switzerland: World Health Organization. https://www.who.int/bulletin/volumes/89/11/11-021111/en/.

Cetorelli, V., and T. Leone. 2012. "Is Fertility Stalling in Jordan?" *Demographic Research* 26 (13): 293-318. https://www.demographic-research.org/volumes/vol26/13/26-13.pdf. https://dx.doi.org/10.4054/DemRes.2012.26.13.

Char, A., M. Saavala, and T. Kulmala. 2010. "Influence of Mothers-in-Law on Young Couples' Family Planning Decisions in Rural India." *Reproductive Health Matters* 18 (35): 154-162. https://doi.org/10.1016/S0968-8080(10)35497-8.

Department of Statistics (DOS), and ICF. 2019. *Jordan Population and Family and Health Survey 2017-18*. Amman, Jordan, Rockville, MD, USA: DOS and ICF. https://dhsprogram.com/pubs/pdf/FR346/FR346.pdf.

Doocy, S., A. Sirois, J. Anderson, M. Tileva, E. Biermann, J. D. Storey, and G. Burnham. 2011. "Food Security and Humanitarian Assistance among Displaced Iraqi Populations in Jordan and Syria." *Social Science and Medicine* 72 (2): 273-282. https://doi.org/10.1016/j/socscimed.2010.19.023.

El-Khoury, M., R. Thornton, M. Chatterji, and S. K. Choi. 2015. "Effectiveness of Evidence-Based Medicine on Knowledge, Attitudes, and Practices of Family Planning Providers: A Randomized Experiment in Jordan." *BMC Health Services Research* 15 (1): 449. https://doi.org/10.1186/s12913-015-1101-z.

El-Khoury, M., R. Thornton, M. Chatterji, S. Kamhawi, P. Sloane, and M. Halassa. 2016. "Counseling Women and Couples on Family Planning: A Randomized Study in Jordan." *Studies in Family Planning* 47 (3): 222-238. https://doi.org/10.1111/sifp.69.

Farash, H. M. A. 2016. "Socio-Demographic and Economic Characteristics and Problems of Jordanian Female-Headed Households." In *Women, Work and Welfare in the Middle East and North Africa: The Role of Socio-Demographics, Entrepreneurship and Public Policies*, edited by Nadereh Chamlou and Massoud Karshenas, 135-156. Singapore: World Scientific Publishing Co. https://doi.org/10.1142/9781783267347_0006.

Hailat, M. A. 2016. “Socioeconomic Status, Marriage Patterns and Fertility Choices in Jordan.” *Jordan Journal of Economic Sciences* 3 (1): 45-63. https://pdfs.semanticscholar.org/04b7/887395648fd8489db6c681b25cd5bf4d2ccb.pdf.

Health Policy Project. 2011. “Jordan.” http://www.healthpolicyproject.com/index.cfm?ID=country-Jordan.

Jordan Communication, Advocacy, and Policy (JCAP). 2016. “Exploring Gender Norms and Family Planning in Jordan: A Qualitative Study.” Amman, Jordan: JCAP. https://usaidjordankmportal.com/resources/exploring-gender-norms-and-family-planning-in-jordan.

Khader, Y. S., S. El-Qaderi, and A. M. Khader. 2006. “Intrauterine Contraceptive Device Discontinuation among Jordanian Women: Rate, Causes and Determinants.” *BMJ Sexual and Reproductive Health* 32 (3): 161-164. http://dx.doi.org/10.1783/147118906777888279.

Khawaja, M. 2003. “The Fertility of Palestinian Women in Gaza, the West Bank, Jordan and Lebanon.” *Population* 58 (3): 273-302. https://www.cairn-int.info/journal-population-2003-3-page-273.htm. https://www.researchgate.net/deref/http%3A%2F%2Fdx.doi.org%2F10.3917%2Fpope.303.0273.

Krafft, C., and R. Assaad. 2018. “Introducing the Jordan Labor Market Panel Survey 2016.” *Economic Research Forum* Working Paper 1186.

MacQuarrie, K. L. D., J. Edmeades, M. Steinhaus, and S. K. Head. 2015. *Men and Contraception: Trends in Attitudes and Use*. DHS Analytical Studies No. 49. Rockville, MD, USA: ICF International. https://dhsprogram.com/publications/publication-AS49-Analytical-Studies.cfm.

Paksima, S. M., H. N. Madanat, and S. R. Hawks. 2002. “A Contextual Model for Reproductive Health Education: Fertility and Family Planning in Jordan.” *Promotion and Education* 9 (3): 89-95. https://doi.org/10.1177%2F175797590200900301.

Petro-Nustas, W. 1999. “Men’s Knowledge of and Attitudes toward Birthspacing and Contraceptive Use in Jordan.” *International Family Planning Perspectives* 25 (4): 181-185. https://doi.org/10.2307/2991882.

Price, M. 2018. *Migration and Family Planning: A Qualitative Analysis in Jordan*. Durham, NC: Duke Global Health Initiative, Duke University. https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/17024/Price_duke_0066N_14587.pdf?sequence=1&isAllowed=y.

Rashad, H., and H. Zaky. 2013. “A Comparative Analysis of Fertility Plateau in Egypt, Syria and Jordan: Policy Implications.” Cairo, Egypt: Social Research Center, The American University in Cairo. http://schools.aucegypt.edu/research/src/Documents/Fertility_Plateau/A%20Comparative%20Analysis%20of%20Fertility%20Plateau.pdf.

Riese, S. 2020. *Intention to Use Contraceptives in Jordan: Further Analysis of the Jordan Demographic and Health Survey 2017-18.* Rockville, MD, USA: ICF.

Riese, S., and C. Juan. 2020. *Determinants of Modern Contraceptive Use in Jordan: Further Analysis of the Jordan Demographic and Health Survey 2017-18.* Rockville, MD, USA: ICF.

Salem, R. 2012. “Trends and Differentials in Jordanian Marriage Behavior: Marriage Timing, Spousal Characteristics, Household Structure, and Matrimonial Expenditures.” In *The Jordanian Labor Market in the New Millennium,* edited by Ragui Assaad, 189-217. Oxford: Oxford University Press.

Searchinger, T., C. Hanson, R. Waite, B. Lipinski, G. Leeson, and S. Harper. 2013. “Achieving Replacement Level Fertility.” Working Paper, Installment 3 of *Creating a Sustainable Food Future*. Washington, DC: World Resources Institute. http://www.worldresourcesreport.org.

Shteiwi, M. 2015. “Attitudes Towards Gender Roles in Jordan.” *British Journal of Humanities and Social Sciences* 12 (2): 15-27. https://www.researchgate.net/publication/302581523_Attitudes_towards_Gender_Roles_in_Jordan.

Sieverding, M., N. Berri, and S. Abdulrahim. 2018. “Marriage and Fertility Patterns among Jordanians and Syrian Refugees in Jordan.” Working paper 1187. *Economic Research Forum*, http://erf.org.eg/wp-content/uploads/2018/05/WP-1187_Final.pdf.

Spindler, E., N. Bitar, J. Solo, E. Menstell, and D. Shattuck. 2017. “Jordan’s 2002 to 2012 Fertility Stall and Parallel USAID Investments in Family Planning: Lessons from an Assessment to Guide Future Programming.” *Global Health: Science and Practice* 5 (4): 617-629. https://doi.org/10.9745/GHSP-D-17-00191.

Stanca, L. 2012. “Suffer the Little Children: Measuring the Effects of Parenthood on Well-Being Worldwide.” *Journal of Economic Behavior and Organization* 81 (3): 742-750. https://doi.org/10.1016/j.jebo.2010.12.019.

Staveteig, S., and C. Juan. 2018. *Potential Implications of the Ghana and Nepal Follow-up Studies for DHS Questionnaires and Fieldwork Procedures.* Rockville, MD, USA: ICF. https://www.dhsprogram.com/pubs/pdf/OP11/OP11.pdf.

Strengthening Outcomes through the Private Sector (SHOPS). 2015. “Counseling Women and Couples in Family Planning: Evidence from Jordan.” Bethesda, MD, USA: ABT Associates, Inc. https://www.shopsplusproject.org/sites/default/files/resources/Counseling%20Women%20and%20Couples%20in%20Family%20Planning%20-%20Evidence%20from%20Jordan.pdf.

United States Agency for International Development (USAID). 2020. *Improving Access to Quality Health Care*. Amman, Jordan: USAID. https://www.usaid.gov/jordan/fact-sheets/improving-access-quality-health-care.

APPENDICES

Appendix Table 1 Adjusted odds ratios of the multivariable logistic regression for ideally wanting at least three children with sex as a covariate, Jordan PFHS 2017-18

	Ideal number of children	
	3+ children (ref=0-2 children)	
Characteristic	AOR[1]	95% CI
Socioeconomic variables		
Sex		
Male (ref)		
Female	1.51***	1.20 - 1.90
Age		
15-24 (ref)		
25-34	0.81	0.65 - 1.02
35-49	0.71*	0.55 - 0.93
Highest education level completed		
None (ref)		
Primary	1.35	0.91 - 1.99
Secondary+	1.48*	1.06 - 2.07
Wealth index		
Lowest (ref)		
Second	1.04	0.86 - 1.26
Middle	1.12	0.93 - 1.35
Fourth	1.15	0.90 - 1.48
Highest	1.09	0.84 - 1.43
Residence		
Urban (ref)		
Rural	1.32*	1.03 - 1.70
Governorate		
Amman (ref)		
Balqa	0.71*	0.53 - 0.95
Zarqa	1.10	0.88 - 1.39
Madaba	1.16	0.88 - 1.54
Irbid	0.88	0.69 - 1.12
Mafraq	0.97	0.74 - 1.27
Jarash	1.06	0.79 - 1.41
Ajloun	1.91***	1.47 - 2.48
Karak	0.90	0.69 - 1.17
Tafiela	1.06	0.78 - 1.45
Ma'an	1.03	0.71 - 1.50
Aqaba	1.10	0.83 - 1.45
Nationality		
Jordanian (ref)		
Egyptian	0.62	0.35 - 1.11
Syrian	1.28	0.99 - 1.67
Iraqi	0.54	0.25 - 1.16
Other Arab nationalities	0.76	0.47 - 1.22
Non-Arab nationalities	0.34***	0.20 - 0.60
Work status		
Currently not working (ref)		
Currently working	0.99	0.83 - 1.17
Other covariates of interest		
Exposure to FP messages		
No (ref)		
Yes	0.99	0.84 - 1.16
Sex of head of household		
Male (ref)		
Female	0.90	0.64 - 1.26
Number of living children		
0 (ref)		
1	0.79	0.60 - 1.05
2-4	1.43**	1.13 - 1.81
5+	2.02***	1.48 - 2.76
Observations (weighted)	14,536	

Notes: [1] The p-value indicates statistical strength of association of the covariate.
*p<0.05, **p<0.01, ***p<0.001

Appendix Table 2 Adjusted odds ratios of the multivariable logistic regression for wanting (more) children within 2 years with sex as a covariate, Jordan PFHS 2017-18

	Desire for (more) children soon	
	Wants children within 2 years (ref=others[2])	
Characteristic	AOR[1]	95% CI
Socioeconomic variables		
Sex		
Male (ref)		
Female	0.65***	0.51 - 0.82
Age		
15-24 (ref)		
25-34	1.64***	1.31 - 2.05
35-49	1.37*	1.06 - 1.77
Highest education level completed		
None (ref)		
Primary	2.04**	1.25 - 3.35
Secondary+	1.62*	1.03 - 2.52
Wealth index		
Lowest (ref)		
Second	1.02	0.85 - 1.22
Middle	0.97	0.79 - 1.19
Fourth	0.84	0.67 - 1.05
Highest	0.93	0.66 - 1.29
Residence		
Urban (ref)		
Rural	1.07	0.89 - 1.28
Governorate		
Amman (ref)		
Balqa	1.26	0.94 - 1.68
Zarqa	1.23	0.98 - 1.55
Madaba	1.90***	1.46 - 2.46
Irbid	1.36*	1.08 - 1.73
Mafraq	1.56***	1.22 - 2.01
Jarash	1.68***	1.31 - 2.15
Ajloun	1.75***	1.38 - 2.20
Karak	1.39*	1.08 - 1.79
Tafiela	1.79***	1.43 - 2.26
Ma'an	2.07***	1.59 - 2.70
Aqaba	1.82***	1.34 - 2.47
Nationality		
Jordanian (ref)		
Egyptian	0.74	0.34 - 1.62
Syrian	1.19	0.90 - 1.56
Iraqi	2.91*	1.24 - 6.83
Other Arab nationalities	1.04	0.64 - 1.67
Non-Arab nationalities	0.64	0.35 - 1.17
Work status		
Currently not working (ref)		
Currently working	1.02	0.84 - 1.24
Other covariates of interest		
Exposure to FP messages		
No (ref)		
Yes	1.09	0.93 - 1.27
Sex of head of household		
Male (ref)		
Female	0.68*	0.50 - 0.94
Number of living children		
0 (ref)		
1	0.34***	0.26 - 0.45
2-4	0.10***	0.08 - 0.13
5+	0.02***	0.02 - 0.03
Observations (weighted)	14,680	

Notes: [1] The p-value indicates statistical strength of association of the covariate.
[2] Others include those who want later/undecided on timing, report not wanting anymore children, and never had sex. Respondents who reported being infecund or sterilized were excluded.
*p<0.05, **p<0.01, ***p<0.001

Appendix Table 3 Adjusted odds ratios of the multivariable logistic regression for using a modern contraceptive method with sex as a covariate, Jordan PFHS 2017-18

	Modern contraceptive method uptake	
	Using modern contraceptive method (ref=not using or using a traditional contraceptive method)	
Characteristic	AOR[1]	95% CI
Socioeconomic variables		
Sex		
Male (ref)		
Female	3.31***	2.64 - 4.16
Age		
15-24 (ref)		
25-34	2.19***	1.82 - 2.62
35-49	3.04***	2.52 - 3.67
Highest education level completed		
None (ref)		
Primary	1.77**	1.17 - 2.69
Secondary+	2.10***	1.42 - 3.12
Wealth index		
Lowest (ref)		
Second	1.04	0.88 - 1.22
Middle	1.02	0.86 - 1.21
Fourth	0.96	0.79 - 1.16
Highest	1.01	0.81 - 1.26
Residence		
Urban (ref)		
Rural	0.93	0.79 - 1.11
Governorate		
Amman (ref)		
Balqa	0.77*	0.62 - 0.96
Zarqa	1.06	0.87 - 1.29
Madaba	0.92	0.76 - 1.12
Irbid	1.03	0.85 - 1.26
Mafraq	0.81*	0.67 - 1.00
Jarash	1.11	0.92 - 1.35
Ajloun	1.06	0.89 - 1.26
Karak	0.95	0.76 - 1.18
Tafiela	0.98	0.81 - 1.19
Ma'an	0.57***	0.44 - 0.74
Aqaba	0.72**	0.58 - 0.89
Nationality		
Jordanian (ref)		
Egyptian	1.79	0.89 - 3.61
Syrian	1.00	0.81 - 1.23
Iraqi	0.51	0.24 - 1.08
Other Arab nationalities	0.92	0.61 - 1.37
Non-Arab nationalities	0.56	0.23 - 1.37
Work status		
Currently not working (ref)		
Currently working	0.81*	0.68 - 0.97
Other covariates of interest		
Exposure to FP messages		
No (ref)		
Yes	1.19**	1.05 - 1.34
Sex of head of household		
Male (ref)		
Female	0.43***	0.31 - 0.59
Observations (weighted)	14,674	

Notes: [1] The p-value indicates statistical strength of association of the covariate.
*p<0.05, **p<0.01, ***p<0.001