

Fertility of Qatari Nationals in a Context of High Dependency on Foreign Labour

Findings from a Fertility Survey of Qatari Households

Executive Summary Report, July 2019



جامعة قطر
QATAR UNIVERSITY



Fertility of Qatari Nationals in a Context of High Dependency on Foreign Labour

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Executive Report

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This report presents some important highlights of the study “Fertility of Qatari nationals in a context of high dependency of foreign labor” conducted by the Social and Economic Survey Research Institute (SESRI), Qatar University. The survey focused on understanding the role played by proximate determinants of fertility, for example marriage, contraception, attitudes towards family planning, and family-decision making. The study also looked at remote determinants, i.e. socio-economic factors such as women’s age at marriage, education, employment status, relevant spousal characteristics, presence of domestic workers in the household and their support in rearing children. Administered in CAPI (Computer Assisted Personal Interview) mode, the survey was divided into two main parts. In the first part, a knowledgeable member of the household was interviewed to obtain information on key household features and basic socio-demographic characteristics of all members of the household. The second part of the survey, ever-married women within the age group of 15-49 years were interviewed to learn about their reproductive patterns, contraception use and fertility preferences.

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INTRODUCTION

The Social and Economic Survey Research Institute (SESRI) is an independent research organization at Qatar University. Since its inception in 2008, it has developed a strong survey-based infrastructure in order to provide high quality survey data for planning and research in the social and economic sectors. The data are intended to inform planners and decision makers as well as the academic community about current trends and changes. In this study, we will look at the fertility rate among Qatari nationals.

In the last decades, despite pro-natalist policies, fertility of national populations in all GCC countries has declined. The total fertility rate of Qatari women dropped from 3.9 births per woman in 2008 to 2.9 in 2017. Given the small size of the national population compared to the number of foreign nationals living and working in the country, the Qatari government is concerned about the current fertility trends of its national population. The Qatar National Development Strategy (2011-2016) states that “ensuring the continuity of cohesive families and large households is crucial to the national vision, since families are the core of Qatari society.”

Change in fertility rates is a reflection of important economic and socio-demographic changes taking place in a particular society. However, knowledge of relevant trends and fertility determinants amongst Qataris is insufficient due to lack of data and research. Addressing this gap, SESRI conducted a fertility survey of Qatari households in December 2018. The survey focused on understanding the role played by proximate determinants of fertility, for example marriage, contraception, attitudes towards family planning, and family-decision making. The study also looked at remote determinants, i.e. socio-economic factors such as women’s age at marriage, education, employment status, relevant spousal characteristics, presence of domestic workers in the household and their support in rearing children. Finally, in order to allow comparison of survey results with other countries, including Arab nations, appropriate sections of the Demographic Health Survey were incorporated in SESRI’s survey.

This report presents findings from the fertility survey that can be used to better understand changes in fertility patterns and to draw relevant policy conclusions. Details of the survey methodology can be found in the last section of the report.

I. CHARACTERISTICS OF HOUSEHOLDS

Key Findings:

- 8 in 10 households live in privately-owned villas.
- Houses typically have 4 to 5 rooms.
- Virtually all households own a car, with 45 percent having 3 to 4 cars.
- 36 percent of the households have 2 domestic workers (including nannies), while 20 percent have 3 domestic workers.
- Mean size of a household is 5.4 members.
- More than half of the households (54 percent), have a total household monthly income of 50,000 Qatari Riyals or more.

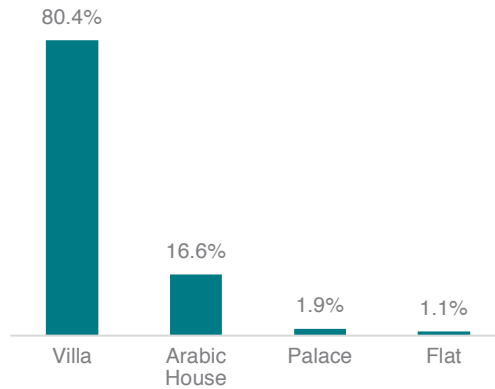
The fertility survey was divided into two main parts. In the first part, a knowledgeable member of the household was interviewed to obtain information on key household features and basic socio-demographic characteristics of all members of the household. This information is presented in the first two sections of the report. In the second part of the survey, ever-married women within the age group of 15-49 years were interviewed to learn about their reproductive patterns, contraception use and fertility preferences. Findings from this part are presented in the subsequent sections of the report.

The present section offers information on key household characteristics. These include: type of residence, ownership of residential property, number of rooms in each house, number of vehicles owned, total number of domestic workers and nannies, total number of household members, total household monthly income, and area of residence. A total of 607 households were surveyed. Findings from this section are indicative of the relative affluence Qatari households enjoy in a rapidly growing, prosperous country.

Figure I-1 shows that majority of the households, 80 percent, are living in villas, while 17 percent live in Arabic style houses. Villas in Qatar are generally modern, double-storey, stand-alone houses. An Arabic house is

an olden style, single-storey house where rooms are situated around a private and open inner-space.

Figure I-1: Property Type



In almost all of the households, 93 percent, at least one household member has ownership of the present residence, as shown in Figure I-2. Only 7 percent stated that no member of the household owns the place of residence.

Figure I-2: Ownership of Property

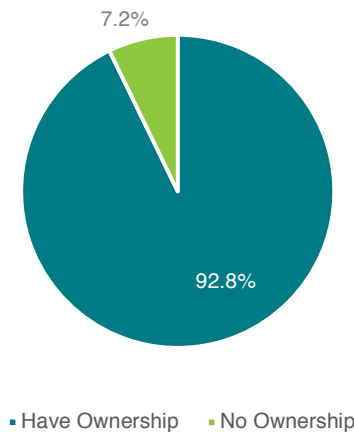


Figure I-3 presents the percentage distribution of houses by number of rooms. Majority of the households live in houses with many rooms. Roughly one-third of the houses have 5 rooms, while less than a quarter have 4 rooms. 10 percent of the houses have 3 rooms or lesser and about 6 percent of the houses have 9 rooms or more.

Figure I-3: Number of Rooms

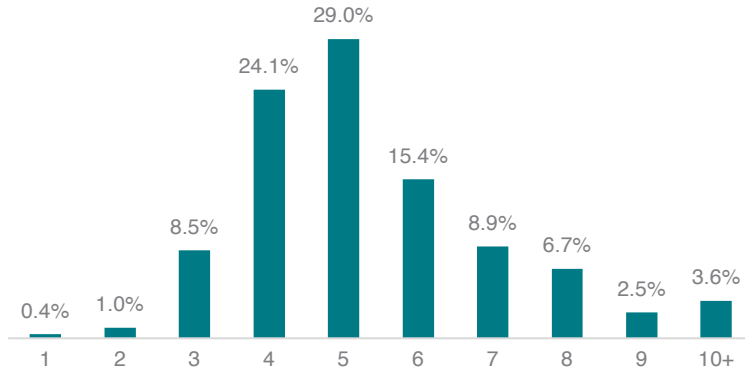
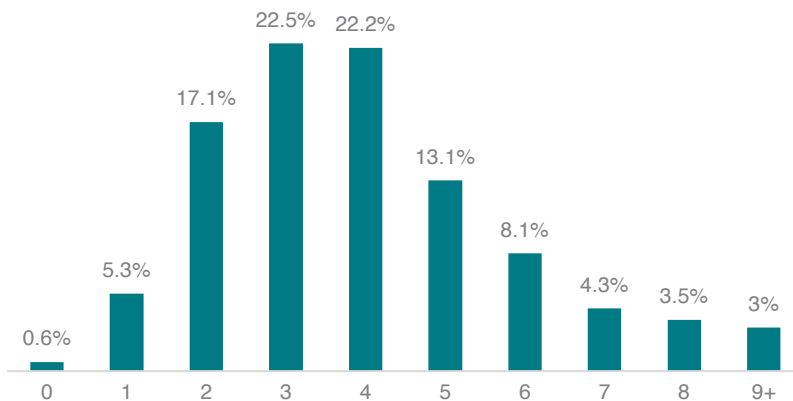


Figure I-4 presents the percentage distribution of households by total number of vehicles owned. Almost all the households surveyed own a vehicle, with the greater majority having 3 or more. Specifically, 45 percent of the households own 3 to 4 vehicles, 17 percent have 2 vehicles and 13 percent have 5. At the two lower ends of the chart, we see that only 5 percent own 1 vehicle, while more than 10 percent of the households have 7 or more. Vehicles here include a saloon car, SUV, and pick-up truck.

Figure I-4: Number of Vehicles



Qatari households are typically serviced by domestic workers and nannies. Figure I-5 illustrates the percentage distribution of households by total number of domestic workers in each house. Please note that this total includes number of nannies. Separate information on nannies is presented in Figure I-6. Overall, about two-third of the households surveyed have 2 or more domestic workers. 36 percent have 2 workers, while 20 percent have 3. A quarter of the houses have 1 domestic worker while around 3 percent of the houses have 6 or more domestic workers.

Figure I-5: Total Number of Domestic Workers

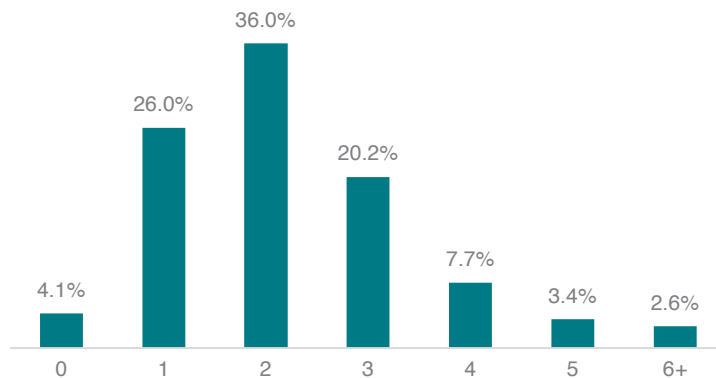


Figure I-6 specifically accounts for the number of nannies working in the households. The figure shows that majority of the households, 67 percent, indicated that they do not have any nannies. It is not a common practice in Qatar to strictly divide household chores and babysitting responsibilities between domestic workers and nannies. Families typically hire domestic workers who also help look after the children. That said, 26 percent of the households specified that they have one nanny and 7 percent said they have 2 or more.

Figure I-6: Number of nannies

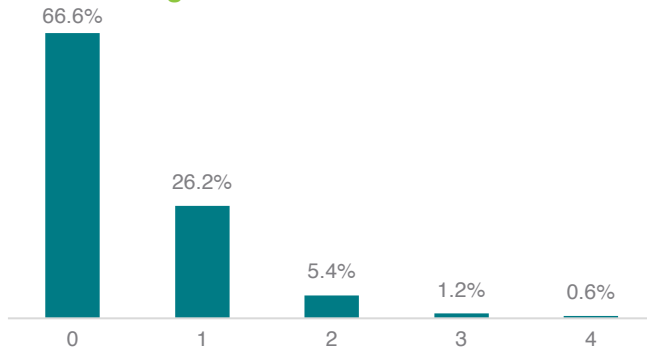


Figure I-7 presents information on household size. Majority of the households are big in size with roughly two-thirds consisting of 5 members or more. 38 percent of the households have 5 to 6 members, whereas 12 percent of the households have 9 or more members. Only 10 percent of the households have 3 members. The mean size of a household is 5.4 members.

Figure I-7: Number of Household Members

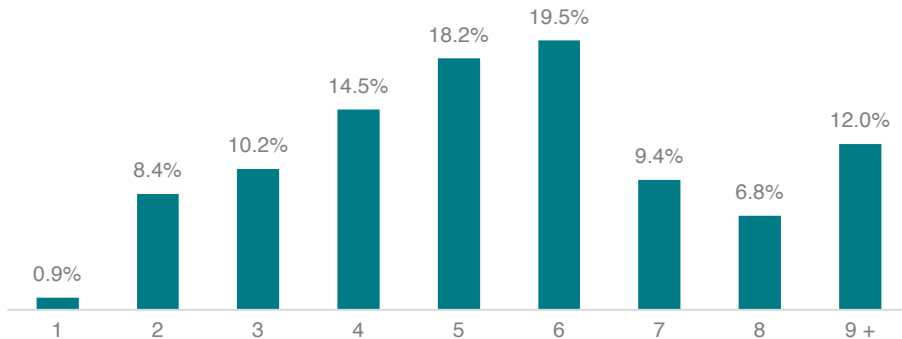


Figure I-8 illustrates the percentage distribution of households by total household monthly income. That is, the sum of the monthly income of all members of the household. This income distribution is a reflection of Qatar's high-income economy, with more than half of the households (54 percent) earning 50,000 Qatari Riyals or more per month. The chart shows two peaks. The highest peak represents 19 percent of the households who have a total monthly income of 50,000 to less than 60,000 Qatari Riyals. The second peak is of 17 percent of the households with a total monthly

income of 20,000 to less than 30,000 Qatari Riyals. Less than 8 percent have an income that is lower than 20,000 Qatari Riyals, while 13 percent have an income of 80,000 Qatari Riyals or more.

Figure I-8: Total Household Monthly Income

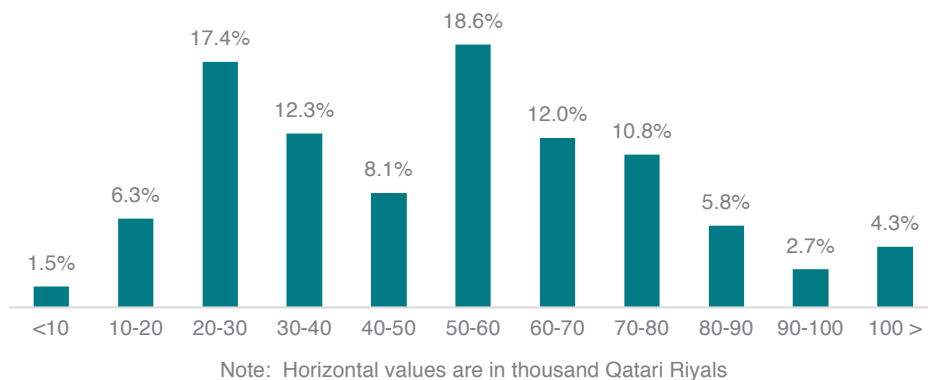
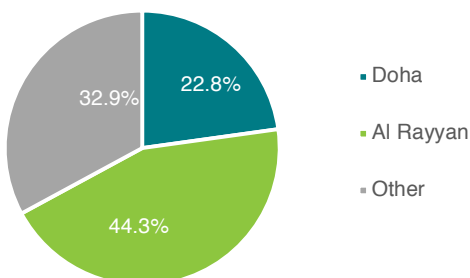


Figure I-9 shows the distribution of households by municipality. Forty-four percent of Qatari households live in Al Rayyan which is an area that is developing fast but is still relatively less urban than the capital city Doha. Twenty-three percent live in Doha, while 33 percent are in other parts of Qatar.

Figure I-9: Municipality



II. CHARACTERISTICS OF SURVEY POPULATION

Key Findings:

- Almost 90 percent of the survey population is 49 years or younger.
- Females, 52 percent, slightly outnumber males, 47 percent.
- 6 in 10 adults are currently married, while 3 in 10 have never been married.
- 24 percent have completed secondary school education, and 22 percent have earned a university degree.
- Almost half of the adults are currently employed, roughly a quarter are students, and 15 percent are unemployed but not seeking work.
- 46 percent of the household members have a monthly salary of 20,000-40,000 Qatari Riyals, while 22 percent earn 40,000-60,000 Qatari Riyals per month.

This section details a number of basic socio-demographic characteristics of the total population of the survey households. The following information was sought from a knowledgeable member of the household about the people who usually live in the household and those who stayed there the night before the interview: age, sex, marital status (if 15 years old or older), highest level of education completed, work status (15 years or older), and current salary of each individual member of the house. The total number of persons living in the households at the time of the survey was 3017 individuals.

Table II-1 presents the percentage distribution of total household population by age and sex. The overwhelming majority of the survey household population are young with 90 percent of them aged 49 years and below. From among this younger cohort, 34 percent are less than 14 years old, and 56 percent are between the ages of 15 – 49 years. In considering sex distribution, the total proportion of females, 52 percent, outnumbers that of males, 48 percent. In terms of sex and age

comparisons, males slightly outnumber females in the lower age ranges of 5 to 19 years old, with 18 percent males and 16 percent females. However, in the higher age ranges of 20 – 49 years, the proportion of women, 26 percent, is greater than that of men, 19 percent. This data is also illustrated through the population pyramid in Figure II-1.

Table II-1: Total Household Population by Age and Sex

Age Group	Sex		Total
	Male	Female	
0 to 4	4.5	5.3	9.7
5 to 9	6.1	5.5	11.6
10 to 14	6.7	5.9	12.6
15 to 19	5.2	5.0	10.2
20 to 24	3.1	4.9	8.1
25 to 29	3.5	4.9	8.4
30 to 34	3.2	4.3	7.5
35 to 39	3.1	4.8	7.9
40 to 44	3.2	3.7	6.9
45 to 49	2.8	3.7	6.5
50 to 54	1.8	1.2	3.0
55 to 59	1.6	0.8	2.5
60 to 64	1.0	1.0	2.0
65 to 69	0.7	0.5	1.2
70 to 74	0.5	0.4	0.9
75 to 79	0.3	0.1	0.3
80 plus	0.4	0.2	0.6
Total	47.7%	52.3%	100%

Figure II-1: Population Pyramid by Age and Sex

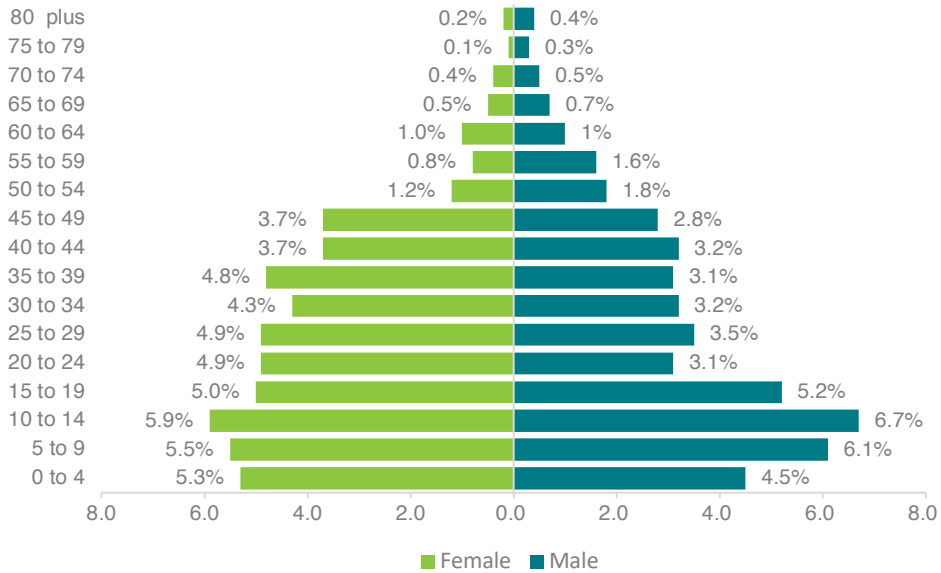


Figure II-2 shows the marital status of individuals who are 15 years or older. Majority of adult Qataris, 61 percent, are currently married. The next highest proportion, 30 percent, is of those who have never been married. The figure also shows a very low rate of family breakdown with only 4.3 percent of the individuals reporting that they are divorced or separated. 1.5 percent have signed the marriage contract but are not living with their spouse yet.

Figure II-2: Marital Status (15 years or older)

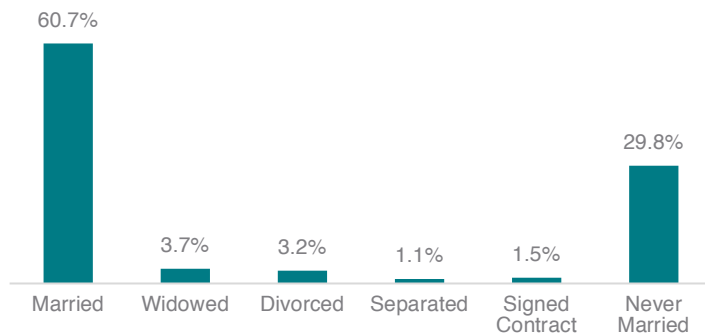


Figure II-3 details the highest level of education completed by individual household members. Overall the findings show a good level of education

in the population, with 24 percent having completed secondary school education and 22 percent of individuals holding some kind of higher education degree. Given that much of the population falls in the lower age ranges, we see that 20 percent have completed primary school, and 13 percent have finished preparatory school. 16 percent have never attended any school, however, as education level was asked of all household members, this percentage includes those who are not in school-going age such as very young children.

Figure II-3: Educational Level

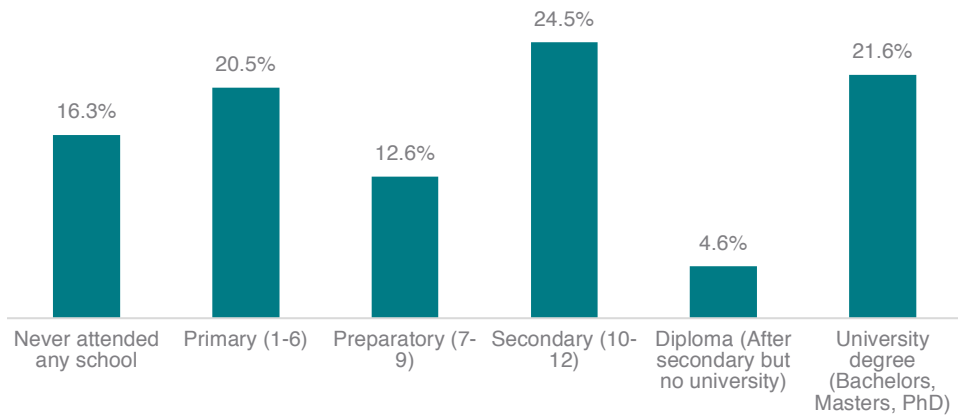


Figure II-4 presents the employment status of household population who are 15 years or older. Almost half of the population, 46 percent, are working full time and 21 percent are students. A much smaller proportion, 15 percent, are not seeking work, whereas 7 percent are unemployed but looking for work. 6 percent have retired. Overall, majority of the population is either working or studying, and unemployment is quite low.

Figure II-4: Work Status

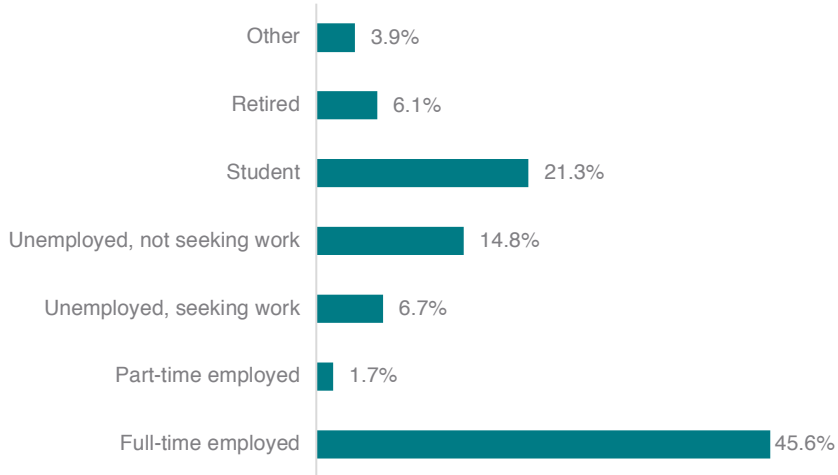
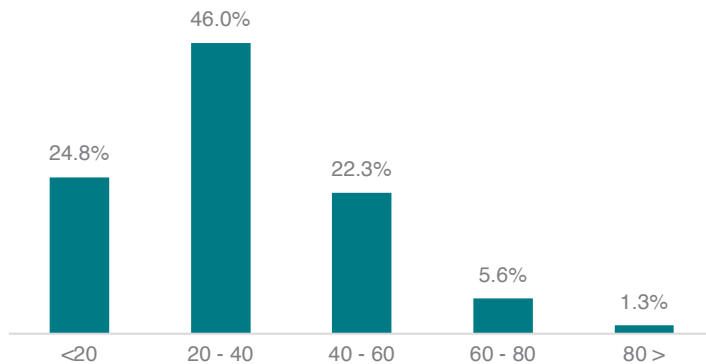


Figure II-5 is the percentage distribution of household population by monthly salary of household members. Almost half of the household population, 46 percent, have a monthly salary of 20,000 to 40,000 Qatari Riyals. 25 percent are earning less than 20,000 Qatari Riyals per month, while 22 percent have a monthly salary of 40,000 to 60,000 Qatari Riyals. A much smaller proportion, 7 percent, earn 60,000 Qatari Riyals or more.

Figure II-5: Monthly Salary of Household Members



Note: Horizontal values are in thousand Qatari Riyals

III. BACKGROUND CHARACTERISTICS OF RESPONDENTS

Key Findings:

- 90 percent of ever-married women, between the ages of 15-49 years, are currently married, while only 6 percent are divorced.
- Women and men have similar levels of education.
- 33 percent of women have completed secondary school while 39 percent hold a university degree. 35 percent of husbands have completed secondary school while 38 percent hold a university degree.
- 45 percent of ever-married women are currently working full-time, and 31 percent are unemployed but not looking for work.
- Slightly more than half of the working women have a monthly salary of 20,000-40,000 Qatari Riyals, while one-third earn less than 20,000 Qatari Riyals.
- 80 percent of husbands are currently working full-time, of which almost half earn 20,000-40,000 Qatari Riyals, and one-third have a monthly salary of 40,000-60,000 Qatari Riyals.

The sections that now follow are based on interviews with ever-married women within the ages of 15-49 years who participated in the second part of the survey which dealt specifically with questions related to reproduction, contraception, and fertility. We start by first presenting in this section key background characteristics of the eligible women. These include: ever-married women's age distribution, current marital status, level of education, women's employment status, women's current salary, husband's level of education, husband's employment status and husband's current salary. Total female household population was 1447 and total number of ever-married women was 594.

Figure III-1 shows the percentage distribution of women by age at last birthday. Majority of the women are 25 years or older. There are much fewer women (8 percent) in the younger age groups of 15-19 and 20-24 years. From age 25 years and above, the chart displays a somewhat uniform distribution with roughly similar percentages of women across the remaining age groups.

Figure III-1: Women's Current Age

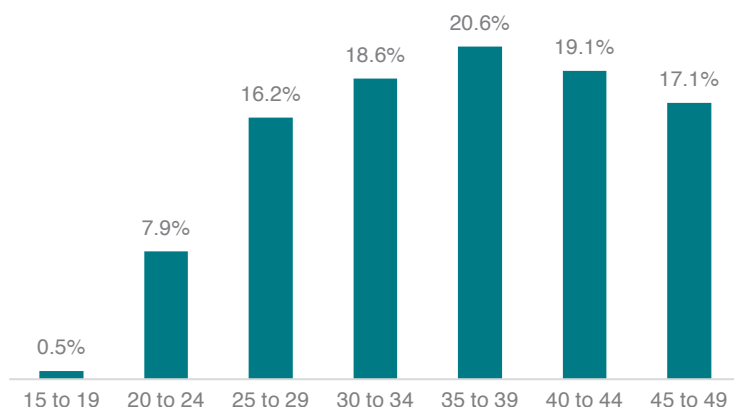


Figure III-2 presents the current marital status of ever-married women. Almost 90 percent of the ever-married women are still married. Divorce rate is quite low with only 7 percent of women divorced and 2 percent separated. 3 percent of them are widows.

Figure III-2: Ever-married Women's Current Marital Status

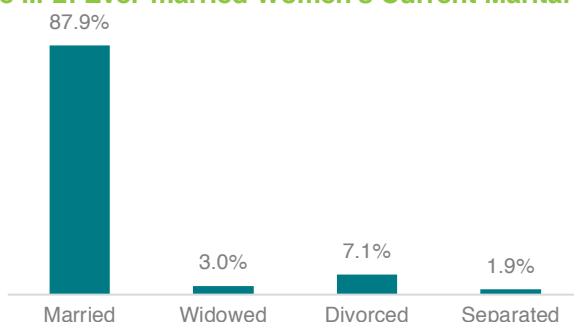
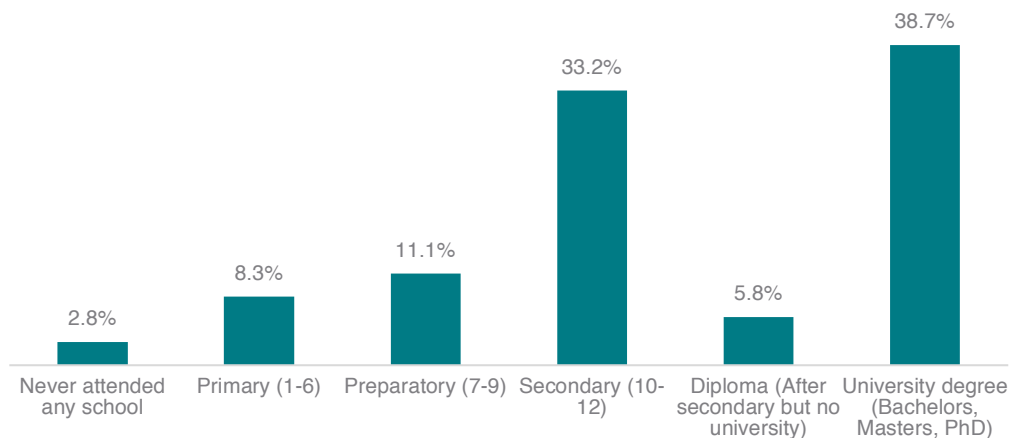


Figure III-3 illustrates the highest level of education completed by the eligible women. Overall, ever-married Qatari women show good levels of

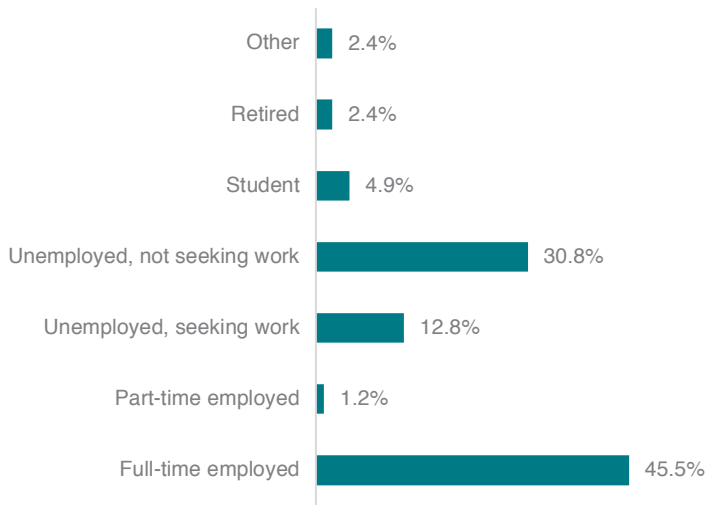
educational attainment. 33 percent have completed secondary school education, while 39 percent hold a university degree. Only 8 percent have not gone beyond primary school education while a nominal 3 percent have not had any formal education.

Figure III-3: Women's Education Level



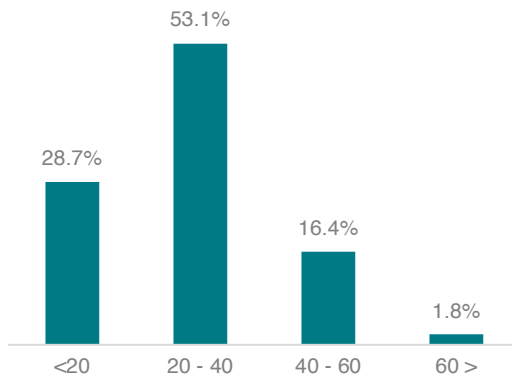
Given married Qatari women's somewhat high levels of educational attainment, we see in Figure III-4 that almost half of the women, 45 percent, are working full-time. One-third of the women, 31 percent, said that they are unemployed and not seeking work. Another 13 percent however are unemployed but looking for work, and 5 percent are students.

Figure III-4: Women's Employment Status



Women who are currently employed in full-time and part-time work (a total of 47 percent) were asked about their current monthly salary. As shown in Figure III-5, more than half of the women (53 percent) have a monthly salary of 20,000 to less than 40,000 Qatari Riyals. More than a quarter (29 percent) earn less than 20,000 Qatari Riyals per month, while 16 percent earn 40,000 to less than 60,000 Qatari Riyals. A much smaller percentage of women (1.8) have a monthly salary of 60,000 Qatari Riyals or more.

Figure III-5: Women's Monthly Salary



Note: Horizontal values are in thousand Qatari Riyals

Women were also asked about their husbands' highest level of education completed. As shown in Figure III-6, majority of the women have educated spouses who have completed secondary or university level education. Specifically, 35 percent have completed secondary school while 38 hold a university degree. Only 3 percent of women said their husbands have never attended any school. In general, Qatari women and men have similar levels of educational attainment.

Figure III-6: Husband's Education Level

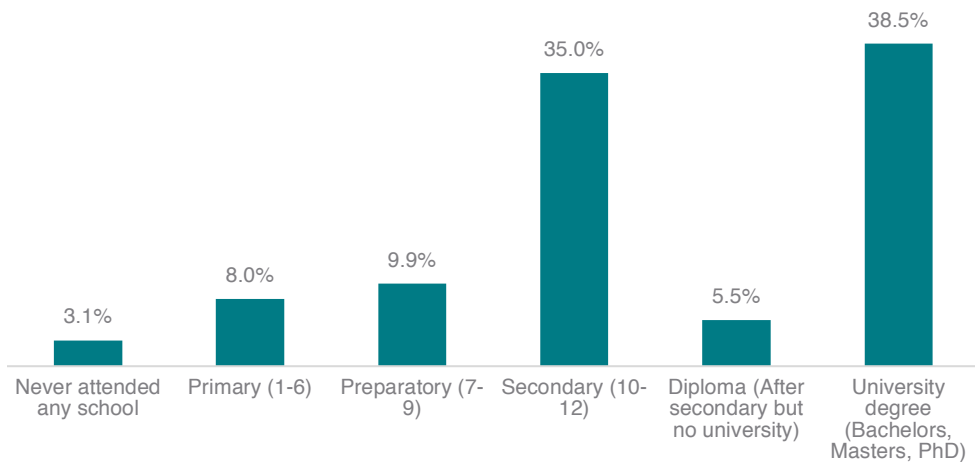
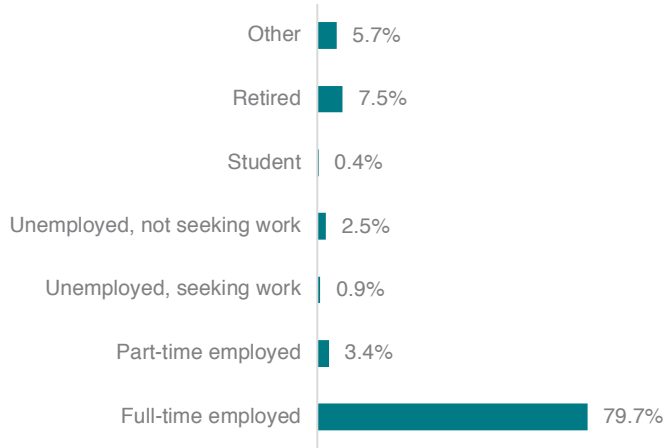


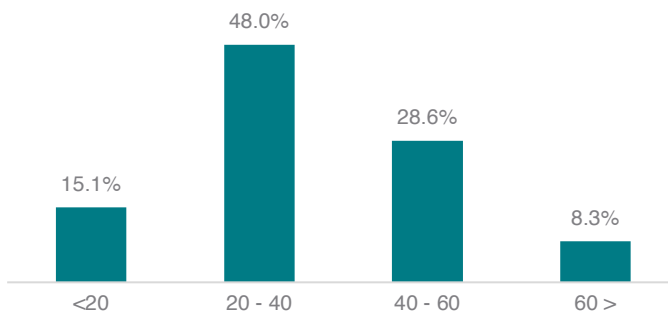
Figure III-7 provides information on husbands' current employment status. Majority of the women, 80 percent, have husbands who are working full time. 7 percent are retired, and a very small proportion of women, less than 4 percent, have husbands who are unemployed. When compared with women, men have a much lower unemployment ratio (those seeking work) of less than 1 percent, while for women it is 13 percent. Also, percentage of women who are unemployed and not seeking work is, as expected, much higher than that of men, 31 percent and 2.5 percent respectively.

Figure III-7: Husband's Employment Status



The survey also asked women about the monthly salary of their husbands who are currently working in part-time or full-time work. Looking at Figure III-8, almost half of the women, 48 percent, have husbands whose monthly income is 20,000 to less than 40,000 Qatari Riyals, and more than a quarter, 29 percent, have husbands whose monthly salary is 40,000 to less than 60,000 Qatari Riyals. 8 percent of women have spouses earning 60,000 Qatari Riyals or more. In general, men are earning much more than their wives, with 37 percent of men earning more than 40,000 Qatari Riyals per month, when compared to only 18 percent of women in that income range.

Figure III-8: Husband's Monthly Salary



Note: Horizontal values are in thousand Qatari Riyals

IV. FERTILITY

Key Findings:

- Total fertility rate for the three years preceding the survey is 3.2 births per woman.
- Fertility is highest for women age 25–29 years at a rate of 169 births per 1000 women. Fertility decreases to 104 births per 1000 women for age 35-39.
- General fertility rate is 99 births per 1000 women and crude birth rate is 30 births per 1000 people.
- Working women are having fewer children (2.8) than non-working women (3.7).
- Mean number of children ever born to women age 40-49 is 4.0.
- On average, Qatari women are giving birth to 3.1 children, of which 2.9 children are still alive.
- Median age at first birth for the average Qatari woman is 22 years.

This section explores fertility patterns in Qatar. Various measures of fertility are used that include current fertility rates, variation in fertility by selected background characteristics, mean number of children ever-born and living, and median age at first birth according to demographic background. This information is instrumental in assessing current and future fertility patterns in Qatar. Data for these measures was taken from the birth history section of the questionnaire where complete details of all of a woman's living and dead children were collected together with information on current pregnancy.

Table IV-1 presents current fertility rates in Qatar. A number of indicators are used to express current fertility rates. These are age-specific rates, total fertility rate, general fertility rate and crude birth rate. Age-specific rates indicate the number of live births per 1000 women according to specific age groups. Total fertility rate is understood as the overall fertility rate, that is, the average number of children a woman would have if she lives through the ages of 15-49 years while having children at the observed age-specific rates. General fertility rate is the annual number of births per 1000 women of reproductive age 15-49 years in a given population. Crude birth rate represents the annual number of births in a given population per 1000 people. All of the above measures were calculated following standard DHS calculations and for the three years preceding the survey in order to provide the most current estimates.

As seen in Table IV-1, fertility is highest in the age group of 25-29 years with 169 births per 1000 women. Fertility decreases to 104 births per 1000 women for age 35-39. At present, total fertility rate for Qatar is 3.2 births per woman. This means that if current observed rates remain constant, a Qatari woman would bear 3.2 children during her full childbearing years. Note that this number is actually lower than the average Qatari woman's ideal number of children desired, which is 4.1. Ideal family size preferences are discussed in more detail in the next section.

Table IV-1 also provides data on general fertility rate and crude birth rate. The general fertility rate is 99 births per thousand women age 15-44. This means that for every 1000 Qatari women, there will be approximately 99 children born. The crude birth rate is 29.7 births per thousand population. This translates into roughly 30 children born for every 1000 people in Qatar.

**Table IV-1: Current Fertility Rates
(Age-specific rates, Total Fertility Rate, General Fertility Rate, and Crude Birth Rate)**

Age group	Fertility rate
15-19	20
20-24	146
25-29	169
30-34	137
35-39	104
40-44	44
45-49	21
TFR (15-49)	3.2
GFR (15-49)	99
CBR	29.7

Note: Fertility rates are for the 3 years preceeding the survey. Age-specific fertility rates are per 1000 women.
Rates for age group 45-49 may be slightly biased due to truncation.
TFR: Total Fertility Rate expressed per woman
GFR: General Fertility Rate expressed per 1,000 women age 15-49
CBR: Crude Birth Rate expressed per 1,000 population

Table IV-2 demonstrates variation in fertility rates according to background characteristics. Working women are having fewer children (2.8) than non-working women (3.7). Similarly, fertility rates vary by education levels, such that, women who are diploma/degree holders have a lower fertility rate (3.2) than women who have only completed primary or preparatory school (4.8). With regards household income, total fertility rate steadily decreases from 4.6 children for families earning less than 30,000 Qatari Riyals, to 2.2 children for families with a total income of 60,000 Qatari Riyals or more.

Table IV-2 also shows the percentage of currently-married women (age 15-49 years) who were pregnant at the time of the interview. This is another measure that is used as an indication of current fertility rate, in spite of any possibility of error that may arise when women are not aware of or choose not to report first trimester pregnancies. The table shows that a higher number of working women (13 percent) were pregnant at the time

of the interview, when compared to the number of non-working pregnant women (9 percent). Seven percent of women who completed primary/preparatory school were pregnant, while roughly 8-9 percent of women who have completed secondary school, diploma, or university-level education were pregnant. Percentage of pregnant women in the 60,000 Qatari Riyals or more household income category was much higher than the percentage of pregnant women in households' earning less than 60,000 Qatari Riyals.

Lastly, Table IV-2 offers the mean number of children ever born (CEB) to women age 40-49. This measure is helpful in understanding cumulative fertility as it takes into account fertility patterns of women who are close to the end of their fertile period. This means that if fertility rates remain stable over time in a given population, then the CEB of women who are 40-49 years of age, will be similar to the TFR of that population. Hence, by comparing TFR and CEB (for Qatari women age 40-49), we are able to see the degree and direction of change in fertility levels over the past few decades in Qatar.

Looking at the table, in general, CEB levels are somewhat higher than TFR across most of the different background characteristics. A somewhat lower TFR suggests that fertility rates are in steady decline. Women are having fewer children than they did a few decades ago. The difference in CEB and TFR is the most pronounced in three categories of women. First, working women whose current TFR rate of 2.8 children per woman is much lower than their CEB measure of 3.7 children per woman. Second, women who have completed secondary school education, with TFR at 2.7 and CEB at 4.6. Third, women in the 60,000 Qatari Riyals or more category whose mean number of children ever born is 3.9 children while their current total fertility rate is 2.2 children. The overall CEB for women age 40-49 is 4.0, that is, 0.8 births lesser than the TFR of 3.2 births.

Table IV-2: Fertility by Background Characteristics

Background Characteristics	Total Fertility Rate	Percentage of women age 15-49 currently pregnant	Mean number of children ever born to women age 40-49
Working status			
Working	2.8	8.1	3.7
Not working	3.7	6.1	4.0
Education Level			
Never attended school	No observation	0.0	3.6
Primary/Preparatory	4.8	1.6	4.6
Secondary	2.7	5.9	4.2
Diploma/University	3.2	6.0	3.4
Household Income			
Less than 30,000 QR	4.6	1.8	4.0
30,000-60,000 QR	3.6	4.6	3.7
60,000 QR or more	2.2	7.0	3.9
Total	3.2	13.6	4.0

Note: Total fertility rates are for the 3 years preceding the survey.

Table IV-3 presents the percentage distribution of ever-married women and currently married women across age groups by the total number of children ever born and those still living. The table provides an overview of change in family size across age groups and is useful in determining primary infertility, as well as percentage of children still alive.

As expected, the number of children Qatari women are having steadily increases with age, from about 1 child for women age 20-24 years old to approximately 4.2 children for women age 45-49 years. On average, Qatari women are giving birth to 3.1 children, of which 2.9 children are still alive. The probability that a woman may lose her child also increases with her age, as evidenced by the biggest difference between mean number of children ever-born (4.2), and mean number of living children (3.7) for women in the 45-49 age category. The table also shows number of women with no child is higher among younger age group. 43 percent of ever-married, 20-24 year old women have no children, while only 6 percent of women age 45-49 have never given birth.

Table IV-3: Children Ever Born and Living

Age	Number of children ever born							Total	Number of women	Mean number of children ever born	Mean number of living
	0	1	2	3	4	5	6+				
Ever-married Women											
15-19	65.5	34.5	0	0	0	0	0	100	3	0.333	0.333
20-24	42.6	28.6	18	10.8	0	0	0	100	45	1.044	0.978
25-29	13.8	27.1	29.6	25.1	2.2	2.2	0	100	93	1.828	1.806
30-34	10.9	8.4	24.2	27.8	19.2	2.7	6.8	100	108	2.796	2.704
35-39	11.8	5.1	9.3	19.1	25.6	15.2	13.7	100	119	3.723	3.420
40-44	3.8	6.3	15.7	21.3	21.2	12.3	19.4	100	109	3.982	3.651
45-49	6.1	8.3	10.4	18.2	18.2	13.2	25.7	100	98	4.255	3.765
Total	12.2	12.1	17.4	21.2	16.4	8.6	12.2	100	575	3.185	2.904
Currently Married Women											
15-19	65.5	34.5	0	0	0	0	0	100	3	0.333	0.333
20-24	45.5	24.7	17.7	12.1	0	0	0	100	40	1.050	0.975
25-29	9.6	25.7	33.6	26	2.5	2.5	0	100	82	1.939	1.927
30-34	10.2	6.1	22.7	31	21.5	0.9	7.6	100	97	2.887	2.794
35-39	10.3	3.8	6.6	20.4	26.6	17	15.3	100	107	3.916	3.607
40-44	3.3	3.1	12.7	22.7	22.4	14.3	21.4	100	94	4.245	3.872
45-49	3.5	6	8.4	17.7	21.3	15.4	27.8	100	84	4.560	4.036
Total	10.9	9.9	16.3	22.5	17.8	9.4	13.2	100	507	3.316	3.068

Table IV-4 shows the median age at first birth for ever-married women age 25-49 according to different demographic characteristics. The age at which childbearing begins is considered an important determinant of overall fertility levels. Delay in having the first child can lead to a decline in fertility. Looking at the table, there is no clear pattern for median age at first birth by age group. We only see that women in their thirties are having their first child at a slightly older age of 23, as opposed to women age 25-29 and 40-49 who had their first child at age 22. In terms of working status, as expected, working women had their first birth at a slightly older age of 23 than non-working women who had their first child at age 22. Education levels also affect age at first birth. Median age at first birth increases with education, from 20 for women in the primary/preparatory category to 23 for women in the diploma/university level. Household income however,

has no clear effect on median age at first birth. The overall median age at first birth was 22 years.

Table IV-4: Median Age at First Birth for Women Age 25-49

Demographic characteristics	Median age at first birth
Age Group	
25-29	22
30-34	23
35-39	23
40-44	22
45-49	22
Working status	
Working	23
Not working	22
Education Level	
Never attended school	23
Primary/Preparatory	20
Secondary	22
Diploma/University	23
Household Income	
Less than 30,000 QR	21
30,000-60,000 QR	23
60,000 QR or more	22
Total	22

V. FERTILITY PREFERENCES

Key Findings:

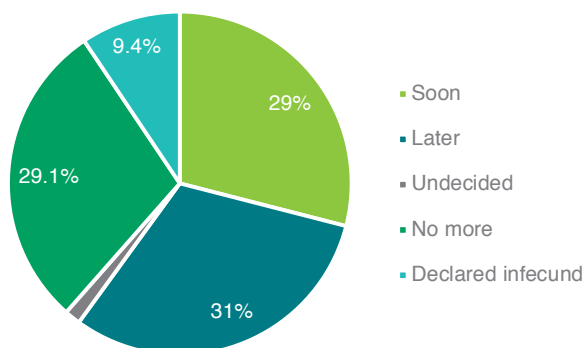
- 6 in 10 currently married women would like to have another child, and 31 percent of them would like to delay this birth for two years or more.
- 4 in 10 women who already have 5 living children would like to have another child, while no woman with 6 or more children wants to have another child within the next two years.
- The mean ideal number of children for currently married women is 4.1. This is higher than the current total fertility rate which is 3.2 births per woman.
- Women's working status has little impact on ideal number of children desired.
- More than half of the women expressed that their husbands share their ideal family size preferences, while 36 percent mentioned that their husbands would like to have more children.
- For 7 in 10 women, the sex of the child does not matter.

This section discusses married Qatari women's fertility preferences in terms of their future fertility intentions and ideal number of children desired. Women's fertility preferences are also analyzed in relation to key socioeconomic characteristics such as, education level, working status and household income. This is followed by women's own understanding of whether they and their spouses share ideal family size goals, and lastly, data on child's gender preference is presented.

In order to understand future fertility preferences, currently married Qatari women were asked if they would like to have any more children and how long would they like to wait before the birth of the next child. Figure V-1

shows that majority of the women, 60 percent, would like to have another child. Among these women, 29 percent would like to have another child in less than 2 years and 31 percent would prefer to delay for 2 years or more. Most of the remaining women, 29 percent, do not want to have any more children. Only 1.5 percent of the women said they were undecided about their fertility plan.

Figure V-1: Desire for More Children among Currently Married Women



Note: 'Soon' means next birth is preferred within 2 years, and 'later' means would like to delay next birth for 2 years or more.

In Table V-1, women's future fertility intentions are compared against the total number of living children they currently have. Looking at the table, it is clear that the higher the number of living children, the lower the desirability to have more children. Almost 8 in 10 women who have 2 children are planning to have another child, while 4 in 10 women with 5 living children, would like to have another child. The desirability for more children falls significantly only for women who already have 6 or more living children, indicating among Qatari women a preference for having big families. No woman with 6 or more children is planning to have another child soon. Notice also that the percentage of women who are sterilized jumps to 15 percent for women who have 6 or more living children. In terms of age gap between children, among women who have 1 living child, there is little desire to space the next birth, with 59 percent preferring to have the next child in less than 2 years. Preference for spacing children with at least a two-year gap is higher among women with 3 or more

children. Overall, out of the 512 women interviewed, majority of the women currently have 2 to 4 living children.

Table V-1: Women's Fertility Preferences by Number of Living Children

Child desirability	Total living children							Total
	0	1	2	3	4	5	6+	
Soon ¹	24.2	59.3	46.6	28.7	24.4	20.1	0	29
Later ²	47.6	23.6	31.3	40.4	32.7	22.1	16.2	31
Undecided	0	3.8	1.1	0.8	0.9	5.6	0	1.5
No more	8.2	5.8	13.8	20	35.6	37.3	57.4	26.5
Sterilized	0	0	0	0.9	1.1	1.8	14.7	2.6
Declared infecund	20.1	7.4	7.2	9.1	5.3	13	11.7	9.4
Total	100	100	100	100	100	100	100	100
Number of women	34	53	86	119	98	54	68	512

¹Would like to have next birth within two years

²Would like to delay next birth for two years or more

Table V-2 presents the percentage of women who stated that they do not want any more children by the number of living children they have and their working status. In general, for women with 4 or lesser children, working status does not have much impact on their desire to limit children. However, working women with 5 children are somewhat more likely to limit childbearing than non-working women. Majority of the women, regardless of working status, would like to limit childbearing after having 6 or more children.

Table V-2: Desire to Limit Childbearing

Women's employment status	Number of living children						
	0	1	2	3	4	5	6+
Not working	7.7	9.9	15.6	25.2	38	33.2	71.3
Working	3.8	9.6	15.6	22.3	37.1	49	68.2

After looking at women's future fertility preferences, we now consider women's ideal number of children. Ever-married women were asked, "If

you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?” Table V-3 shows the percentage distribution of ever-married women’s ideal number of children according to total number of living children. Almost one-third of the women, 30 percent, said their ideal number of children is 6 or more, while 21 percent said they prefer 4 children, and 18 percent mentioned that they would like to have 5 children. Overall, the mean ideal number of children for currently married women is within the range of 4.2 for women with one child to 4.7 for women with 6 children or more. In comparing ideal number of children with total living children, the table shows that regardless of number of living children, women prefer having four to six children. For example, 68 percent of women with 3 children ideally would like to have 4 or more children, and 70 percent of women with 5 children stated that their ideal number of children was 5 or more.

Table V-3: Ideal Number of Children by Number of Living Children

Ideal Number of Children	Total Living Children							Total
	0	1	2	3	4	5	6+	
0	31.7	11.1	17.2	14.2	14.3	18.1	16.9	16.8
1	3.2	4.2	4.7	0.8	0.9	0	2.7	2.3
2	11.7	4.1	10.6	3.2	4.6	5.3	2.6	5.8
3	8.1	5.4	3.8	14.1	2.8	0	1.4	5.7
4	20.5	30.7	25.6	21.4	30	6.5	7.8	21.5
5	6.7	28	20.9	22.2	11.2	33.4	2.7	17.8
6+	18.2	16.4	17.1	24.1	36.3	36.8	65.8	30.1
Total	100	100	100	100	100	100	100	100
Mean Ideal Number of Children								
Ever married mean	2.8	3.9	3.5	3.9	4.1	4.2	4.5	3.9
Number of ever married women	102	14	35	35	130	109	182	607
Currently married mean	3.5	4.2	3.8	3.9	4.3	4.5	4.7	4.1
Number of currently married women	65	9	29	25	116	101	167	512

Table V-4 presents differentials in mean ideal number of children for Qatari women according to basic demographic characteristics such as age group, working status, education level and household income. Overall, older women prefer more children. The mean ideal number of children increases from 3.7 children among younger women to 4.5 children among older women. The results suggest that there is not much difference in

preferred number of children between working (3.8) and non-working women (4.1). With regards education level, women with no formal education prefer more children than women who are educated. However, there is no difference in ideal family size between women with secondary school education only and those who have tertiary education. In considering household income, it appears that women in households whose total monthly income is less than 60,000 Qatari Riyals prefer more children (4.1) than women living in households with a total monthly income of more than 60,000 Qatari Riyals (3.6 children).

Table V-4: Mean Ideal Number of Children by Demographic Characteristics

Demographic Characteristics	Mean	Number of women
Age Group		
15-24	3.7	48
25-29	4.0	93
30-34	3.9	108
35-39	3.9	119
40-44	3.8	109
45-49	4.5	98
Working status		
Working	3.9	273
Not working	4.1	294
Education Level		
Never attended school	5.3	17
Primary/Preparatory	3.9	117
Secondary	3.8	236
Diploma/University	3.8	237
Household Income		
Less than 30,000 QR	4.1	113
30,000-60,000 QR	4.1	173
60,000 QR or more	3.6	167

In Table V-5, husband's fertility preferences are compared with currently married women's ideal number of children. While the survey did not interview men directly, women were asked about their husbands' fertility preferences. In general, slightly more than half of the Qatari women, 54 percent, felt that they and their husbands agree on the number of children

that they would like to have. 36 percent believed that their husbands preferred to have more children than they themselves wanted. Women whose ideal family size was 5 or more children were more likely to say that they and their husbands preferred the same number of children. Only women who themselves wanted one child said that their husband would like to have more children.

Table V-5: Husband’s Fertility Preference by Wife’s Ideal Number of Children

Husband's fertility preference	Women's ideal number of children							Total
	0	1	2	3	4	5	6+	
Same number	44.8	44.1	54.9	47.8	50.1	56.8	61.1	54.4
More children	26	55.9	35	39.9	47.4	37.4	29.1	35.8
Fewer children	4.5	0	6.7	0	0.8	3	7.9	4.3
Missing	24.8	0	3.4	12.3	1.6	2.8	1.9	5.5
Total	100	100	100	100	100	100	100	100
Number of currently married women	65	9	29	25	116	101	167	512

Figure V-2 shows whether or not currently married women are facing any pressure to have children. 8 in 10 women stated that they do not feel pressured to have a child or to have more children.

Figure V-2: Pressure to Have Children

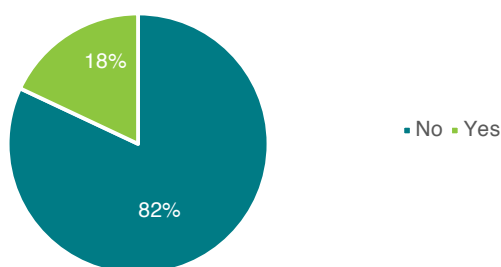
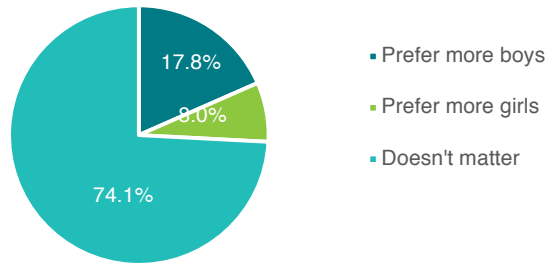


Figure V-3 considers child’s sex preference among Qatari women. The figure shows that for majority of the women, 74 percent, it does not matter whether they have a boy or a girl. Only about 18 percent prefer more boys than girls, while 8 percent prefer more girls than boys.

Figure V-3: Child's Sex Preference among Women



VI. FAMILY PLANNING

Key Findings:

- Women are largely aware of modern contraceptive methods, especially the pill, IUDs, and male condom.
- Most women also know about various traditional methods with prolonged breastfeeding being the most popularly known method.
- 7 in 10 currently married women are not using any kind of family planning methods.
- Women who do engage in family planning prefer to use the pill followed by the IUD.
- The use of any modern contraceptive method is more prevalent among women who are between 30 to 44 years old.
- 9 in 10 women are satisfied with the family planning method they are using.
- 8 in 10 currently married women are not planning to use family planning in the future.
- Health reasons and the fear of side effects are the most cited reasons for nonuse of family planning.

This section offers an assessment of currently married Qatari women's use and nonuse of various modern and traditional family planning methods. It looks at both current use of family planning and possible future use. The section also elaborates on reasons for non-usage of contraceptive methods despite intentions to limit or stop childbearing. Lastly, Qatari women's attitudes towards the use of contraception in early marriage are discussed.

Table VI-1 presents the percentage distribution of currently married women who have knowledge of various modern and traditional family planning methods. For each of the methods, women were asked whether they had ever heard of it. If women were not able to recognize the name of the method, the interviewer read to them a standard description of the method and repeated the question. No further questions were asked to ascertain respondents' proper knowledge of the method. Hence, knowing a method here refers to having heard of the method.

Vast majority of the women are aware of many modern and traditional contraceptive methods as shown in Table VI-1. Nearly all of the women know about the pill (97 percent) and the IUD (95 percent). 88 percent of women are aware of male condoms and 80 percent have heard of injectables. Interestingly, while 74 percent of women know about female sterilization, only 30 percent of women have heard about male sterilization. In terms of traditional methods, majority of the women are aware of them, with prolonged breastfeeding being the most commonly known method.

Table VI-1: Knowledge of Family Planning Methods

Modern Methods	Percent of women	Traditional Methods	Percent of women
Female sterilization	73.7	Rhythm	75.6
Male sterilization	30.3	Withdrawal	86.1
IUD	94.7	Prolonged breastfeeding	92.9
Injectables	80.5	Other	2.6
Pill	97.2		
Implants	47.3		
Male Condom	87.6		
Diaphragm	31.9		
Emergency contraception	20.3		

Currently married women were also asked about their present use of family planning methods. Overall, Figure VI-1 shows that almost 7 in 10 Qatari women are currently not using any contraceptive methods. Among the one-third of women who do use a contraceptive method, 9 percent use

pills, 8 percent use IUDs and 6 percent are practicing traditional methods to avoid pregnancy.

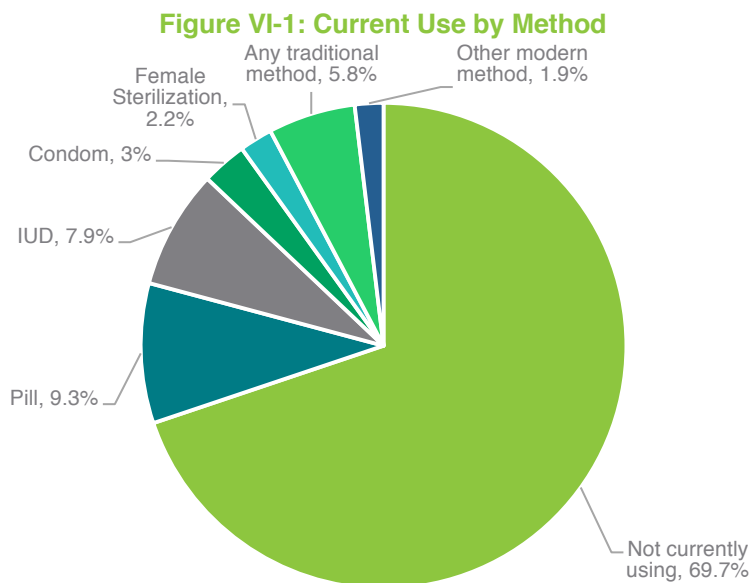


Table VI-2 breaks down the use of modern contraceptive methods by currently married women’s age group. In general, the use of any modern contraceptive method is more prevalent among women who are between 30 to 44 years old. This pattern holds true for women using the pill and IUDs as well. While overall use of male condoms is much lesser, younger women between 25-35 and older women between 40-44 are using male condoms for family planning. After the age of 44, use of contraception tends to drop most likely because many women are reaching menopause.

Table VI-2: Use of Modern Methods by Age Group

Age group	Any method	Any modern method	Female sterilization	Pill	IUD	Injectable	Implant	Male Condom	Diaphragm
15-19	No observation								
20-24	21.8	10.9	0	6.3	2.0	2.3	0	2.3	0
25-29	19.2	16.1	0	7.6	4.3	0	1.1	5.3	0
30-34	36.1	35.2	1.9	15.6	12.9	1	0	4.6	0
35-39	33	27	1.6	14.1	12	0	0	1.7	0.9

40-44	40.3	35.7	8.4	14.2	9.3	0	1	5.6	0
45-49	31.5	28.6	3.1	9.2	14.2	0	0	3.1	0

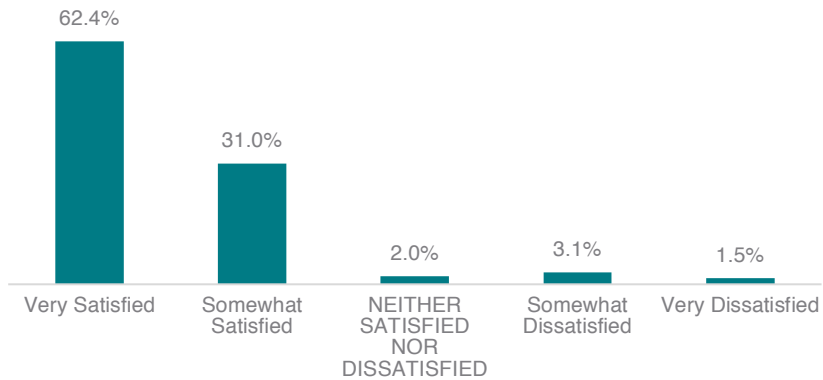
Table VI-3 details the use of traditional contraceptive methods by currently married women’s age group. Traditional methods are somewhat more popular with younger women within the ages of 20 to 24 years. Overall however, roughly 50-60 percent of women across all age groups are not using any modern or traditional method.

Table VI-3: Use of Traditional Methods by Age Group

Age group	Any traditional method	Rhythm	Withdrawal	Prolonged breastfeeding	Not using any modern or traditional method
15-19					No observation
20-24	15.5	6.3	6.6	8.6	49.6
25-29	8.4	3.2	3.1	2.1	62.2
30-34	3.5	0.9	2.6	0.9	50.1
35-39	7.7	5.1	5.1	0.9	48.7
40-44	8.3	2.7	4.7	2.9	46.3
45-49	3.9	1.9	2	0	56.9

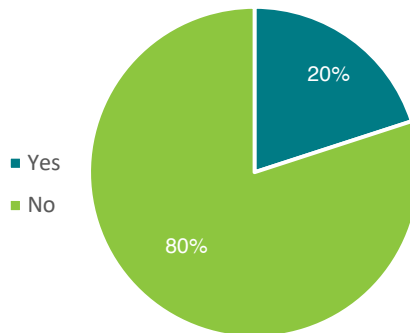
Currently married women who are using any contraceptive method were also asked about their level of satisfaction with the method they use. The results in Figure VI-2 show that majority of the women, 62 percent, are very satisfied with their chosen method while 31 percent are somewhat satisfied. Only about 5 percent expressed dissatisfaction with the method they are using. Note that the middle ‘neither satisfied nor dissatisfied’ category was unread to the respondents.

Figure VI-2: Contraception Method Satisfaction Level



In addition to current use, women were asked whether in the future they will use any contraceptive method to delay or avoid pregnancy. 8 in 10 women have no plans to use contraceptive methods, as seen in Figure VI-3. This finding is in concurrence with the pattern of limited use reported earlier. On the whole, family planning is not prevalent among Qatari women.

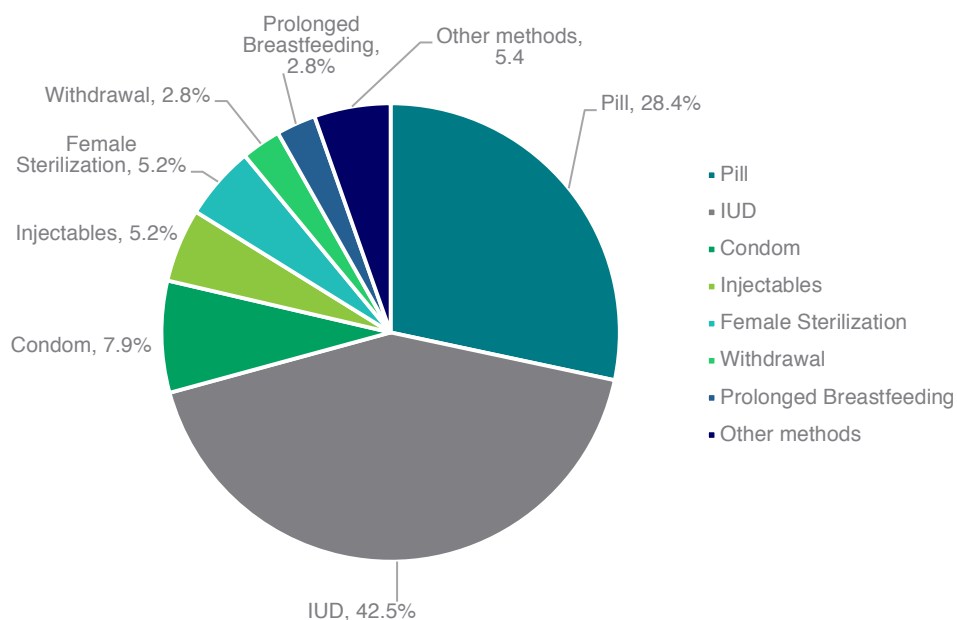
Figure VI-3: Future Use of Contraception



The 20 percent of women who did state that they may use family planning in the future were asked about which method would they like to use. Their responses are illustrated in Figure VI-4. Once again, in line with results seen earlier, the pill and IUD were mentioned the most. The only difference is that while in terms of current use, women are more likely to be using the pill, when it comes to future use, IUDs were the preferred choice. 42 percent of women said they will use IUDs while 28 percent of women chose the pill. Preference for male contraceptive device, that is

the condom, was quite low at 8 percent. 5 percent of women said they would consider female sterilization.

Figure VI-4: Which contraceptive method will you prefer to use?



The survey also sought to uncover the reasons behind such widespread non-usage of family planning among currently married Qatari women. Hence, women who do not want another child or anymore children were asked about their reasons for not using family planning. The list of reasons given in the following two tables were not read out to the respondents. Instead, women were asked to openly describe their reasons for non-usage that were then coded based on categories from the DHS. These reasons are divided into four broad categories namely, fertility-related reasons, opposition to use, lack of knowledge and method-related reasons.

Table VI-4 presents the percent distribution of non-pregnant, currently married, nonusers among women who do not want another child soon, by reasons for nonuse. More than half of the women, 53 percent, gave method-related reasons for not wanting to use family planning. The most important of which were health concerns (27 percent), fear of side effects (15 percent), and the method interfering with the body’s normal processes

(7 percent). One-third of the women mentioned fertility-related reasons of which, having not menstruated since last birth (11 percent), fatalistic beliefs (11 percent), and infrequent sex (8 percent), were the most cited. Only 4 percent of women spoke of religious prohibition.

Table VI-4: Reasons for Nonuse (women not wanting another child soon)

Reasons	Percent of women
Fertility-Related Reasons	30.3
Not Having Sex	0
Infrequent Sex	7.6
Menopausal/Hysterectomy	0
Subfecund/Infecund	0
Not Menstruated Since Last Birth	11.4
Up to God/Fatalistic	11.3
Opposition to Use	4.1
Respondent Opposed	0
Husband Opposed	0
Others Opposed	0
Religious Prohibition	4.1
Lack of Knowledge	0
Knows No Method	0
Knows No Source	0
Method-related Reasons	53.3
Health Concerns	27.1
Fear of Side Effects	15.3
Lack of Access/Too Far	0
Costs Too Much	0
Preferred Method Not Available	0
No Method Available	0
Inconvenient to Use	3.5
Interferes with Body's Normal Processes	7.4
Other	12.2

Table VI-5 presents the percent distribution of non-pregnant, currently married, nonusers among women who do not want any more children, by reasons for nonuse. Similar to previous findings, method-related reasons were the most cited, 43 percent. From this category, 26 percent of women gave health reasons and 9 percent of women stated fear of side effects. One-third of the women had a variety of fertility-related reasons that

prevented use of family planning. As these are women who do not want any more children, reasons such as subfecund/infecund (9 percent), and menopause/hysterectomy (7 percent), were more common. 9 percent said it was up to God and 5 percent cited opposition from husband.

Table VI-5: Reasons for Nonuse (women not wanting anymore children)

Reasons	Percent of women
Fertility-Related Reasons	30.8
Not Having Sex	0
Infrequent Sex	2.3
Menopausal/Hysterectomy	7.3
Subfecund/Infecund	9.5
Not Menstruated Since Last Birth	2.5
Up To God/Fatalistic	9.1
Opposition to Use	4.9
Respondent Opposed	0
Husband Opposed	4.9
Others Opposed	0
Religious Prohibition	0
Lack of Knowledge	0
Knows No Method	0
Knows No Source	0
Method-related Reasons	42.8
Health Concerns	26.4
Fear Of Side Effects	9.4
Lack Of Access/Too Far	0
Costs Too Much	0
Preferred Method Not Available	0
No Method Available	2.3
Inconvenient To Use	2.2
Interferes With Body's Normal Processes	2.5
Other	21.5

The survey also measured attitudes toward family planning. All eligible women were asked whether they thought it was appropriate for a couple to use family planning before and after the first birth/pregnancy. Opposition to use of family planning before first birth was stronger. shows

that the number of Qatari women who find it inappropriate for a couple to use family planning after their first birth (48 percent), is only slightly lower than those who view this as appropriate (52 percent). However, most of the women, 84 percent, consider it inappropriate for a newly married couple to use family planning before the first pregnancy, as shown in Figure VI-5.

Figure VI-6: Would you consider it appropriate for a couple to use family planning after the first birth?

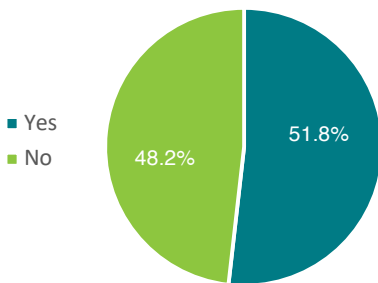
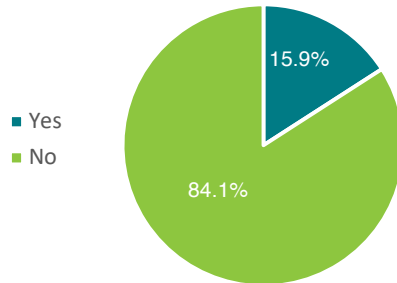


Figure VI-5: Would you consider it appropriate for a newly married couple to use family planning before the first pregnancy?



VII. MARRIAGE

Key Findings:

- Median age at first marriage is 21 years.
- Median age is highest, 22 years, for women who are currently 30-34 years old.
- The median age of marriage for women who never went to school is 18, which steadily increases to 22 for women who completed tertiary education.
- Median age at marriage for non-working women (20 years) is only slightly lower than that of working women (21 years).
- Ideally, it is preferred that women marry between the ages of 20-25 years and men marry when they are 25-30 years old.

This section primarily deals with marriage as it is an important determinant of fertility. It examines the impact of selected sociodemographic variables on median age at marriage. It also provides information on what Qatari women consider an ideal age for women and men to marry.

Table VII-1 presents the current marital status of ever-married women by age group. Across the age groups, 86-90 percent of women are still married. As expected, percentage of widowed women is higher for women 40 years and older. Divorce appears to be slightly more common among women 34 years old and younger.

Table VII-1: Current Marital Status of Ever-Married Women by Age Group

Age group	Married	Widowed	Divorced	Separated	Total
15-24	89.3	0	10.7	0	100
25-29	88	1.1	7.5	3.3	100
30-34	89.7	1	8.4	1	100
35-39	89.8	0.9	6.8	2.6	100
40-44	85.9	5.6	6.6	1.8	100
45-49	85.6	7.3	5.1	2	100
Total (15-49)	88	2.9	7.2	1.9	100

Table VII-2 shows women's median age at marriage according to current age groups. In this report, age at marriage is defined as the age when the woman first started to live with her husband. The median age at marriage is higher for women who are currently between 30 to 39 years old. It is slightly lower (20) for women younger than 30 and older than 40. Overall median age at marriage is 21 years.

Table VII-2: Age at First Marriage

Age group	Median age at marriage	Number of women
15-24	20	48
25-29	20	92
30-34	22	97
35-39	21	112
40-44	20	102
45-49	20	90
Total	21	541

Note: All values in this table are for women married once only.

Table VII-3 compares age at marriage for ever-married Qatari women by additional background characteristics. As expected, age at marriage increases with higher levels of education. The median age of marriage for women who never went to school is 18, and for women holding a diploma or university degree is 22 years. Working women are getting married at a

slightly older age (21 years), than non-working women (20 years). In terms of household income also, women in higher income homes are marrying at a slightly older age.

Table VII-3: Age at Marriage by Demographic Characteristics

Demographic Characteristics	Median Age at Marriage	Number of women
Education Level		
Never attended school	18	15
Primary/Preparatory	19	101
Secondary	20	210
Diploma/University	22	219
Working status		
Working	21	254
Not working	20	277
Municipality		
Doha	21	133
Al Rayyan	20	226
Other	21	186
Household Income		
Less than 30,000 QR	20	101
30,000-60,000 QR	21	151
60,000 QR or more	21	151

Note: All values in this table are for women married once only.

Figure VII-1 and Figure VII-2 display the percent distribution of women by what they consider to be the ideal age of marriage for girls and boys. In general, women prefer that males marry at an older age than females. For girls, the youngest preferred age of marriage is 14 and for boys it is 17. For women, ideal age of marriage is between 20-25 years and for men it is between 25-30 years old.

Figure VII-1: Ideal Age for Girl to Marry

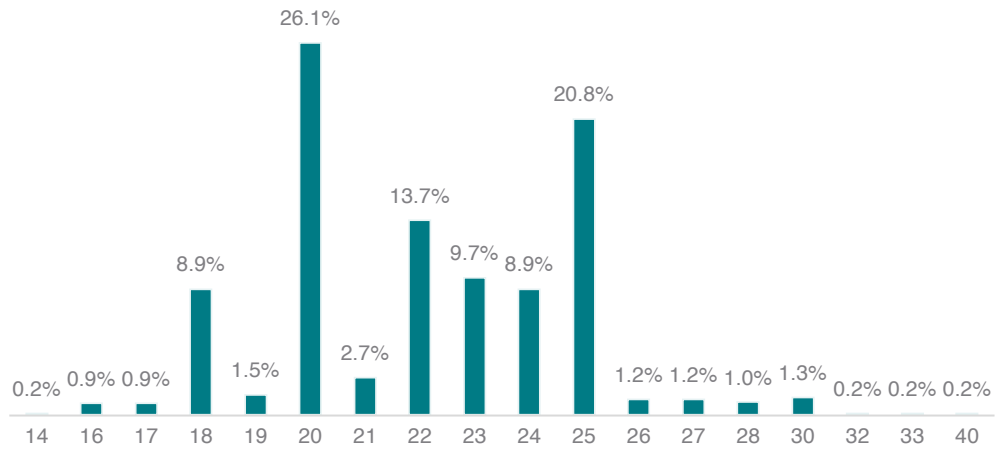
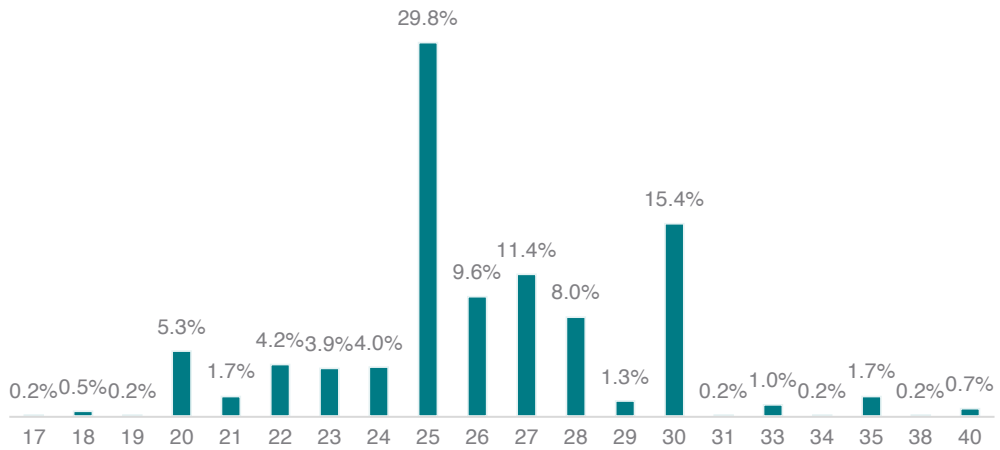


Figure VII-2: Ideal Age for Boy to Marry



VIII. INFANT AND CHILD MORTALITY

Key Findings:

- Under-five year mortality for the ten-year period preceding the survey was 2.7 deaths per 1000 births. At this rate, approximately 1 in 370 children will die in Qatar before they turn 5 years old.
- 8 in 10 early childhood deaths occur in Qatar before a child's first birthday.
- Under-five mortality among boys is 5 deaths per 1000 births, and among girls it is 3.3 deaths per 1000 births.
- Infant mortality rate for non-working women (4.8 deaths per 1000 births) is somewhat higher than for working women (3.5 deaths per 1000 births).
- Infant mortality rate for women living in Al Rayyan is 4.6 deaths per 1000 births, while for Doha it is only 0.5 deaths per 1000 births.

This section presents findings on infant and child mortality rates in Qatar. It also examines variation in early childhood deaths based on selected socioeconomic characteristics. These include sex of child, mother's age at birth, mother's education level, household income and area of residence in Qatar.

Mortality calculations are based on information collected in the birth history section of the survey where women were asked about all of their living and dead children including those who passed away at early infancy. For each birth, the sex, month and year of birth, and current age or age at death was recorded. Mortality rates were calculated based on the following DHS definitions.

Neonatal mortality: the probability of dying within the first month of life;

Postneonatal mortality: the difference between infant and neonatal mortality;

Infant mortality: the probability of dying during the first year of life;

Child mortality: the probability of dying between the first and fifth birthday;

Under-five mortality: the probability of dying before the fifth birthday.

Table VIII-1 presents early childhood mortality rates for two selected periods, these are the first ten years preceding the survey, followed by 10 or more years after the survey. Note that there were a total of 1845 living children. As shown in the table, under-five mortality rate for the ten-year period preceding the survey was 2.7 deaths per 1000 births. At this rate, 1 in 370 children will die in Qatar before they turn 5. The neonatal mortality rate was 1.6 deaths per 1000 births and the infant mortality rate was 2.2 deaths per 1000 births, in the ten-year period before the survey. This means that 80 percent of early childhood deaths occur in Qatar before a child turns 1 year old.

Table VIII-1: Early Childhood Mortality Rates

Years preceding the survey	Neonatal mortality	Postneonatal mortality	Infant mortality	Child mortality	Under-five mortality
0-9	1.6	0.6	2.2	0.6	2.7
10+	2.2	3.5	5.7	0	5.7
Total	3.8	4.1	7.9	0.6	8.5

Table VIII-2 looks at the relationship between early childhood mortality and two important variables, namely the sex of the child and mother's age at birth. Neonatal mortality appears to be slightly higher among girls (2.8 deaths per 1000 births) than boys (1.6 deaths per 1000 births). However, when it comes to the remaining categories, mortality rates are higher for boys than girls. For example, under-five mortality among boys is 5.1 deaths per 1000 births, and among girls it is 3.3 deaths per 1000 births.

In considering mother's age at birth, the numbers show that early childhood mortality rates are higher for younger women within the ages of 20-29 years. However, this might be because women in this age group also have higher fertility rates as shown earlier in the 'Fertility' section of this report.

Table VIII-2: Early Childhood Mortality by Sex of Child and Mother's Age at Birth

	Neonatal mortality	Postneonatal mortality	Infant mortality	Child mortality	Under-five mortality
Child's sex					
Boy	1.6*	2.9	4.5	0.6	5.1
Girl	2.8*	1.1	3.4	0	3.3
Mother's age at birth*					
Less than 20	0	0	0	0	0
20-29	2.95	2.51	5.47	0	5.47
30-39	1.17	1.88	2.42	0.63	3.06
40-49	0.62	0	0.62	0	0.62

Note*: Due to some cases where necessary information on mother or child was missing, the mortality estimates given here for neonatal mortality by sex, and mortality estimates for mother's age at birth are slightly different than actual.

Table VIII-3 shows early childhood mortality rates by selected socioeconomic characteristics. Infant mortality rate for non-working women (4.8 deaths per 1000 births) is somewhat higher than for working women (3.5 deaths per 1000 births). The same pattern follows for neonatal mortality where the rate for non-working women is 3.6 deaths per 1000 births while for working women it is 1.1 deaths per 1000 births. In terms of household income, surprisingly, higher income families show overall higher early childhood mortality rates. Under-five mortality for households' with less than 30,000 Qatari Riyals is 1.6, whereas for families earning 60,000 Qatari Riyals or more it is 3 deaths. Lastly, looking at the effect of municipality, infant mortality rate for women living in Al Rayyan is significantly higher than for those living in Doha. In Al Rayyan it is 4.6 deaths per 1000 births, while for Doha it is only 0.5 deaths per 1000 births.

Table VIII-3: Early Childhood Mortality by Socioeconomic Characteristics

	Neonatal mortality	Postneonatal mortality	Infant mortality	Child mortality	Under-five mortality
Working Status					
Not Working	3.6	1.8	4.8	0	4.8
Working	1.1	2.5	3.5	0.6	4.2
Household Income					
Less than 30,000 QR	0.8	0.8	1.6	0	1.6
30,000-60,000 QR	1.5	0.8	2.3	0.8	3.1

60,000 QR or more	2.2	0.8	3	0	3
Municipality					
Doha	0.5	0	0.5	0	0.5
Al Rayyan	1.7	3.5	4.6	0	4.6
Other	2.1	0.6	2.7	0.6	3.3

Note: Due to missing information, mortality estimates may be a little different than actual.

IX. SAMPLE DESIGN

Sampling is the process of selecting a sample of elements from the sampling frame to conduct a survey. It plays a critical part in any survey process since the ability to make any valid inference to the population, which is the target of the investigation, relies upon a rigorous sample design. In the following, we discuss issues related to the sample design used in this survey.

Sampling frame and target population

The target population includes people who are 18 years or older and live in residential housing units in Qatar during the survey reference period. The target population excludes those who live in institutions such as army barracks, hospitals, dormitories, prisons. The sampling frame was developed by SESRI with the assistance from the Qatar Electricity and Water Company (Kahramaa) and it was last updated in 2014. In this frame, all housing units in Qatar are listed with information about the housing address and information to identify if residents in the housing units belong to Qataris, expatriates (white-collar migrant workers), or labor migrants (non-Qatari migrants). In this survey, the target population only include Qatari population.

Sample design

The state of Qatar is divided into eight administrative municipalities. Each municipality contains a number of zones and each zone is divided into several blocks. In this survey, housing units in each zone are ordered by geographic location in order to permit well distributed sampling of housing units in different areas. A systematic sample is constructed for the target population. The basic idea of systematic sampling is to select housing units by taking every k th unit in the frame, where k is called the sampling step which is the whole number part of the ratio between the frame size and the sample size. The systematic sampling implies proportionate stratification as a block containing a given percentage of Qatari housing units in the frame would be represented by the same percentage of the total number of sampled units. Based on previous surveys, we know the response rates vary across zones. Therefore, over-sampling is used to make up for the lower response rates in certain zones.

Weighting

The final weights in the data are constructed from three components: the base weights reflecting the sample selection probability; the adjustment factors to account for the non-response; and the calibration to make the survey results in line with the population numbers. Weight trimming is also used since highly variable weights can introduce undesirable variability in statistical estimates.¹

Base weights

These weights are the inverse of the selection probability of the unit in the sample. Because of the systematic sampling, all housing units of the same population group (Qataris or expatriates) in the same zone have the same chance of being selected and the weights are given by this formula:

$$W_{base}^{housing\ unit} = 1/p$$

where $W_{base}^{housing\ unit}$ is the base weight for the housing unit, p is the probability of selection.

These base weights for Qataris are lower than those of expatriates due to the oversampling of Qataris. The base weights are then adjusted by the number of eligible persons in the household to arrive at person level base weights:

$$W_{base}^{person} = k * W_{base}^{housing\ unit}$$

where k is the number of eligible persons in the household.

Adjustment factors for non-response

If the responding and non-responding units are essentially similar with respect to the key subjects of the investigation, the base weights can be adjusted to account for the non-response by this formula:

$$W^{person} = \alpha W_{base}^{person}$$

¹ Weight trimming can reduce variance but increase bias in the statistical estimates. Therefore, weight trimming should only be applied to cases with very large values of weights. The goal is to reduce the overall mean squared errors. Further details can be seen in this paper: *Potter, F. (1990). A Study of Procedures to Identify and Trim Extreme Weights. Proceedings of the Section on Survey Research Methods, American Statistical Association, 1990, 225-230.*

where α is called the adjustment factor for non-response which is based on the propensity that a sampled unit is likely to respond to the survey.²

Weight calibration

The weights are also calibrated to make results in line with the population estimates. This calibration can help reduce the effect from non-response and under-coverage of the sampling frame. SESRI uses the “raking” method in the calibration to adjust the weights of the cases in the sample so that the proportions of the adjusted weights on certain characteristics agree with the corresponding proportions for the population.

Questionnaire development

The questions were initially designed in English and then translated into Arabic by professional translators. After the translation, the translated versions were carefully checked by researchers who are fluent in both English and Arabic. Next, the questionnaire was tested internally. The question items related specifically to this project were used on previous surveys in the Middle East and/or had been pretested with the cognitive interviews.

After making necessary changes to the questionnaire after internal pretesting, the survey was programmed into CAPI (Computer Assisted Personal Interview) system using BLAISE. After debugging the program, a face-to-face pre-test on a small number of housing units (N=21) was conducted. Based on this information, the final version of the questionnaire was created and then programmed into CAPI for the fieldwork.

Survey Administration

Each interviewer received an orientation to the CAPI system, participated in a training program covering fundamentals of CAPI interviewing and standards protocols for administering survey instruments, and practice time to administer the specific questionnaire on the computers (laptops). Total duration of the training was two days (8 hours) for previously experienced interviewers, and three days for new interviewers (12 hours). While 64 interviewers were invited for training, 60 were finally certified and selected to work in the field. During the period of data collection, the

² This weighting process is usually called propensity weighting. A good discussion of this process can be found in Varedian M. and G. Forsman (2003), “Comparing propensity score weighting with other weighting methods: A case study on Web data” In Proceedings of the Section on Survey Statistics, American Statistical Association; 2003, CD-ROM

management used a monitoring system to ensure that questions were asked appropriately, and the answers were recorded accurately. Devices used for data collection are equipped with technology (SIM cards) that allows for real time transmission of the collected data to the Survey Operations Office. Paradata such as sample case management system and interview length are used to check quality of conducted interviews, according to pilot average interview length.

Field Work

The fieldwork was undertaken by 60 interviewers, divided into groups of five teams per one supervisor. Each field team consists of one team leader and two female data collectors; the team leader accompanies the data collectors to the household units, where they conduct interviews with respondents (males or females). In addition to that, one field supervisor is assigned to each five teams and reports to the Survey Operations Office. Each supervisor is required to visit the field and verify 20% of housing units with completed interviews, as well as check household units' addresses according to the sample sheet using GPS coordinates, street name and number, house unit number and electricity number.

Data Management

After the data collection, all individual interviews were merged and saved in a single BLAISE data file. This dataset was then cleaned, coded and saved in STATA formats for analysis. After weighting the final responses to adjust for probability of selection and non-response, the data were analyzed using STATA, the statistical software for the social sciences, where both univariate, bivariate and multivariate analyses were performed

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