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Factors influencing family planning decisions in Saudi Arabia

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Abstract

Background Family planning (FP) is an essential intervention to improve the health and well-being of women and their children. Understanding the determinants of FP decisions among Saudi women is critical to the success of FP efforts. This study aims to assess socio-cultural factors related to women's family planning decisions in Saudi Arabia (SA).

Method A cross-sectional survey-based study examined a convenient sample of 1489 ever-married women living in SA. A structured online questionnaire was developed to assess the personal and socio-demographic characteristics of the sample as well as their fertility and FP preferences, practices, and experiences. Participants were approached through different social media platforms.

Results Women's reported ever use of contraceptive method was 64.1%. Challenges women face in trying to use contraceptive methods were side-effects of the method (40%) and partner opposition (19%). Women's ever use of contraception was significantly different according to their age group, residence, occupation, income level, duration of marriage, number of children, reaching their desired number of children, having challenges in using contraception ($p < 0.001$), their career goals ($p = 0.005$) and access to FP ($p = 0.030$). Logistic regression results for the factors influencing the decision toward family planning showed the significant factors: marital status (odd 1.28, p -value = 0.042, 95% CI 1.02–1.61), having a supportive husband (odds 1.35, p -value = 0.018, 95% CI 1.08–1.69), and family and societal expectations (odds 1.32, p -value = 0.034 and 95% CI 1.04–1.68).

Conclusion This study contributes essential insights into the socio-cultural factors influencing FP decisions among Saudi women. The identified determinants, including economic considerations, spousal support, and societal expectations, provide a foundation for tailored interventions to promote informed and autonomous FP choices. These findings ultimately contributed to women's and their children's health and well-being in SA.

Keywords Contraceptive methods, Family planning, Career goals, Muslim, Saudi Arabia

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Introduction

Responsible birth planning is one of the most effective and least expensive approaches for improving individuals' quality of life [1]. Globally, an estimated 40% of pregnancies are unplanned, which are too early and unwanted ones [2]. Sustainable Development Goals (SDG) target 3.7 urges nations to achieve universal access to sexual and reproductive healthcare services, encompassing family planning, information, and education, by 2030 [3]. Family planning improved both maternal and child health. The long-term benefits of family planning (FP) extend to achieving many SDGs [4]. Addressing women's need for contraception leads to reduced rates of unintended pregnancies and maternal deaths [1]. Limited access to family planning services is preventing over 200 million women of reproductive age from meeting their contraceptive needs, as per the World Health Organization [5].

Access to family planning (FP) and contraceptive services and information is a fundamental human right where all women have the right to be given all the available resources for well-informed, autonomous reproductive and fertility choices [6]. Currently, there is an excellent variety of contraceptive products available in Saudi Arabia. Although access to FP services and contraceptive methods in many countries is a problem, even in countries where contraception is free and widely available, there are many obstacles to access and effective use of FP services.

[1].

The FP practices are generally influenced by a set of complex and overlapping barriers in their surrounding environment. Such barriers include personal, family, community, and cultural barriers [7, 8]. Social norms powerfully influence women's attitudes towards FP and their FP decisions, including perceived acceptability of FP, social pressure for having large families, and perceived opposition to FP by husbands, families, or religious leaders and spouses [9, 10]. In addition, the country's prevailing social and cultural norms might exaggerate the complexity of such contraceptive barriers [10, 11].

It is believed that women's FP decisions are influenced by social expectations and their gender roles, where gender roles usually differ across different cultures [8]. Couple communication and joint family planning decisions can be hindered by gender roles and unequal power dynamics between men and women [9]. In some cultures, the husband, his mother, or other family members are responsible for reproductive decisions, and the wife is expected to comply with their choices [6, 12].

Low contraceptive utilization is commonly linked to lower socioeconomic status and reduced educational attainment in various contexts [1]. Moreover, women's career and educational aspirations are generally inversely related to their childbearing and fertility aspirations [13].

In other words, empowered women of higher education and economic independence show reproductive autonomy regarding their contraceptive decisions [7].

Other barriers to contraceptive use include poor contraceptive knowledge as well as myths, rumors, and misconceptions surrounding contraceptive methods. Service and methods accessibility, side effects of the methods, and their efficacy and experience of method failure represented other barriers to contraceptive uptake [7, 14–17].

A recent study conducted in Saudi Arabia identified a prevalence of contraceptive use among married women aged 15–49 of 64.9%, measured in 2023 [18], which is comparable to other figures reported in neighboring countries in the region [19]. Locally, a study conducted in the Aseer region determined a 32.6% prevalence of unmet need for FP.

Although several studies were conducted in Saudi Arabia to determine contraceptive use and its associated factors, no nationwide studies for contraceptive use were identified.

As in other global South nations, Saudi Arabia is seeing rapid transformation in its socio-demographic structure [20]. As a result of this rapid social change, FP has only recently become an essential part of most women's lives. Our study aims to identify the key factors to assess current socio-cultural factors related to FP decisions in Saudi Arabia (SA).

Methodology

Study design This descriptive cross-sectional study assessed critical factors influencing FP decisions among Saudi couples living in SA. The study population included ever-married Saudi women residing in different areas of SA. Inclusion criteria included women 18–55 years old who could use the internet and social media platforms. Women who have infertility were excluded. The study was conducted over a duration from March 2023 to December 2023. The study utilized a digital survey that was disseminated through various social media channels, including WhatsApp, Twitter, and Telegram.

Study sample Based on a precision of 5% at a 95% confidence level and a design effect of 1, a minimum required sample size of 385 individuals was calculated using Epi-Info 7 software. As data would be collected using an online questionnaire, a 40% non-response rate was considered to estimate a final minimum sample of 384 individuals to be included in the study.

Sample size $n = E^2 \cdot (N - 1) + Z^2 \cdot p \cdot (1 - p) / Z^2 \cdot p \cdot (1 - p)$.

Where:

n = required sample size.

N = population size.

Z = Z -score corresponding to your desired level of confidence (e.g., 1.96 for a 95% confidence level).

p = estimated proportion of the population that possesses the characteristic studied estimated proportion of the population that possesses the characteristic studied.

E = desired margin of error (expressed as a proportion, e.g., 0.05 for a 5% margin of error). Calculating minimum required sample size: $n \approx 384.16$ $n \approx 385$.

Study instrument Following a straightforward elucidation of the study's objectives, ever-married Saudi women who consented to participate were requested to complete an online self-administered questionnaire. The questionnaire included a socio-demographic section covering participants' age, residence, education, occupation, monthly income level, marital status, and duration of marriage. The second section covered fertility characteristics and preferences. Participants were asked about their number of children, the minimal birth interval between them, and if they had reached their desired number of children. The third section addressed FP decision-making, where women were asked about their previous knowledge of FP methods, their primary sources of knowledge regarding

FP, and whether they have access to FP services and methods. Two 4-Likert scale questions addressed women's attitudes toward FP was concerned with the perceived importance of FP in life, and the other was about whether their career goals and personal aspirations affected their family planning decisions.

Support for women's FP decisions was assessed using three dichotomous yes/no questions about whether their husbands supported their FP decisions, whether they faced family pressure or opposition towards their FP decisions, and whether they faced societal pressure regarding their reproductive choices. A multiple-response question was used to identify the factors women considered before they made an FP decision. The fourth section addressed women's contraceptive use. They were inquired about their ever use of FP methods and the type.

Experts revised the questionnaire to assess its face validity. Then, the questionnaire was pilot-tested on 25 individuals to determine the clarity of questions and time to fill in the questionnaire. In response to input received during the pretest, adjustments were made to the questionnaire, followed by a reassessment (attached).

Analysis Statistical analysis was performed using STATA BE—18 Basic Edition 2023. All the variables analyzed were categorical and were presented as frequencies and percentages. Bivariate analysis, aimed at evaluating the relationship between variables, utilized Pearson's chi-squared test and logistic regression. P -value was considered significant if it was lower than 0.05.

Results

Participants' personal and sociodemographic characteristics

A total of 1489 eligible women consented to participate in the current study. The personal and sociodemographic characteristics of the respondents are illustrated in Table 1. Nearly two-thirds of the sample (932; 65.5%) were aged more than 35 years. Over half were residents of the Western area (534; 35.9%) and Eastern region (380; 25.5%). Over three-quarters of respondents (1147; 77%) had a university education or higher, and (641; 46.5%) were house wives. Most of the participants (1164; 78.2%) reported that they were middle-income. The majority of them (1338; 89.9%) were married, and (608; 40.8%) of them were married for 16 to 20 years.

Fertility and FP practices, opinions, barriers, and experiences of participants

Table 2 illustrates women's fertility and FP practices, opinions, and experiences. Concerning women's fertility practices, 31.6% (470) had 3–4 children, 25.5% (379) had five children or more, 16.3% (200) had short birth intervals (less than two years), and 26.5% (326) reported long

Table 1 Respondents' personal and socio-demographic characteristics ($N = 1489$)

Characteristic	level	$n(\%)$
Age (1445)	Less than 25 years	129 (8.9)
	25–34 years	384 (26.6)
	35–44 years	495 (34.3)
	45 + years	437 (30.2)
Residence	Western Area	534 (35.9)
	Eastern Area	380 (25.5)
	Central Area	268 (18.0)
	Southern Area	199 (13.4)
	Northern Area	104 (7.0)
Education	Middle school or lower	80 (5.4)
	Secondary school	262 (17.6)
	University or higher	1147 (77.0)
Occupation	Employee	692 (46.5)
	Housewife	641 (43.0)
	Student	91 (6.1)
	Retired	46 (3.1)
	Business/ free work	12 (0.8)
	Professional	7 (0.5)
Income	High	187 (12.6)
	Middle	1164 (78.2)
	Low	138 (9.3)
Marital Status	Married	1338 (89.9)
	Divorced/separated	106 (7.1)
	Widowed	45 (3.0)
Duration of Marriage (1349)	1–<6 years	317 (21.3)
	6– <11 years	248 (16.7)
	11– <16 years	221 (14.8)
	16–20 years	608 (40.8)

Table 2 Respondents' FP and fertility practices, opinions and experiences (N = 1489)

Characteristic	level	n(%)
Number of Children	No Children	190 (12.8)
	1–2 Children	450 (30.2)
	3–4 Children	470 (31.6)
	5 or more	379 (25.5)
Minimal birth Interval between children (1230)	0-<2 years	200 (16.3)
	2 - <3 years	432 (35.1)
	3-<4 years	272 (22.1)
	4-<5 years	155 (12.6)
	5 + years	171 (13.9)
Reached her desired number of children	Yes	868 (58.3)
	No	621 (41.7)
FP awareness: heard about FP	Yes	954 (64.1)
	No	535 (35.9)
Attitude: perceived importance of FP	Not important/	55 (3.7)
	slightly important/important	1010 (67.8)
	very important	424 (28.5)
Attitude: personal aspirations and career goals affect FP decisions	No effect	378 (25.4)
	Slightly affect/affect	891 (59.8)
	highly affect	220 (14.8)
Practice of FP: ever used contraception	Yes	937 (62.9)
	No	552 (37.1)
Accessibility: have access to FP	Yes	871 (58.5)
	No	618 (41.5)
Support for FP decision: husband support	Yes	1123 (75.4)
	No	366 (24.6)
Support for FP decision: family opposition to contraceptive choice	Yes	331 (22.2)
	No	1158 (77.8)
Support for FP decision: societal pressure regarding reproductive choices /family size	Yes	564 (37.9)
	No	925 (62.1)
Challenges/problems faced on using FP service/contraceptive methods	Yes	122 (13.0)
	No	815 (87.0)

birth interval (more than three years). Concerning their fertility preference, 41.7% (621) said they did not reach their desired number of children.

Only 64.1%(954) reported previous knowledge about the FP concept. With regards to the attitude of participants towards FP, very few females (55;3.7%) regarded FP as a non-important issue 67.8% (1010) appreciated the importance of FP, and 59.8%(891) reported that career goals and personal aspirations affect their FP decisions. Regarding women's practice of FP, more than one-third of the sample (552;37.1%) reported never using the contraceptive method.

For women who reported ever using contraceptive methods, Fig. 1 illustrates the types of methods used according to the number of children women had. The intra-uterine device (IUD) was the most commonly reported method among all users. However, it was more used among those with five children or more (62%) than those with less than five children (52%).

Regarding barriers to FP use, 41.5% (618) mentioned that they don't have access to FP services and methods,

24.6%(366) reported that their husbands don't support their FP decisions, 7.9% (564) faced family/society discouragement for their FP decisions and 22.2%(331) reported family opposition for their contraceptive choice. Finally, 13% (156) of contraceptive users met challenges or problems through using contraceptive methods or FP services. Those problems are further illustrated in Fig. 2, which depicts those problems according to the number of children women had. Women who had five or more children showed higher physical and psychological side-effects of contraceptive methods than those who had less than five children (46% and 10.9% vs. 37% and 5%, respectively). They also reported more family/partner opposition (22% vs. 17%) and more method failure (11% vs. 3%). Women who had less than five children were more likely to report fertility problems and problems with returning to their baseline fertility level after using the method (6% vs. 2%).

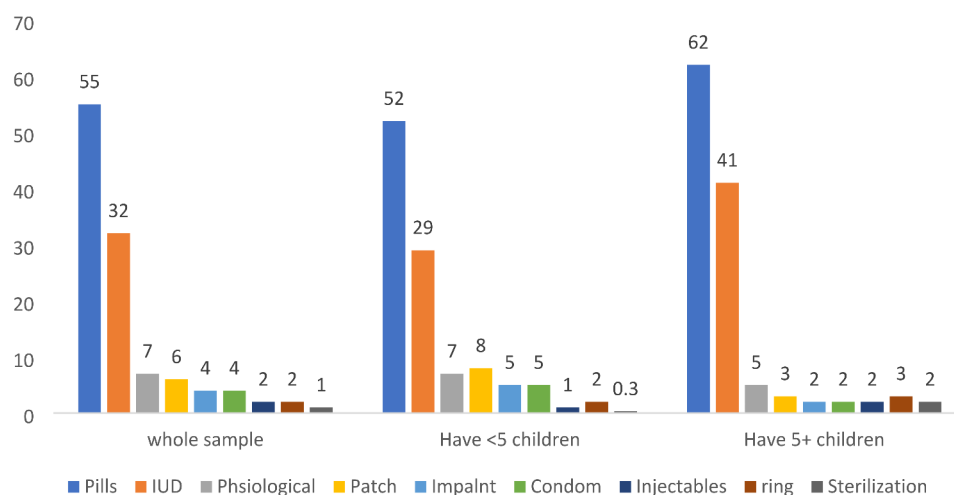


Fig. 1 Type of contraceptive methods used by study participants according to the number of children they have

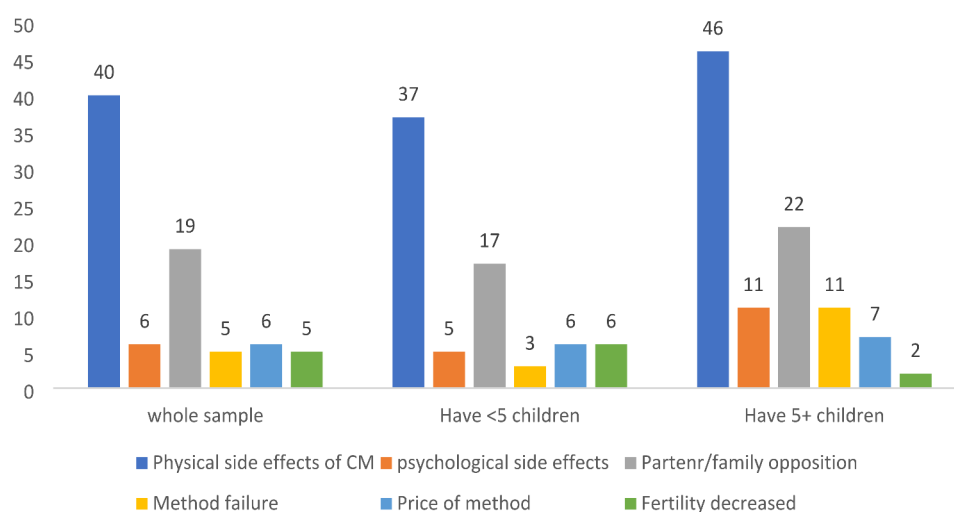


Fig. 2 Challenges/problems faced contraceptive users according to the number of children they have

Factors considered for FP decisions

The main factors mentioned by participants when making their FP decisions are presented in Fig. 3. The financial status of the family, women's health, and women's career goals were the most reported factors among the whole sample. Women's health, financial status goals, and community customs and traditions were the most reported factors for women having \geq five children (66%, 62%, 61%, and 46%). Financial status, women's health, career goals, and husband's opinions were the most frequent concerns for women with fewer children (78%, 71%, 69%, and 42%).

Sources of FP information

Figure 4 demonstrates women's reported primary sources of information regarding FP for contraceptive users and nonusers. Contraceptive users were less likely to inform family and friends than nonusers (47% vs. 55%). Nonusers were more likely to report internet and religious

leaders than contraceptive users (29% and 25% vs. 25% and 21%, respectively).

Factors associated with contraceptive use decision

Sociodemographic factors associated with the decision of contraceptive use are illustrated in Table 3. Contraceptive use among the study participants represented 64.1% (926). Except for women's educational level, all sociodemographic factors described in the table are significantly associated with contraceptive use among the studied sample ($p < 0.001$). Contraceptive use was highest among women aged more than 45 years (70.9%; 310), women living in the central region (72%; 193), housewives (70.2%; 450), middle income (64.3%; 760) and women who had been married for 16–20 years (74%; 450).

Fertility and FP practices, opinions, and experiences associated with contraceptive use decisions are represented in Table 4. Contraceptive use was significantly

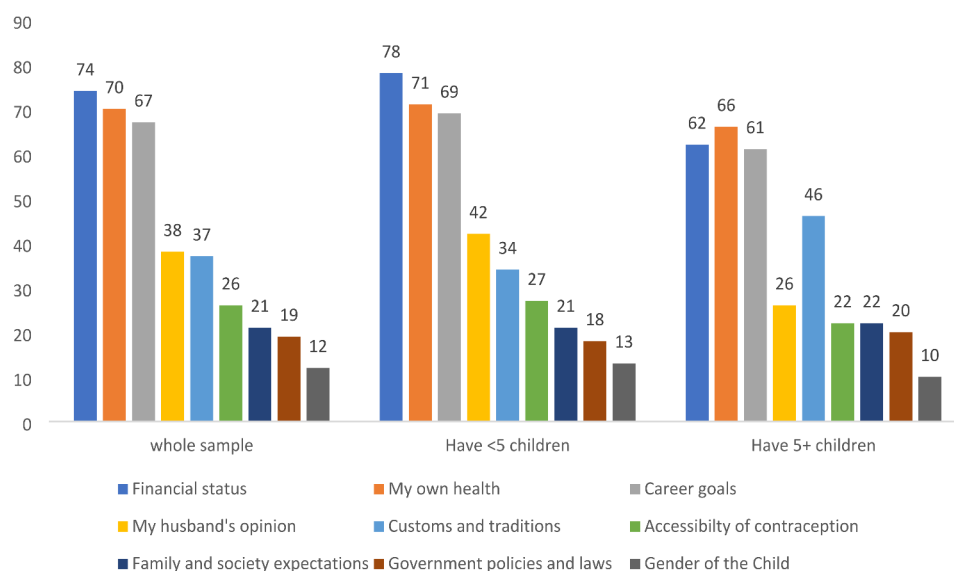


Fig. 3 Main aspects/factors to be considered by respondents when making FP decisions according to the number of children they have

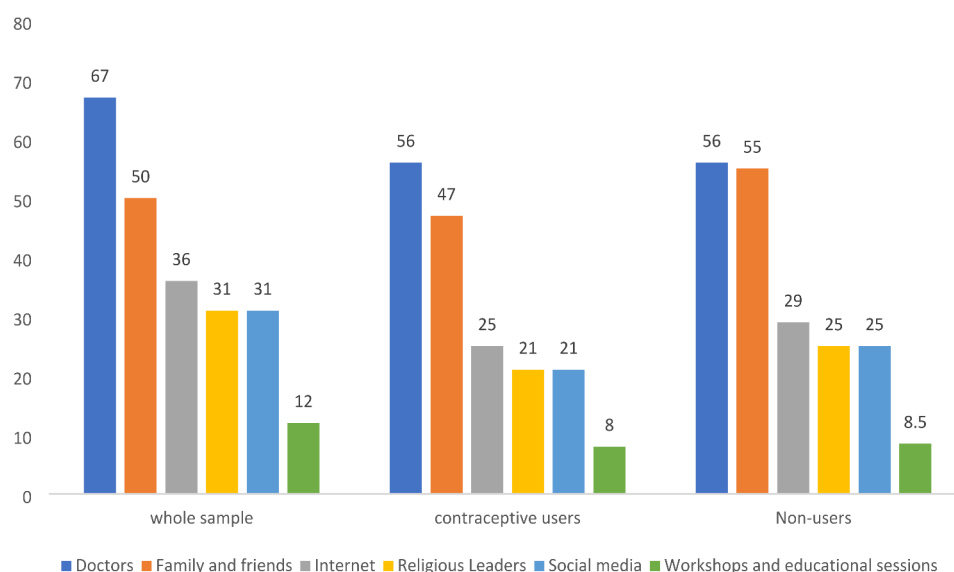


Fig. 4 Main sources of information about FP according to respondents' ever use of contraceptive methods

higher among women who had five children or more (79.4%;301), who faced challenges in using FP services/contraceptive methods (78.2%;122), women who reported that their career goals and family planning decisions highly affect FP decisions (72.3%;159), women who reached their desired number of children (71.5%;621) and women who have access to FP services and methods (65.2%;568).

The factors influencing the decision toward family planning are presented in Table 5, which displays the logistic regression results. These findings provided insights into the factors influencing family planning decisions. Marital status, the role of the partner, and family and societal expectations emerge as significant factors in

this context. At the same time, the impact of health, education, laws, cultural habits, access to healthcare, and the child's sex is less clear based on the presented results.

Marital status is associated with a 1.28 times higher odds of making positive family planning decisions. This relationship is statistically significant (p -value = 0.042), suggesting that individuals with longer marriage duration are more likely to engage in positive family planning.

There is a negative association between health and family planning decisions. Nevertheless, the correlation lacks statistical significance (p -value = 0.110). Having a supportive partner (Husband) is 1.35 times higher odds of positive family planning decisions. This relationship is statistically significant (p -value = 0.018),

Table 3 socio-demographic factors associated with contraceptive use among study participants (N = 1489)

Characteristic	Level	Contraceptive ever users 926 (64.1)	Contraceptive never users 519 (35.9)	P-value
Age	18–25 years	57 (44.2)	72 (55.8)	< 0.001 ^a
	25–34 years	245 (63.8)	139 (36.2)	
	35–44 years	314 (63.4)	181 (36.6)	
	45+ years	310 (70.9)	127 (29.1)	
Residence	Western Area	348 (65.2)	186 (34.8)	< 0.001 ^a
	Eastern Area	239 (62.9)	141 (37.1)	
	Central Area	193 (72.0)	75 (28.0)	
	Southern Area	101 (50.8)	98 (49.2)	
Education	Northern Area	54 (51.9)	50 (48.1)	0.278 ^a
	Secondary or less	224 (65.5)	118 (34.5)	
Occupation	University and above	713 (62.2)	434 (37.8)	< 0.001 ^a
	Housewife	450 (70.2)	191 (29.8)	
	Employee	412 (59.5)	280 (40.5)	
	Student	30 (33.0)	61 (67.0)	
Income	Other	39 (68.4)	18 (31.6)	< 0.001 ^a
	Low	72 (52.2)	66 (47.8)	
	Middle	760 (65.3)	404 (34.7)	
	High	105 (56.1)	82 (43.9)	
Marital Status	Married	864 (64.6)	474 (35.4)	< 0.001 ^a
	Divorced/separated	47 (44.3)	59 (55.7)	
	Widowed	26 (57.8)	19 (42.2)	
Duration of Marriage	1-<6 years	147 (46.4)	170 (53.6)	< 0.001 ^a
	6- <11 years	145 (58.5)	103 (41.5)	
	11- <16 years	150 (67.9)	71 (32.1)	
	16–20 years	450 (74.0)	158 (26.0)	

a: chi-squared test b: independent sample t-test *: significant <

The odds ratio of 1.20 suggests that considering laws and regulations is associated with a higher likelihood of positive family planning decisions. However, this relationship is marginally significant (p -value = 0.076).

Like laws and regulations, cultural habits and traditions have a marginally significant positive association with family planning decisions (p -value = 0.076).

Family and societal expectations have a statistically significant positive association with family planning decisions (p -value = 0.034).

Qualitative data analysis and the main findings of the factors influencing family planning decisions

The detailed qualitative data (Table 6) reveals a rich tapestry of factors influencing family planning decisions. It underscores the multidimensional nature of these choices, which are not solely driven by personal preferences but are deeply embedded in economic, health, relational, legal, cultural, and societal contexts. The participants appear to navigate a complex decision-making landscape that requires thoughtful consideration of various interconnected factors.

Economic impact on family planning The recurrent emphasis on marital status underscores the pervasive

influence of economic factors on family planning decisions. It suggests that individuals or couples are acutely aware of the economic prerequisites necessary to support a family adequately. Financial stability emerges as a linchpin, shaping the feasibility and timing of expanding one's family.

Pivotal role of economic stability Economic stability is portrayed as a crucial factor in the decision-making process. It is not merely a peripheral consideration but a fundamental determinant that guides when and how individuals or couples make choices regarding family planning. The data implies that financial considerations are integral to the broader context of family planning.

Conscious well-being Including health considerations signifies a conscientious approach to family planning. It goes beyond the mere desire for offspring and suggests a thoughtful consideration of the well-being of both individuals and potential family members.

Holistic health planning The implication is that individuals are engaging in a holistic approach to family planning by incorporating health considerations. This involves a focus on reproductive health and a broader concern for

Table 4 FP and fertility factors associated with contraceptive use among the study participants

Characteristic (N=)	Level	Contraceptive ever users 926 (64.1)	Contraceptive never users 519 (35.9)	P-value
Number of Children	No Children	56 (29.5)	134 (70.5)	< 0.001 ^a
	1–2 Children	256 (56.9)	194 (43.1)	
	3–4 Children	324 (68.9)	146 (31.1)	
	5 or more	301 (79.4)	78 (20.6)	
Minimal birth interval	0–<2 years	127 (63.5)	73 (36.5)	0.243
	2–<4 years	476 (67.6)	228 (32.4)	
	4 + years	230 (70.6)	96 (29.4)	
Reached the desired number of children	Yes	621 (71.5)	247 (28.5)	< 0.001 ^a
	No	316 (50.9)	305 (49.1)	
FP awareness: heard about FP	Yes	616 (64.6)	338 (35.4)	0.080 ^a
	No	321 (60.0)	214 (40.0)	
Attitude: perceived importance of FP	Not important	31 (56.4)	24 (43.6)	0.530 ^a
	Slightly important/important	642 (63.6)	368 (36.4)	
	Very important	264 (62.3)	160 (37.7)	
Attitude: personal aspirations and career goals affected FP decisions	No effect	224 (59.3)	154 (40.7)	0.005 ^a
	Slightly affect/affect	554 (62.2)	337 (37.8)	
	Highly affect	159 (72.3)	61 (27.7)	
Accessibility: have access to FP services and methods	Yes	568 (65.2)	303 (34.8)	0.030 ^a
	No	369 (59.7)	249 (40.3)	
Support for FP decision: husband support	Yes	708 (63.0)	415 (37.0)	0.901 ^a
	No	229 (62.6)	137 (37.4)	
Support for FP decision: family opposition to contraceptive choice	Yes	210 (63.4)	121 (36.6)	0.862 ^a
	No	727 (62.8)	431 (37.2)	
Support for FP decision: societal pressure/discouragement regarding reproductive choices /family size	Yes	356 (63.1)	208 (36.9)	0.904 ^a
	No	581 (62.8)	344 (37.2)	
Challenges/problems faced on using FP services /contraceptive methods	Yes	122 (78.2)	34 (21.8)	< 0.001 ^a
	No	815 (61.1)	518 (38.9)	

a: chi-squared test b: independent sample t-test *: significant < 0.05

Table 5 Logistic regression results for the factors influencing the decision toward family planning

Factors	Odds Ratio	P-Value	95% confident interval (CI)	
			Lower	Upper
Marital Status	1.28	0.042	1.02	1.61
Health	0.86	0.110	0.70	1.05
Husband	1.35	0.018	1.08	1.69
Education and Career Goals	0.09	0.326	0.75	1.09
Laws and regulations	1.20	0.076	0.98	1.46
Cultural Habits and Traditions	1.20	0.076	0.98	1.46
Access to Healthcare	0.88	0.212	0.71	1.09
Family and Societal Expectations	1.32	0.034	1.04	1.68
Gender of the Child	1.16	0.092	0.96	1.41

the overall physical well-being of everyone involved in the family.

Collaborative decision-making Acknowledging the partner's role underscores the collaborative nature of family planning decisions. It suggests that family planning is not a unilateral decision but a shared responsibility where partners play a significant role.

Importance of compatibility Compatibility and shared values with a life partner are crucial in decision-making. This indicates that aligning goals and values between partners is foundational when contemplating family planning.

Forward-looking perspective The emphasis on education and career goals suggests a forward-looking perspective in family planning decisions. Participants appear to be considering their current circumstances and how fam-

Table 6 Qualitative data analysis of the factors influencing the decision toward family planning

Code	Theme	Result	Additional Details
Economic well-being	Economic Impact on Family Planning Conscious Well-being	Economic considerations significantly impact family planning decisions A thoughtful consideration of the well-being of individuals and potential family members	Recurrent emphasis on financial stability and its role in determining the ability to support a family Indicates a holistic approach to family planning with a focus on overall health
Husband role	Collaborative Decision-Making	The partner plays a significant role in the shared responsibility of family planning	Emphasizes the collaborative nature of family planning decisions
Education and career goals	Forward-Looking Perspective	Education and career goals indicate a forward-looking approach to family planning	Participants weigh aspirations against the responsibilities of raising a family
Role and regulations	Role of Legal Frameworks	State laws play a role in shaping family planning decisions	Participants are aware of and responsive to legal regulations
Culture and traditions	Influence of Cultural Values	Cultural factors significantly shape attitudes towards family planning	Cultural values contribute to the broader context of decision-making
Accessibility	Awareness of Tools and Resources	Acknowledgment of healthcare and contraceptives as factors	Participants are aware of available tools and resources for family planning
family and societal expectations	Social Dimension of Decision-Making	Impact of family and societal expectations on family planning	Choices are influenced by conformity to or challenge of societal norms
gender of the child	Consideration of Family Composition	Consideration of the gender of the child in family planning	Reflects potential gender preferences or significance placed on family composition

ily planning aligns with their long-term educational and professional aspirations.

Weighing aspirations against responsibilities The data implies a nuanced decision-making process where individuals consider their educational and career aspirations against the responsibilities of raising a family. It reflects a strategic approach to balancing personal growth with family commitments.

Role of legal frameworks Considering state laws highlights the external influences on family planning decisions. It suggests that individuals or couples are aware of and responsive to the legal frameworks surrounding family planning.

Regulatory awareness Awareness and adherence to regulations are identified as factors that may influence the timing and methods of family planning. This points to the participants' regulatory literacy level, contributing to their decision-making process.

Influence of cultural values Cultural factors and traditions are portrayed as influential forces shaping attitudes towards family planning. The data suggests that cultural values form an integral part of the decision-making context for individuals and couples.

Broader cultural context Cultural values contribute to the wider context of family planning decisions. This implies that cultural considerations extend beyond individual preferences and shape collective societal norms related to family planning.

Awareness of tools and resources Acknowledging healthcare and contraceptives as factors reflects an awareness of the available tools and resources for family planning. This indicates a level of health literacy and access to information among the participants.

Integral role of healthcare services Access to healthcare services and contraceptives is presented as essential to the decision-making process. This suggests that individuals are considering the desire to have a family and the practical aspects of ensuring a healthy and planned approach.

Social dimension of decision-making The impact of family and societal expectations emphasizes the social dimension of family planning decisions. It suggests that individuals navigate their choices within broader social norms and expectations.

Conforming or challenging norms The data implies that individuals may challenge societal norms and familial expectations in their family planning decisions. This highlights the dynamic interplay between individual agency and societal influences in shaping family planning choices.

Discussion

Understanding women's utilization of FP services and factors shaping their contraceptive decisions helps to improve efforts addressing FP utilization and contraceptive use. The current study tried to assess contraceptive use in SA and the sociocultural factors shaping women's contraceptive choices.

Ever use of contraceptive methods reported by ever-married women was 64.1%. Previously reported

contraceptive prevalences in SA showed some variability, whereas a study in the Al-Qassim region in 2010 reported 44.8% [21]. Recent studies showed higher rates of contraceptive use in SA. A study in Taif showed 67.7% [22]; in Abha, the prevalence was 58.8% [23]. Jazan 75% and 64.4% [18, 24]. Northern SA 85.5% [25]. This variability could mainly be attributed to variability in the study setting and the study population characteristics. Nevertheless, such figures indicate that the rates have increased remarkably in recent years. This could be understood because women in SA are increasingly participating in education and the workforce and gaining more empowerment, which accordingly leads to a growth in the number of contraceptive users [24]. These levels are approaching the high levels reported in other countries, such as Iran, 85.5% [26], and Egypt, 73.1% [27].

Bivariate analysis revealed that the highest percentages of contraceptive users were housewives (70.2%) and the lowest among students (33%). This was similar to that reported in a study in Jazan in SA [18]. As most of the study sample were highly educated (77%), it is not surprising that non-working women are high contraceptive users. Even married females who were still studying had the lowest contraceptive use among the study participants. The explanation is that they are young couples who desire to have children. Their Middle Eastern culture, together with Islamic teaching misinterpretations, put new couples under pressure to have their first baby as soon as possible and prove their fertility [8]. Encouragement of fertility is explicit, as nearly one-quarter of the sample had five or more children, and 58.3% of the sample didn't reach their desired number of children. An in-depth qualitative study would help us understand how women conceptualize FP and how they define the ideal number of children.

The current study showed that the primary sources of information about FP reported by women were their healthcare provider/doctor (67%) and their family and friends (50%). Other studies conducted in SA identified relatives and friends as their primary source of information about FP [18, 25, 28, 29]. The present study revealed that doctors became the primary source. This may indicate that women became more concerned about FP and need more knowledge from trusted sources, suggesting future investigation of women's satisfaction with their FP knowledge and informational needs. In addition, religious leaders played an essential role in providing women with FP information. Many women resort to religious leaders to justify their decisions or ask for FP information in the context of religion. This finding implies that religious leaders should be actively involved in all stages of successful FP strategies and efforts.

Concerning women's choice and use of contraceptive methods, the present study findings revealed that women

mainly used oral contraceptive pills (55%) as the most common method, followed by intrauterine devices. The observed percentage (32%) aligns with earlier studies in Saudi Arabia [18, 30, 31]. The most common problem faced by women using contraceptive methods was the physical side effects of the methods. Such findings need further in-depth investigation into the contradiction between the preference of oral contraceptive pills as a contraceptive option has many side-effects while reporting the side effects of the method as a barrier or a challenge faced while using the FP method. This could imply a gap in knowledge about other options or defects in the counseling process. However, the reason for this might be that oral contraceptives are readily available in the pharmacy over the counter (OVR) and don't need doctor's visits or interventions or that their doctors only prescribe oral contraceptives without giving her information about the other available methods and their suitability.

While women mentioned career goals as an important factor considered for family planning decisions, this was further clarified in the bivariate analysis where women who perceived that career goals affected FP decisions were significantly higher contraceptive users than those who didn't perceive it as an influential factor. However, this finding may imply the need to understand how women perceive their husbands' support for FP decisions. Involving men could improve the FP efforts and outcomes for contraceptive use and maintaining such use.

Higher marital status is associated with positive family planning decisions, consistent with many studies [32, 33] that highlight the role of economic stability in family planning choices, aligning with the notion that financial considerations are crucial in decision-making.

Having a supportive husband is associated with positive family planning decisions. These findings are consistent with numerous studies [34] emphasizing the role of spousal support and shared decision-making in family planning choices.

This study revealed a significant association between positive family planning decisions and the influence of laws and regulations. This is consistent with the literature findings [35, 36], which suggested that legal frameworks may play a role but might not be the sole determinant.

This study revealed an association between positive family planning decisions and cultural values, which consists of research highlighting the influence of cultural values on family planning choices [37, 38], often shaping attitudes and behaviors related to family planning.

The outcomes of this study reveal a statistically significant positive link between decisions related to family planning and societal and familial expectations. This aligns with previous research that underscores the impact of societal and familial expectations on family planning

choices [39], recognizing the influential role of societal norms and familial pressures.

The study's findings highlight the critical role of husbands in family planning decisions. Encouraging male involvement and fostering open communication between partners can enhance the effectiveness of family planning programs and contribute to better reproductive health outcomes. Comparing this result with other studies, it aligns with existing literature that emphasizes the role of spousal support and shared decision-making in family planning choices [40, 41]. For instance, studies have shown that when husbands are supportive and involved in family planning discussions, couples are more likely to make informed and mutually agreeable decisions regarding contraception and family size [42, 43]. This collaborative approach can lead to better outcomes in terms of family planning and overall reproductive health. This underscores the need for interventions that promote spousal support and shared decision-making in family planning.

The present study provided nationwide findings that could improve the country's FP efforts and utilization. Moreover, the study findings provide a basis for future research.

Limitations of the study The nature of the survey design limits the ability to draw causal inferences. Thus, the study could only look for associations rather than causation. The convenience sample used in the current study determines the generalizability of the results obtained where most of the sample were educated, and lower-educated women's FP profile was not captured. The self-reported nature of the study subjects the findings to recall bias, restricting the validity of the findings. The self-selection of participants from social media reduces the generalizability of the results and may have introduced bias by education, income, age etc. so may not be representative of the population. Lastly, the online survey method prevents the calculation of a precise participation rate, as the total number of individuals who received the survey invitation is unknown. We suggest that future qualitative or mixed-methods research could explore these societal influences in more depth. We also acknowledge the limitation that men were not surveyed for this study.

Conclusions

This study contributes essential insights into the socio-cultural factors influencing family planning decisions among Saudi women and emphasizes the need for comprehensive and tailored interventions. By addressing economic, health, regulations, cultural, and societal factors, policymakers, healthcare professionals, and community stakeholders can work collaboratively to empower Saudi women in making informed and autonomous family

planning decisions, thereby contributing to the overall health and well-being of women and their children in Saudi Arabia. The findings underscore the multidimensional nature of family planning choices, where economic stability, health considerations, relational dynamics, legal frameworks, cultural values, and societal expectations interplay in a complex decision-making landscape.

Abbreviations

OR	Odd Ratio
CI	Confidence Interval
UBCOM	University of Bisha, College of Medicine
FP	Family planing
SA	Saudi Arabia
SDG	Sustainable Development Goals
IUD	Intra-Uterine Device
OVr	Over the Counter

Supplementary Information

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Supplementary Material 1

Supplementary Material 2

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Author contributions

All authors have a valuable contribution in the developing of the study through all the process. All authors have investigated the final draft and are accountable for the content and similarity index of the manuscript. Each author has made substantial contributions to the conception, design of the work; the acquisition, analysis, interpretation of data; the creation of new software used in the work; have drafted the work or substantively revised it AND approved the submitted version. All agreed both to be personally accountable for the author's own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature.

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Data availability

The datasets are available (attached).

Declarations

Ethical considerations

The study was approved by the Research Ethics Committee University of Bisha (Ref no.: UB-RELOC H-06-BH-087/(1202.23). All women's gave informed consent to participate in the study. Participants' anonymity, confidentiality and privacy were assured. This study was conducted in accordance with the Declaration of Helsinki.

Competing interests

The authors declare no competing interests.

Consent to publish

Not applicable.

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