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Couple fertility-preference concordance and decision-making regarding contraceptive non-use among women in union in Somalia: A cross-sectional study

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Abstract

Background

Contraceptive research in Somalia has largely focused on contraceptive use, primarily from an individual woman-level perspective. Less attention has been given to how partners' fertility preferences and decision-making interact in shaping contraceptive non-use. This study examined the association between couple fertility-preference concordance and discordance and decision-making regarding contraceptive non-use among women in union in Somalia.

Methods

The study used the cross-sectional data of the 2020 Somali Health and Demographic Survey and included 7,481 women aged 15–49 years who were currently in union, not pregnant, not using contraception, and had valid information on decision-making regarding contraceptive non-use. The 2020 SHDS used a stratified, multistage probability cluster sampling design and data were collected using face-to-face interviews. Couple fertility-preference status was categorized as concordant, discordant, or uncertain/unknown based on women's reported fertility preferences and those of their husbands. The outcome distinguished respondent-led, husband-led, and joint decision-making. Multinomial logistic regression was used to estimate adjusted relative risk ratios (RRRs) and 95% confidence intervals, accounting for the complex survey design and adjusting for sociodemographic and couple characteristics. Adjusted predicted probabilities were also estimated.

Results

Among women not using contraception, 34.7% reported joint decision-making, 31.5% husband-led decision-making, and 27.1% respondent-led decision-making. Compared with concordant couples, women in couples with uncertain or unknown fertility preferences had lower relative risks of respondent-led (adjusted RRR = 0.67, 95% CI 0.54–0.97) and husband-led (adjusted RRR = 0.61, 95% CI 0.51–0.74) rather than joint decision-making. Fertility-preference discordance was not significantly associated with respondent-led (adjusted RRR = 1.21, 95% CI 0.71–2.06) or husband-led decision-making (adjusted RRR = 1.14, 95% CI 0.66–1.97). Adjusted predicted probabilities of joint decision-making were 32.1% among concordant, 28.7% among discordant, and 42.3% among uncertain/unknown couples.

Conclusion

Contraceptive non-use decisions commonly involved either the husband or both partners. While fertility-preference discordance was not independently associated with unilateral decision-making, uncertainty about partners' fertility preferences was associated with greater joint decision-making. These findings

highlight the value of considering couple-level fertility preferences and reproductive decision-making alongside individual characteristics.

Plain English summary

Contraceptive decisions are often studied from the perspective of women alone, although husbands and partners may also influence whether contraception is used. Little is known about how partners' fertility preferences relate to decisions not to use contraception in Somalia. This study used data from the 2020 Somali Health and Demographic Survey (SHDS) to examine 7,481 women aged 15–49 years who were in a union, not pregnant, and not using contraception. Couples whose fertility preferences were the same (concordant), different (discordant), or unknown to the woman (uncertain/unknown) were compared, and the study examined whether the decision not to use contraception was mainly made by the woman, mainly by her husband, or jointly. Joint decision-making was most common (34.7%), followed by husband-led (31.5%) and woman-led decision-making (27.1%). Differences between partners' fertility preferences were not clearly related to woman-led or husband-led decision-making after taking other characteristics into account (adjusted multinomial analysis). However, among women who were uncertain about their husbands' fertility preferences, joint decision-making was more common, with an estimated probability of 42.3%, compared with 32.1% among couples with matching preferences and 28.7% among couples with different preferences (adjusted predicted probabilities). These findings show that decisions not to use contraception in Somalia often involve husbands or both partners rather than women alone and highlight the importance of considering couple relationships and fertility preferences alongside women's individual characteristics when understanding reproductive decision-making.

Introduction

Reproductive decision-making is fundamentally a couple-level process in which partners' fertility preferences, intentions, communication, and influence can jointly shape decisions concerning childbearing and contraception. Although fertility and contraceptive behavior have often been examined from the perspective of individual women, research has demonstrated that partners may hold different preferences regarding family size, the timing of subsequent births, and contraceptive use, making the perspectives of both partners important for understanding reproductive behavior [1]. Theoretical work on couple-level fertility decision-making similarly conceptualizes reproductive behavior as emerging through interactions between partners, including communication, mutual influence, and disagreement between their fertility motivations and intentions [2]. Empirical research further indicates that contraceptive decisions may reflect couple dynamics and patterns of influence, with decision-making varying according to partners' communication, relationship dynamics, and perceptions of each other's influence [3]. Recent cross-national evidence from diverse settings also suggests that many couples view contraception as a shared responsibility and report joint decision-making, although attitudes toward shared responsibility and communication differ across contexts [4]. At the same time, disagreement

between partners does not necessarily lead to a single or predictable reproductive outcome; studies of childbearing decisions show that the resolution of disagreement may depend on whether couples are deciding about a first or subsequent birth and on which partner's preference ultimately prevails [5]. Qualitative evidence likewise illustrates that apparent agreement about preventing pregnancy may give way to negotiation and disagreement when contraceptive decisions are made in specific circumstances [6]. Together, these findings highlight the importance of examining contraceptive decision-making within the context of partners' preferences and interactions rather than treating contraceptive behavior solely as an individual-level outcome.

In Somalia, reproductive health outcomes remain closely linked to persistently high fertility, limited contraceptive use, and inequalities in access to reproductive health services. Recent national evidence indicates that contraceptive use remains very low, with only 7% of reproductive-aged women reporting any contraceptive use and less than 1% reporting modern contraceptive use in the 2020 Somali Health and Demographic Survey (SHDS) [7]. A more recent analysis of the same survey estimated modern contraceptive use at 1.8% among women aged 15–49 years, with particularly limited use of long-acting methods such as implants and intrauterine devices [8]. These findings indicate that the challenge in Somalia extends beyond the availability of individual contraceptive methods and includes limited exposure to family-planning information and substantial variation in reproductive health access across population groups. National evidence has also documented socioeconomic and geographic inequalities in reproductive, maternal, and child health services, with women in rural areas and those with lower socioeconomic resources generally experiencing poorer access than their more advantaged counterparts [9].

The factors shaping contraceptive use in Somalia also extend beyond individual sociodemographic characteristics to the information, social, and health-system environments in which reproductive decisions are made. National analyses have identified age, education, parity, exposure to family-planning messages, place of residence, and region as factors associated with contraceptive use [7]. Similarly, the most recent analysis of the 2020 SHDS found that older age and receiving family-planning information at a health facility were associated with modern contraceptive use, while only a small proportion of women reported receiving such information from health facilities [8]. These findings suggest that contraceptive behavior may be influenced not only by whether methods are physically available, but also by women's exposure to information and their interactions with health services. The importance of reproductive decision-making is further highlighted by recent evidence showing that limited healthcare decision-making autonomy is associated with high-risk fertility behavior among Somali women [10]. Together, these findings point toward the importance of examining the decision-making processes surrounding contraception rather than considering contraceptive use solely as an individual behavioral outcome.

Qualitative evidence from Somalia provides further insight into the social and informational context in which contraceptive decisions occur. Research among women in Mogadishu has identified misinformation, restrictive policies, mistrust of clinicians, and the cost of services as factors shaping women's reproductive health experiences and health-seeking behavior[11]. More recent interviews with

married women in Mogadishu similarly identified provider-related barriers, religious and cultural beliefs, misinformation, and fears that contraception could cause permanent infertility as important barriers to contraceptive use [12]. The latter study also reported that women seeking modern contraception could encounter requirements for husbands' approval or presence from health providers, illustrating how contraceptive access and use may be embedded within broader relations of decision-making and gendered authority. Evidence from Somali women in the diaspora has likewise emphasized the importance of cultural traditions, communication with health providers, and knowledge of child-spacing practices in shaping reproductive health experiences [13]. Although evidence from the diaspora cannot be assumed to represent women living in Somalia, it reinforces the relevance of culturally embedded understandings of fertility and reproductive decision-making within Somali communities.

Despite this emerging evidence, much of the quantitative literature on contraception in Somalia has focused on whether women use contraception and, on the individual, household, or community characteristics statistically associated with use [8]. However, these strands of evidence provide limited insight into how decisions about contraceptive non-use are made within couples. Existing research has documented factors that may contribute to contraceptive non-use, including limited information, concerns about contraceptive methods, provider-related barriers, and cultural and religious influences [11,12], but less is known about how partners' own fertility preferences relate to the decision-making process among women who are not using contraception. In particular, it remains unclear whether agreement or disagreement between women's and husbands' preferences regarding future childbearing is associated with whether contraceptive non-use is reported as a joint decision, a woman-led decision, or a husband-led decision. Examining this relationship provides a couple-level perspective on contraceptive non-use that complements existing research focused primarily on contraceptive prevalence and use.

This study examined whether couple fertility-preference status is associated with decision-making regarding contraceptive non-use among women in union in Somalia. Specifically, the study asked: relative to joint decision-making, is a couple’s fertility-preference concordance associated with the likelihood of respondent-led or husband-led decision-making? Using the 2020 Somali Health and Demographic Survey (SHDS), the study aims to:

1. Describe the distribution of reported decision-making regarding contraceptive non-use, distinguishing between joint, respondent-led, and husband-led decision-making.
2. Examine whether decision-making regarding contraceptive non-use differs according to couples' fertility-preference concordance, while accounting for relevant sociodemographic characteristics.

Conceptual Framework

The conceptual framework of the study is based on the premise that decisions regarding contraceptive non-use may be related to partners' broader fertility preferences. The central explanatory construct is

couple fertility-preference concordance, which captures whether a woman and her husband have compatible or incompatible preferences regarding future childbearing. Couples are classified as concordant when their reported preferences are compatible, discordant when they are incompatible, and uncertain/unknown when the available responses do not permit an unambiguous classification.

The framework proposes that the configuration of partners' fertility preferences may be associated with how decisions regarding contraceptive non-use are made. Couples with concordant and discordant fertility preferences may therefore differ in their reported patterns of decision-making, including joint, respondent-led, and husband-led decisions. The framework does not assume a particular direction of association or that any decision-making pattern is preferable.

Because the 2020 SHDS is cross-sectional, the framework represents an analytical model of observed associations rather than a temporal or causal model. It draws on the broader literature conceptualizing reproductive behavior as shaped by partners' preferences, intentions, communication, negotiation, and influence.

Methods

Dataset

This study used data from the 2020 Somali Health and Demographic Survey (SHDS), a nationally representative household survey designed to provide information on population, fertility, reproductive health, maternal and child health, and other demographic and health indicators in Somalia and Somaliland. The SHDS collected information from households and women of reproductive age through standardized household and individual questionnaires. The SHDS employed a complex multistage sampling design, and data were collected through face-to-face interviews [14].

Study Setting

The study was conducted in Somalia, where family formation and reproductive behavior occur within social and household contexts that may involve both spouses as well as wider family and community influences. Contraceptive decisions are therefore situated within broader patterns of couple and family relationships.

The analysis used data from the 2020 Somali Health and Demographic Survey (SHDS), a nationally representative survey that collected information on reproductive and contraceptive behavior and sociodemographic characteristics. The survey included information relevant to this study on women's contraceptive status, decision-making regarding contraceptive non-use, women's fertility preferences, and reported husbands' fertility preferences.

Analytic sample

The analytical sample included 7,481 women aged 15–49 years who were currently in union, were neither pregnant nor using contraception, and were eligible to respond to the survey question on decision-making regarding contraceptive non-use: “Would you say that not using contraception is mainly your decision, mainly your husband's decision, or did you both decide together?” The final analytical sample was determined by these eligibility criteria and the availability of valid responses for the variables included in each analysis (See Figure 1).

Study variables

Outcome variable

The primary outcome was the person responsible for the decision not to use contraception. It was derived from the survey item asking women who were currently in union, were neither pregnant nor using contraception, and were eligible to answer the question: “Would you say that not using contraception is mainly your decision, mainly your husband's decision, or did you both decide together?” The response categories distinguished four principal forms of decision-making: mainly respondent, mainly husband, joint decision, and other. These categories indicate whether the decision not to use contraception was made primarily by the woman, primarily by her husband, or jointly by the couple. The “Other” category does not specify a clearly interpretable respondent-, husband-, or couple-led decision-making pattern and was therefore excluded from the primary multinomial regression analysis. It was retained in the sensitivity analysis to assess whether its exclusion materially affected the findings.

Explanatory variable

The principal explanatory variable measured the concordance of women's and their husbands' fertility preferences directions. Two survey variables were used: women's reported desire for additional children (V605), measured by the question, “Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children?”, and husbands' reported fertility preference (V621), measured by the question, “Does your husband want the same number of children that you want, or does he want more or fewer than you want?”

The recoded women's and husbands' fertility-preference variables were used to construct a three-category measure of couple fertility-preference concordance based on the compatibility of partners' reported fertility-preference directions.

First, V605 was recoded into three categories. The original responses “wants within 2 years” and “wants after 2 years” were combined into wants more children, as the analysis focused on the direction of fertility preference rather than the timing of the next birth. The other responses were categorized as

undecided and wants no more children/declared infecund. V621 was retained in four categories: same number, more children, fewer children, and don't know.

The recoded women's and husbands' fertility-preference variables were then cross-classified to identify nine mutually exclusive couple-level fertility-preference configurations. These configurations and their corresponding frequencies are presented in Table 1.

The nine configurations were subsequently collapsed into three categories representing fertility-preference concordance: concordant, discordant, and uncertain/unknown. Couples were classified as concordant when their reported fertility preferences were compatible, including when the woman wanted more children and the husband reported wanting the same number or more children, or when the woman wanted no more children/was declared infecund and the husband reported wanting the same number or fewer children. Couples were classified as discordant when the woman wanted more children and the husband wanted fewer children, or when the woman wanted no more children/was declared infecund and the husband wanted more children. Couples were classified as uncertain/unknown when concordance could not be determined, including women who were undecided or when women did not know the fertility preference of their husbands. The resulting three categories were concordant, discordant, and uncertain/unknown couples and were used as the principal explanatory variable in the subsequent analysis.

Table 1. Construction of couple fertility-preference concordance using SHDS variables V605 and V621

Women’s fertility preference V605	Husband’s fertility preference V621	Assigned category	Code	Classification rule
Wants more	Same number	Concordant	1	Preference directions are compatible
Wants more	Wants more	Concordant	1	
No more/infecund	Same number	Concordant	1	
No more/infecund	Wants fewer	Concordant	1	
Wants more	Wants fewer	Discordant	2	Preference directions incompatible
No more/infecund	Wants more	Discordant	2	
Wants more	Don’t know	Uncertain	3	Preference agreement cannot be determined because the woman is undecided and/or the husband's preference is unknown
No more/infecund	Don’t know	Uncertain	3	
Women undecided	Any husband response	Uncertain	3	

Sociodemographic covariates

Sociodemographic covariates were selected a priori based on the conceptual framework and their potential roles as confounding factors in the association between couples' fertility-preference concordance and decision-making regarding contraceptive non-use. These included women's age (15–19, 20–24, 25–29, 30–34, 35–39, 40–44, and 45–49 years), women's educational attainment (no education, primary, secondary, or higher), household wealth index (lowest, middle, or highest wealth categories), couple's age difference (husband the same age as or younger than the wife, 1–9 years older, or ≥10 years older), place of residence (urban or rural), and region (Somaliland or Somalia). For analytical purposes, Somaliland refers to the territory that declared independence from Somalia but remains internationally unrecognized and comprises Awdal, Sanaag, Sool, Togdheer, and Waqooyi Galbeed regions. Somalia refers to the other 13 regions of the former Somali Republic. This classification was used to facilitate comparison between the two geographical groupings. These covariates were included to account for potential differences in fertility preferences and reproductive decision-making associated with women's life stage, educational attainment, socioeconomic position, spousal age differences, residential context, and geographical setting. Selection was based on conceptual relevance rather than statistical significance in preliminary analyses.

Analysis

Data management and statistical analyses were conducted using Stata version 17. Descriptive statistics were used to summarize the sociodemographic characteristics of the analytical sample, the distribution of couple fertility-preference concordance, and reported decision-making regarding contraceptive non-use. Unweighted frequencies and survey-weighted percentages were reported, with 95% confidence intervals the primary variables.

The bivariate association between couple fertility-preference concordance direction and decision-making regarding contraceptive non-use was examined using a chi-square test that accounted for the complex survey design.

Multinomial logistic regression was used because the outcome comprised three nominal categories: respondent-led, husband-led, and joint decision-making. Joint decision-making was specified as the reference outcome category, and concordant fertility preferences were specified as the reference category for the principal explanatory variable. The model estimated adjusted relative risk ratios (RRRs) and their 95% confidence intervals for respondent-led versus joint decision-making and husband-led versus joint decision-making. The model was adjusted for women's age, educational attainment, household wealth, couple age difference, place of residence, and geographical region.

Survey weights, primary sampling units, and strata were incorporated using the survey-design information documented for the 2020 Somali Health and Demographic Survey. Statistical tests were two-

sided, with a significance level of 0.05, and missing data were handled using complete case analysis in the multinomial regression.

A sensitivity analysis was conducted to examine whether the findings depended on excluding women whose response to the decision-making question was classified as Other. In the primary analysis, this category was excluded because the three principal categories, mainly respondent, mainly husband, and joint decision-making, provided a more substantively interpretable representation of individual versus shared decision-making. The inclusion of the other category did not materially change the findings. The magnitude, direction, and statistical significance of the associations between fertility-preference concordance and contraceptive decision-making remained essentially unchanged.

Results

Background

Respondents were predominantly young, with women aged 25–29 years comprising the largest age group (23.3%), followed by those aged 35–39 (19.1%) and 34-35 (18.7%). Most women had no formal education (86.3%), and nearly half belonged to the lowest household wealth category (46.0%). The majority lived in rural areas (66.5%), while 33.5% resided in urban areas. Geographically, women from Somalia constituted 62.1% of the weighted sample, compared with 37.9% from Somaliland (See Table 2).

Table 2. Sample background characteristics (n = 7,973)

		Unweighted n	Weighted %
Age group	15 - 19	398	5.3
	20 - 24	1213	15.9
	25 - 29	1730	23.3
	30 - 34	1426	18.7
	35 - 39	1405	19.1
	40 - 44	857	11.7
	45 - 49	446	6.0
Women’s education	None	6390	86.3
	Primary	803	10.5
	Secondary or higher	288	3.2
Household Wealth index	Lowest	3308	46.0
	Middle	2833	37.4
	Highest	1340	16.6
Residence	Urban	2815	33.5
	Rural	4666	66.5
Region	Somaliland	2815	37.9
	Somalia	4666	62.1

Note. Some frequencies may not sum up to the total because of missing cases.

Decision-making regarding contraceptive non-use

Among women in union who were not using contraception, were not pregnant, and had valid information on the decision regarding non-use (n = 7,481), 34.7% reported that the decision was made jointly with their husband, 31.5% reported that the husband was the main decision-maker, 27.1% reported that they themselves were the main decision-maker, and only 6.7% reported that others made the decision (See Table 3).

Table 3. Distribution of decision-making regarding contraceptive non-use among women currently in union (7,481)

	Unweighted n	Weighted %	95% CI	
Mainly respondent	1898	27.1	26.1	28.1
Mainly husband	2573	31.5	30.4	32.5
Joint decision	2508	34.7	33.7	35.8
Other	502	6.7	6.1	7.3

Bivariate results

The crosstab shows a statistically significant association between couple fertility-preference concordance and decision-making regarding contraceptive non-use ($\chi^2 = 79.44$, $p < 0.001$). Among concordant couples, husband-led decision-making was most common (50.5%), followed by respondent-led decision-making (48.4%) and joint decision-making (39.5%). Among discordant couples, the distribution was more evenly divided, with mainly respondent decision-making reported by 3.7 %, joint decision-making by 3.1%, and husband-led decision-making by 2.4%. In contrast, among couples with uncertain or unknown fertility preferences, joint decision-making was the most common pattern (58.1%), while respondent- and husband-led decision-making accounted for 48.0% and 46.3%, respectively.

Table 3. Decision-making regarding contraceptive non-use by couple fertility-preference concordance (n = 7,974)

	Mainly Respondent % (n)	Mainly Husband % (n)	Joint Decision % (n)	P (χ^2)
Concordant	48.4 (861)	50.5 (1156)	39.5 (1004)	<0.001
Discordant	3.7 (55)	3.1 (74)	2.4 (59)	(79.44)
Uncertain/unknown	48.0 (928)	46.3 (185)	58.1 (1372)	

Multinomial regression results

Compared with couples with concordant fertility preferences, those with uncertain fertility preferences had a significantly lower relative risk of reporting respondent-only rather than joint decision-making about contraceptive non-use (adjusted RRR = 0.67, $p < 0.001$). Fertility preference discordance was not significantly associated with this outcome (adjusted RRR = 1.21, $p = 0.462$). Couple age gap was also associated with respondent-only decision-making. Women whose husbands were 1–9 years older

(adjusted RRR = 0.57, p = 0.001) or 10 or more years older (adjusted RRR = 0.70, p = 0.032) had lower relative risks of reporting respondent-only rather than joint decision-making compared with women whose husbands were the same age or younger. Women's age, education, household wealth, residence, and region were not significantly associated with respondent-only decision-making (Table 4).

For husband-only rather than joint decision-making, fertility preference discordance was not significantly associated with the outcome (adjusted RRR = 1.14, p = 0.624). However, couples with uncertain fertility preferences had a significantly lower relative risk of reporting husband-only rather than joint decision-making compared with couples with concordant preferences (adjusted RRR = 0.61, p < 0.001). Household wealth was also associated with this outcome: women from medium-wealth (adjusted RRR = 0.67, p = 0.003) and high-wealth households (adjusted RRR = 0.62, p = 0.003) had lower relative risks of husband-only rather than joint decision-making than women from low-wealth households. In contrast, women living in Somalia had a significantly higher relative risk of reporting husband-only rather than joint decision-making than those living in Somaliland (adjusted RRR = 1.49, p < 0.001). Women's age, education, couple age gap, and residence were not significantly associated with husband-only decision-making (Table 4).

Table 4. Couple fertility preference concordance and contraceptive non-use decision-making: Adjusted RRRs from multinomial logistic regression (n = 6,688)

	Mainly respondent vs. joint decision (adjusted RRR, 95% CI)	p-value	Mainly husband vs. joint decision (adjusted RRR, 95% CI)	p-value
Couple fertility preference concordance				
Concordant				
Discordant	1.21 (0.71-2.06)	0.462	1.14 (0.66-1.97)	0.624
Uncertain	0.67 (0.54-0.97) ***	<0.001	0.61 (0.51-0.74) ***	<0.001
Women's age				
15 - 19				
20 - 24	1.15 (0.78-1.69)	0.459	0.78 (0.55 -1.09)	0.157
25 - 29	1.17 (0.82-1.67)	0.375	0.91 (0.64-1.29)	0.609
30 - 34	1.18 (0.82-1.71)	0.373	0.90 (0.62-1.30)	0.581
35 - 39	1.11 (0.73-1.68)	0.612	0.80 (0.55-1.16)	0.240
40 - 44	1.17 (0.76-1.79)	0.462	0.78 (0.53-1.15)	0.221
45 - 49	1.28 (0.79-2.08)	0.313	0.76 (0.45-1.29)	0.315
Women's education				
None				
Primary	1.08 (0.84-1.39)	0.515	0.86 (0.68-1.08)	0.201
Secondary or higher	0.81 (0.54-1.21)	0.317	0.67 (0.43-1.03)	0.072
Couple age gap				
Husband younger or same age				
Husband 1-9 years older	0.57 (0.41-0.80) ***	0.001	0.81 (0.61-1.08)	0.161
Husband 10 or more years older	0.70 (0.51-0.97) *	0.032	0.86 (0.65-1.13)	0.286
Wealth index				
Low				
Medium	1.07 (0.86-1.32)	0.513	0.67 (0.52-0.87) **	0.003

High	0.98 (0.77-1.25)	0.919	0.62 (0.45-0.84) **	0.003
Type of residence				
Urban				
Rural	1.03 (0.83-1.29)	0.738	0.85 (0.67-1.09)	0.213
Region				
Somaliland				
Somalia	0.90 (0.75-1.08)	0.285	1.49 (1.22-1.81) ***	<0.001

Note. RRR = relative risk ratio, CI = confidence interval, *p < 0.05, **p<0.01, ***p<0.001

As in Figure 1, among women with concordant fertility preferences, the predicted probabilities were relatively similar across the three decision-making categories: 30.9% for mainly respondent decision-making, 37.0% for mainly husband decision-making, and 32.1% for joint decision-making.

Among women with discordant fertility preferences, mainly husband decision-making had the highest predicted probability (37.8%), followed by mainly respondent decision-making (33.5%), while joint decision-making was least likely (28.7%). However, the confidence intervals are relatively wide for this group, reflecting greater uncertainty around these estimates.

The clearest pattern appears among women with uncertain or unknown fertility preference status. For this group, joint decision-making had the highest predicted probability at 42.3%, compared with 30.3% for mainly husband decision-making and 27.3% for mainly respondent decision-making. Thus, compared with the other two groups, the figure shows a greater predicted probability of joint decision-making among women whose couple fertility preference status was uncertain or unknown.

Discussion

This study examined whether couple fertility-preference concordance was associated with decision-making regarding contraceptive non-use among women in union in Somalia. The findings show that contraceptive non-use was frequently reported as either a joint or husband-led decision: 34.7% of women reported joint decision-making, 31.5% husband-led decision-making, and 27.1% respondent-led decision-making. These findings highlight the importance of considering contraceptive non-use as a couple-level decision rather than solely as an individual woman's behavior. The descriptive analysis showed a significant association between fertility-preference concordance and decision-making, although the adjusted analysis provides a more nuanced interpretation of this relationship.

In the adjusted multinomial model, fertility-preference discordance was not significantly associated with either respondent-led or husband-led decision-making relative to joint decision-making. In contrast, women in couples with uncertain or unknown fertility preferences had lower relative risks of reporting

respondent-led or husband-led decision-making than joint decision-making compared with concordant couples. The adjusted predicted probabilities provide a clearer representation of this pattern. Among concordant couples, the probabilities of respondent-led, husband-led, and joint decision-making were relatively similar (30.9%, 37.0%, and 32.1%, respectively). Among discordant couples, husband-led decision-making had the highest predicted probability (37.8%), but the confidence intervals were relatively wide. For couples with uncertain or unknown fertility preferences, joint decision-making had the highest predicted probability (42.3%), compared with 30.3% for husband-led and 27.3% for respondent-led decision-making. Thus, the findings do not support a simple interpretation that disagreement between partners necessarily produces unilateral decision-making; rather, uncertainty about partners' fertility preferences was the clearest adjusted difference observed in this study. Similarly, previous research found that uncertainty about a husband's fertility preferences was associated with covert contraceptive use[15], whereas our findings suggest that such uncertainty was associated with a greater predicted probability of joint decision-making regarding contraceptive non-use, highlighting that the implications of uncertainty may differ depending on the reproductive outcome examined.

These findings are broadly consistent with the study's conceptual framework, which proposed that contraceptive non-use may be related to partners' fertility preferences, communication, negotiation, and influence. The absence of a significant association between discordance and unilateral decision-making suggests that fertility-preference disagreement alone may not determine how contraceptive non-use decisions are made. Previous couple-level research has similarly indicated that disagreement between partners can be resolved in different ways depending on the circumstances of reproductive decision-making and the influence of each partner[16]. In the Somali context, this interpretation is particularly relevant because previous qualitative research has identified cultural and religious beliefs, misinformation, concerns about contraceptive effects, provider-related barriers, and the involvement of husbands in contraceptive decisions [11, 17–19]. The present study cannot determine which of these mechanisms explains the observed patterns, but it demonstrates that women's reports of contraceptive non-use frequently involve their husbands or both partners.

Several sociodemographic characteristics were also associated with decision-making. Women whose husbands were older had lower relative risks of reporting respondent-led rather than joint decision-making, although this pattern was not observed for husband-led versus joint decision-making. Women from middle- and high-wealth households were less likely than those from low-wealth households to report husband-led rather than joint decision-making. Women living in Somalia also had a higher relative risk of husband-led rather than joint decision-making than women living in Somaliland. These associations may reflect differences in relationship characteristics and socioeconomic or geographical contexts, but the cross-sectional data do not establish the mechanisms underlying them. Previous multi-country evidence linked several sociodemographic characteristics to contraceptive decision-making [20], whereas in this study, household wealth, husband–wife age difference, and geographical grouping were the significant sociodemographic factors after adjustment.

This study has several strengths, including the use of nationally representative SHDS data, incorporation of the complex survey design, and examination of contraceptive non-use from a couple-level perspective. The use of adjusted predicted probabilities also facilitates interpretation of the multinomial regression findings. However, several limitations should be considered. The cross-sectional design precludes causal interpretation. Fertility preferences and decision-making were reported by women, meaning that husbands' preferences and decision-making were not independently measured. The uncertain/unknown category may therefore reflect limited knowledge of the husband's preference rather than an objectively uncertain fertility intention. In addition, the concordance measure captures the direction of fertility preferences rather than differences in the desired number or timing of children, while the survey does not contain detailed measures of communication, negotiation, relationship dynamics, or reproductive power that could explain the observed associations.

Overall, the findings indicate that contraceptive non-use among married women in Somalia commonly involves joint or husband-led decision-making. Although couples' fertility-preference discordance was associated with decision-making in the descriptive analysis, it was not independently associated with unilateral decision-making after adjustment. The clearest adjusted difference was observed among couples with uncertain or unknown fertility preferences, who had the largest predicted probability of joint decision-making. These findings support a couple-level understanding of contraceptive non-use and suggest that family-planning research and programming should consider communication and shared reproductive decision-making alongside women's individual characteristics. Future research using information collected directly from both partners, together with measures of communication and negotiation, could help clarify how fertility preferences translate into contraceptive decisions in Somalia.

Conclusion

For women in Somalia who were not using contraception and who were in union, the decisions regarding not using contraception were usually made by the husband or were made jointly by both partners. When other factors were taken into account, fertility preference discordance was not found to be independently linked to unilateral decision-making. On the other hand, uncertainty or a lack of information concerning the couple's fertility preferences was linked to a higher likelihood and greater predicted probability of a joint decision. These results indicate that the couple's fertility preferences and their reproductive decision-making process are important when it comes to understanding why contraception is not being used in Somalia. Further research which obtains information from both partners and looks at the communication and negotiation that takes place between couples could offer additional insights into how fertility preferences affect contraceptive decision-making in Somalia.

Declarations

Ethical considerations

The 2020 Somali Health and Demographic Survey (SHDS) received ethical approval from the relevant national and institutional ethics authorities before data collection. Informed consent was obtained from all survey participants. The present study involved a secondary analysis of anonymized SHDS data and did not involve direct contact with participants or the collection of additional personal information. The data used for this study did not contain direct personal identifiers. Permission to access and use the SHDS data was obtained from the Somali National Bureau of Statistics, and the data were used in accordance with the applicable data-use, confidentiality, and security requirements. The SHDS data are available through the Somali

National Bureau of Statistics microdata archive:

https://microdata.nbs.gov.so/index.php/catalog/50/get-microdata

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Competing interests

The author declares no competing interests.

Data availability

The dataset supporting the conclusions of this article is available from the Somali National Bureau of Statistics microdata archive: reference ID SOM-SNBS-SHDS-2020-v01

https://microdata.nbs.gov.so/index.php/catalog/50/get-microdata

Author contribution:

ASM: Conceptualization, study design, methodology, statistical analysis, data interpretation, manuscript preparation.

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Figures

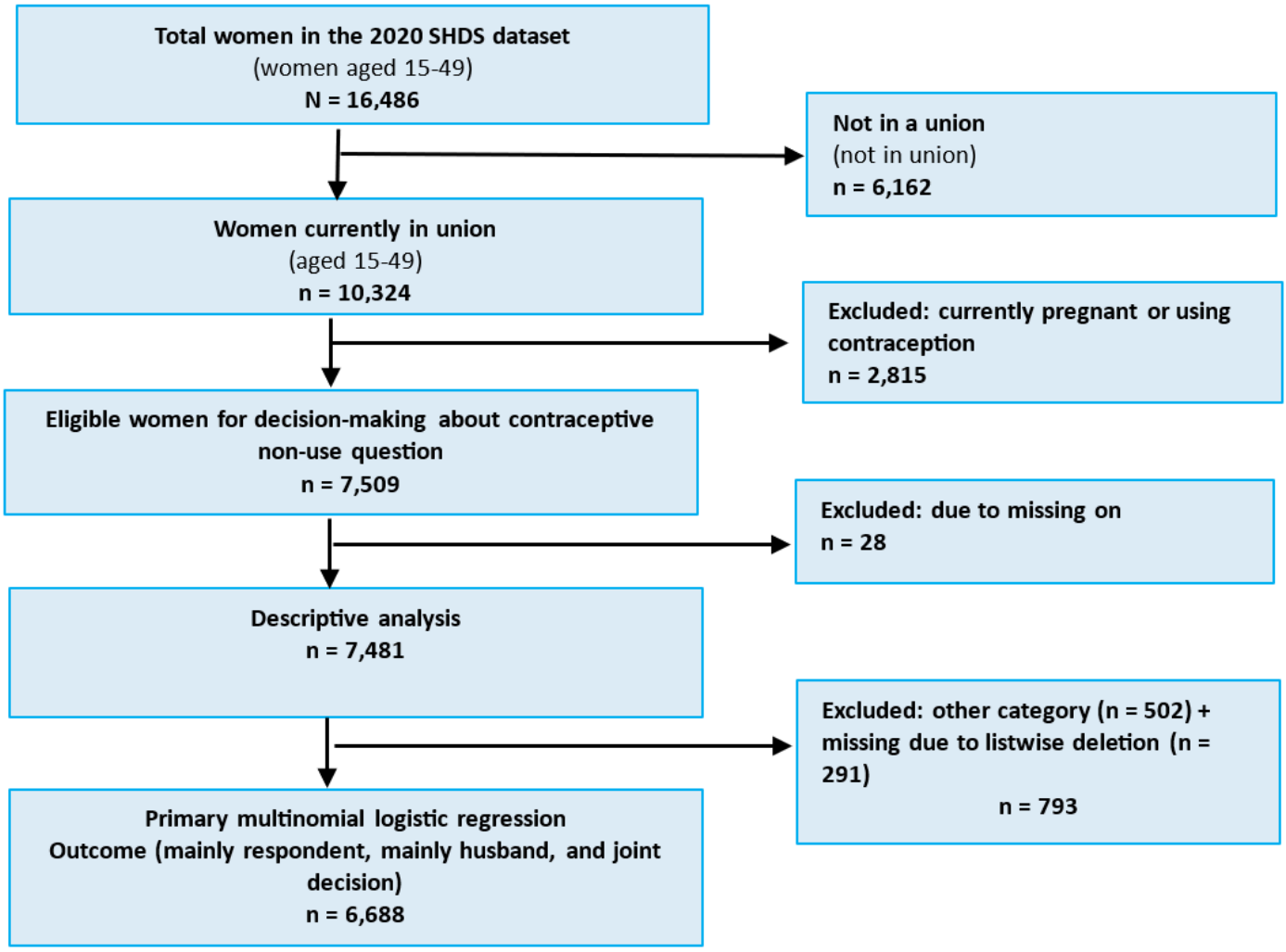


Figure 1

Sample flow chart

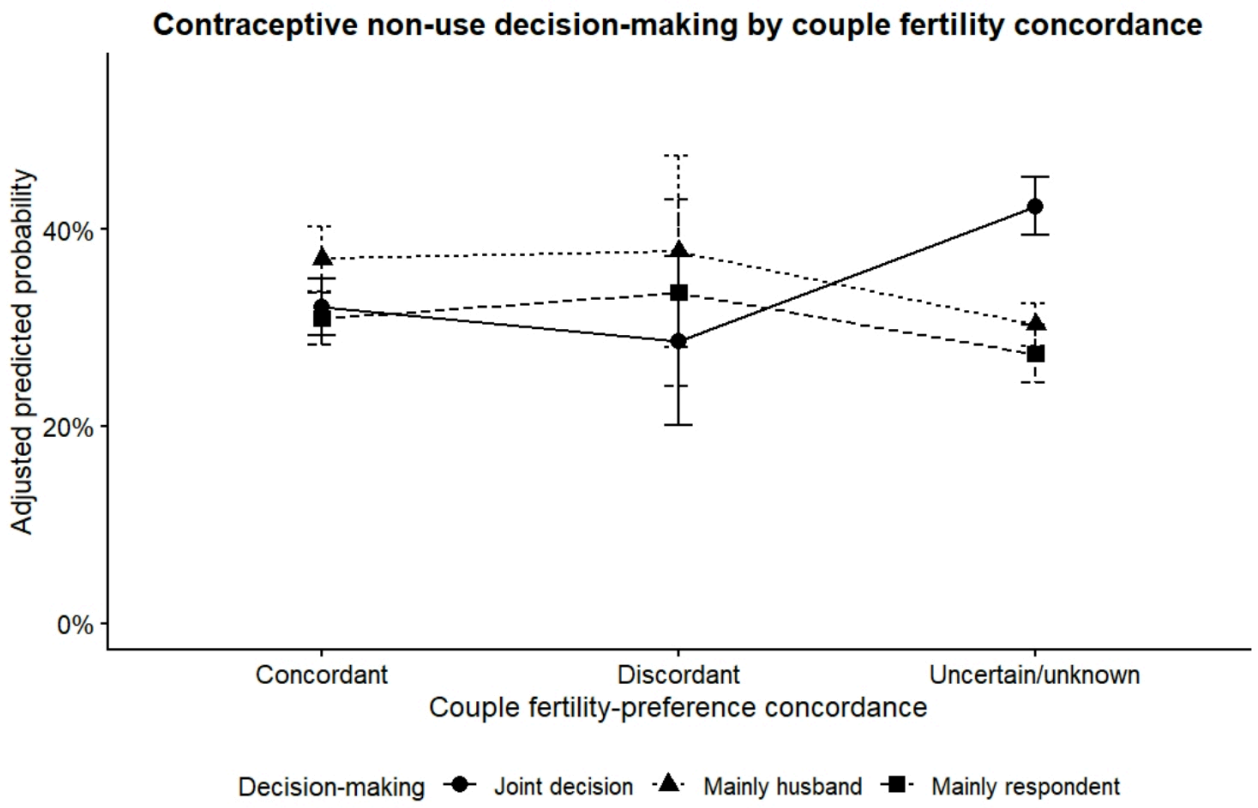


Figure 2

Figure 1. Adjusted predicted probabilities of contraceptive non-use decision-making by couple fertility preference status