

Age at First Marriage for Females in Yemen: Determinants and Demographic Effects

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Research Article

Keywords: Age at first marriage, early marriage, fertility, child mortality, Yemen

Posted Date: October 19th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-10884501/v1>

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Additional Declarations: No competing interests reported.

Abstract

The study aimed to reveal the prevalence and patterns of age at first marriage for females in Yemen, its socio-economic determinants, and its demographic effects. The research relied on data from the 2013 National Health and Demographic Survey, which provides population and health indicators at both national and provincial levels. The study reached several key findings, most notably: age at first marriage among Yemeni females ranges between 8 and 49 years, with an arithmetic mean of 17.5 years. Approximately 75% of first marriages for females in Yemen are concentrated between the ages of 8 and 19. The study shows that age at first marriage is one of the most influential variables on reproductive behaviour in Yemen, and child mortality is inversely affected by the age at first marriage. The most significant determinants of age at first marriage in Yemen include the illiteracy of both the wife and husband, family size, and the wealth index, with variations across administrative regions. The study calls for the adoption of effective community measures through awareness campaigns regarding the appropriate age for marriage for Yemeni females.

Introduction

Marriage typically occurs in the age group of 20 to 30 years or at the beginning of early adulthood (Ariho and Kabagenyi 2020; Widyastari et al. 2020). However, reality indicates that many marriages take place at an early age (under 18 years), or one or both spouses are under 18 (Fitria et al. 2024). Early marriage in Yemeni society is not a new or emergency culture; rather, most Yemeni families are keen to marry off their children as soon as they reach a marriageable age that qualifies them to bear the consequences and responsibilities of marriage (Al-Sharjabi 2003). This type of marriage has led to negative repercussions on family life in general, and on the mother and child in particular. Scarcely any problem suffered by the population in Yemen is mentioned without early marriage being cited as one of its causes. This phenomenon is linked to high illiteracy rates among females, increased number of births, and other problems affecting community development and progress.

Freij (2010) states that approximately half of Yemeni females marry by age 17, and 14% are married by age 14. More dangerously, practices in some rural areas involve marrying off females as young as 9 years old. Marriage in Yemen is regulated by the Yemeni Personal Status Law No. 20 of 1990, which sets an explicit minimum age of 15 for both parties and prohibits it for those younger. The average age at first marriage for females varies according to censuses and surveys conducted in Yemen. Results from the 1991/1992 Demographic and Health Survey showed the average age at first marriage for females was approximately 16 years, while it rose to 20.72 years based on the 1994 census. It then decreased in the 1997 Demographic Survey and the 2003 Family Health Survey to 16.24 and 16.4 years, respectively. It rose again in the 2004 census to 22.14 years and reached 17.5 years in the 2013 Demographic and Health Survey. Furthermore, the majority of Yemen's population is rural (71%), and rural societies tend to prefer early marriage for both females and males. Other factors contributing to this low average include the economic level of families, family size, and educational levels of both genders. All these factors, among others, contribute to the decline in the average age at first marriage in Yemen.

In the literature, rural areas are considered environments prone to early marriage, with factors such as lack of job opportunities being influential (Lowe et al. 2020). Rural communities remain saturated with local culture; some researchers indicate that early marriage is linked to cultural heritage, such as female vulnerability and their inability to refuse (Hosseini and Asadisarvestani 2022; Lebni et al. 2020). Early marriage remains a common practice in many developing countries. Numerous studies agree on the existence of rural–urban differences in the age of women at first marriage. In Bangladesh, Rahman et al. (2009) found differences in the age of marriage between urban and rural areas, noting that over 85% of women in urban areas marry before the legal age, while the percentage exceeds 90% in rural areas. Overall, the study found the average age at first marriage to be under 18 years.

A study by Kradesha (2012) in Jordan indicated that the average age at marriage tends to be slightly lower among females living in rural areas compared to their urban counterparts (20.5 years in urban vs. 20.2 years in rural). Conversely, Saleh (2012) found in Nablus that the average age for urban females was 19.5 years, 19.5 years for rural females, and 21.5 years for those in camps. Rajab (2023) showed that the average age at first marriage in Karbala Governorate was 17 years for both males and females. In Yemen, Ibn Azzoun and Al-Saqqaf (2007) showed no significant variation in early marriage between rural and urban females, with the average age at first marriage being 16.3 years in rural areas vs. 16.7 years in urban areas.

Many studies agree on the link between education and age at first marriage; the higher a woman's education, the later she marries. Assaad and Zouari (2003) noted in Morocco that female education significantly raises the age at first marriage, and that a woman with primary education marries 0.52 years later than an uneducated woman. Clark (2004) indicated that the young age at marriage among women in South Africa, particularly those living in urban areas, is associated with their low levels of education. Similarly, Dommaraju (2009) found no statistical relationship between education and marriage age in India between 1981 and 1991, but a weak relationship between 1991 and 2001. This contrasts with Sunil and Pillai's (2004) study on Yemen, which showed that the wife's educational level

significantly affects the age at first marriage. Abdul-Karim and Al-Hadi (2005) mentioned that 92.7% of married females are housewives without employment. Sultana et al. (2015) found in Bangladesh that age at first marriage among females is strongly linked to their education; 69.5% of illiterate women married before age 15, while 57.35% of those with secondary or higher education married at a later age.

The variable of age at first marriage for a woman has a direct effect on the length of the reproductive period (15–49 years), and her young age at marriage contributes to reaching high reproductive stages faster compared to those who marry later. Thus, age at marriage plays a crucial role in determining women's reproductive behaviour. Many studies agree that early marriage among women is a major factor in high fertility, confirming that age at first marriage has an impact on women's fertility (Anderson et al. 1985; Pavlou 1987; Bongaarts 2006; Adhikari 2010). Rashad (2000) and Courbage (1992) also showed that increasing the age at marriage is a key factor in reducing fertility. These factors are also linked to higher child mortality, as age at marriage influences child mortality; the younger the woman, the higher the probability of child mortality. Barman & Talukdar (2014) revealed that age at first marriage affects infant mortality rates and is a primary cause of high mortality. Cisse and Iknane's (2008) study on early marriage and reproductive health in the Timbuktu region showed that early marriage leads to risks during childbirth, resulting in infant mortality. Therefore, age at first marriage represents a challenge for Yemen and other low- and middle-income countries in achieving the third Sustainable Development Goal (SDG 3): Health and Well-being for All.

Based on this background, the study aims to reveal the prevalence and patterns of marriage age in Yemen, analyse the socio-economic determinants of marriage age in Yemen, including: family size, residence pattern, educational status of spouses, and wealth index, and analyse the demographic effects of age at first marriage on the length of the woman's reproductive period, actual and ideal number of children, and child mortality.

Methods and Materials

The study relied on the 2013 National Health and Demographic Survey, the latest survey conducted in Yemen by the Ministry of Public Health and Population in cooperation with the Central Statistical Organisation, funded by several international agencies. The survey provides population and health indicators at the national and provincial levels, covering 20 provinces plus the capital, Sana'a (See Fig. 1).

Source: Based on maps from the Ministry of Planning and International Cooperation and the Central Statistical Organisation, 2013.

The survey sample included 20,000 households nationwide, consisting of 5,325 urban households and 14,675 rural households. Additionally, interviews were conducted with 26,505 women living in the selected households, or those who had spent the night preceding the survey with the household and were eligible for individual interviews using specialised questionnaires. Among them were 18,457 currently married or previously married women aged 15–49 years, and 8,048 never-married women aged 15–49 years, comprising 7,916 in urban areas and 18,589 in rural areas. Furthermore, anaemia testing was administered to 7,500 women aged 15–49 years and approximately 4,000 children aged 6–59 months (see National Health and Demographic Survey 2013).

The survey utilised four main questionnaires for data collection: the household questionnaire, the questionnaire for ever-married women, an abbreviated questionnaire for never-married women, and a fourth questionnaire dedicated to maternal mortality.

To achieve the objectives of the study, the analysis relied on data from all Yemeni ever-married women, totalling approximately 16,656 women across all governorates of Yemen. Evidently, the survey is characterised by its geographical comprehensiveness, covering all governorates, in addition to having been implemented by a specialised agency dedicated to data collection and tabulation. The SPSS 23 software was utilised, and the variable of female age at first marriage was treated as a quantitative dependent variable. It was subsequently reformulated according to the analytical requirements to take the form of a categorical variable, noting that the variable was also reformulated to serve as an independent variable to examine its implications for fertility in Yemen.

Results

Age at first marriage among Yemeni females ranges from 8 to 49 years, with a mean age of 17.5 years and a standard deviation of 3.91 years. The data presented in Fig. 2 indicate that the most frequently reported age at first marriage among females was 15 years, with 2,274 women, accounting for 13.7% of the total.

Overall, age at first marriage among Yemeni females is concentrated between the ages of 8 and 19 years, representing approximately 75% of the cases. Furthermore, the results indicate that 19% of females were married before reaching the age of 15. Meanwhile, approximately

40% of females were married between the ages of 15 and less than 18 years, whereas about 44% were married at the age of 18 years or older (See Table 1).

Table 1
Age at first marriage in Yemen, 2013.

Age at First Marriage	Frequency	Percentage (%)
Very early marriage (Under 15 years)	3,181	19.1
Early marriage (15 to under 18 years)	6,140	36.9
Non-early marriage (18 years and above)	7,335	44.0
Total	16,656	100
Mean Age at First Marriage	17.5	
Standard Deviation	3.91	
Minimum Age	8.0	
Maximum Age	49.0	
Mode (Most frequent age)	15.0	

The findings indicate that there is no substantial variation in the prevalence of early and non-early marriage between women living in rural and urban areas. The data also show no significant difference between rural and urban areas in terms of the age at first marriage among women. Approximately 20% of women who married at a very young age reside in rural areas. There is also a relatively similar proportion of women living in urban and rural areas who married early, between the ages of 15 and less than 18 years, accounting for approximately one-third of the total. Similarly, half of the women who married at the age of 18 years or older reside in urban areas, compared with 41.8% of those residing in rural areas. The findings further indicate that the mean age at first marriage is 17.3 years among women in rural areas, compared with 18.1 years among women in urban areas (See Table 2).

Table 2
Determinants of age at first marriage for ever-married females by age groups.

Variable	Age at First Marriage			Mean Age at First Marriage
	Under 15 (%)	15 to < 18 (%)	18+ (%)	
Place of Residence				
Rural	19.8	38.4	41.8	17.3
Urban	17.3	32.7	50.0	18.1
Total	19.1	36.9	44.0	17.5
Wife's Education				
No education	64.8	55.9	49.3	17.4
Primary	9.4	8.8	8.8	17.5
Fundamental	21.5	26.5	21.9	17.2
Diploma (pre-secondary)	0.1	0.2	0.6	20.4
Secondary	3.4	7.3	12.8	18.7
Diploma (post-secondary)	0.4	0.3	1.6	21.0
University/Higher	0.4	0.9	4.9	22.1
Husband's Education				
No education	29.0	21.4	19.2	17.2
Primary	14.8	12.9	11.4	17.2
Fundamental	21.5	26.5	24.7	17.4
Diploma (pre-secondary)	0.8	1.0	1.9	19.0
Secondary	19.8	22.4	23.5	17.6
Diploma (post-secondary)	3.7	3.8	5.2	18.3
University/Higher	9.7	11.2	13.5	18.3
Don't know	0.6	0.8	0.6	17.7
Family Size				
1-5 members	22.7	24.8	30.5	19.3
6-10 members	54.6	49.1	44.2	17.2
10 + members	22.7	26.1	25.3	16.6
Wealth Index				
Poorest	20.5	17.9	16.6	17.2
Poor	21.9	21.2	18.7	17.2
Middle	21.8	23.6	20.3	17.2
Rich	21.5	21.3	22.7	17.6
Richest	14.4	16.1	21.7	18.4

Illiteracy plays a significant role in differences in women's age at first marriage. Illiterate women are more likely to experience early marriage than educated women. This is confirmed by the findings of the Demographic Survey in Yemen presented in Table 2, which reveal a substantial difference between illiterate and educated women in terms of age at first marriage. The prevalence of early marriage decreases as women's educational attainment increases. The proportion of illiterate women who married at different ages ranged from

approximately 49% to 65%, reaching its highest level among those who married before the age of 15 and its lowest level among those who married at the age of 18 years or older.

Similarly, the proportion of women with primary education is relatively low, with only minor variations across the different age-at-marriage categories. It is noteworthy that there is a relatively similar proportion of women with basic education across the various age groups at first marriage. In comparison, women with secondary or university education show much lower levels of early marriage. Approximately 0.4% of women in this group married before reaching the age of 15, while about 0.9% married between the ages of 15 and less than 18 years. It should be noted that, for women in these two categories, university qualifications were obtained after marriage, indicating that their higher education was completed after marriage rather than before it.

On the other hand, the proportion of women with higher educational attainment who married at a later age increases to approximately five per cent. Although this proportion remains relatively low, it is noteworthy, particularly because the majority of these women reside in rural areas. The same pattern applies to women with secondary education and post-secondary diplomas. Furthermore, the mean age at first marriage is associated with women's educational attainment. Women who received little or no education have a lower mean age at first marriage, reaching approximately 17 years among illiterate women, whereas the mean age increases to approximately 22 years among university-educated women.

Educated men may tend to choose wives with similar educational levels, thereby promoting greater educational and social compatibility within the marital relationship. In addition, consanguineous marriage may play an important role in the selection of a wife for a son, whether through the father's or mother's relatives. Early marriage in Yemen is not limited to females; it also occurs among males. Numerous cases of this practice can be observed in Yemeni society, where fathers arrange marriages for their sons at an early age, sometimes as a means of demonstrating social or tribal status. In such cases, the son may either continue his education after marriage or remain at a low level of educational attainment, particularly in rural areas.

As shown in Table 2, the prevalence of early marriage is noticeably higher among women whose husbands are illiterate or have low levels of education, reaching its highest proportion of 29.0% among women who married before the age of 15. This proportion gradually declines among the older age groups. Similarly, the proportion of women married to husbands with primary education decreases, although there is relatively little variation across the different age-at-marriage categories. It is also noteworthy that the proportions of women across the various age groups at first marriage are relatively similar among those whose husbands have basic or secondary education.

In comparison, among women married to husbands with higher education or diplomas, the proportion of early marriage is lower. For example, the proportion of wives of university-educated men who married before the age of 15 is approximately 9.7%, increasing to 13.5% among those who married at the age of 18 years or older. Conversely, the proportion of women marrying at a later age is higher among those whose husbands have higher educational qualifications, such as university degrees, post-secondary diplomas, and pre-secondary diplomas. These relatively high proportions may indicate changes in family and marriage patterns.

The mean age at first marriage is also associated with the husband's educational attainment. Women married to men with little or no education have a lower mean age at first marriage, approximately 17.2 years among the illiterate. In contrast, the mean age increases to approximately 19.0 years among women whose husbands hold pre-secondary diplomas, and to 18.3 years among women whose husbands hold post-secondary diplomas or university degrees.

Family size also affects the process of marrying women at an early age. An increase in family size may lead to greater economic pressure, particularly among low-income households, which may increase acceptance of early marriage, especially for girls. This is supported by the finding that approximately 94% of these women reported that they had been forced to marry at an early age, or had experienced what may be described as forced marriage.

The data presented in Table 2 indicate that the average household size of women who married early in Yemen is approximately nine persons per household, with a standard deviation of 4.8 persons. This suggests that household size is relatively large in Yemen, creating considerable pressure on household heads, particularly in the context of low average monthly income and widespread poverty among Yemeni households. Such conditions may encourage families to marry off their daughters at an early age as a means of reducing the economic burdens they face.

This interpretation is further supported by the fact that 86% of the women surveyed reported that economic pressures and difficulties in meeting living expenses had forced them to marry at an early age. In addition, parents may prioritise their sons by providing greater

attention and covering their educational expenses. Approximately 79% of women who married early reported experiencing preferential treatment within their families in favour of male children.

The data indicate clear variation in the distribution of women's age-at-marriage categories according to household size. The proportion of marriage, particularly early marriage, increases considerably among medium-sized households (6–10 members), reaching its highest level of 54.6% among women who married before the age of 15. Similarly, among households with more than 10 members, the proportions across the different age-at-first-marriage categories are relatively similar, ranging from 22.7% to 26.1%.

In comparison, women from smaller households (1–5 members) tend to marry at older ages, with the proportion reaching its highest level in the late-marriage category (18 years or older), at 30.5%. It is noteworthy that the mean age at first marriage is associated with household size. Women belonging to large households have a lower mean age at first marriage, approximately 16.1 years among households with more than 10 members, whereas the mean age increases to approximately 19.3 years among women from smaller households of 1–5 members.

Household monthly income is another direct factor influencing women's age at first marriage through its effects on several other variables, including women's education and age at first marriage. Low-income households may be compelled to marry off their daughters at an early age as a means of reducing financial burdens or decreasing the number of household members dependent on the family's income, particularly when the number of females exceeds the number of males. Some families may perceive the financial and social requirements associated with women as greater than those associated with men, particularly under conditions of low monthly income, as is the case in Yemen.

The data indicate a higher prevalence of early marriage among women from low-income households, particularly those classified as the poorest and poor, as well as among middle-income households. This relatively high prevalence may be attributed to the economic pressures experienced by families as a result of low monthly income. When families are unable to meet the basic needs of their children, they may marry off their daughters at an early age as a means of alleviating the household's economic burden.

Place of residence also plays an important role in determining income levels, as approximately two-thirds of women from low-income households reside in rural areas. Nevertheless, it is noteworthy that a considerable proportion of women who married early also belong to households classified as wealthy or richest. One possible explanation is marriage to a relative from either the father's or mother's side, motivated by concerns about the transfer of family wealth outside the extended family.

In addition, polygyny is relatively common among wealthy households in Yemen, which may increase household size and, consequently, contribute to the practice of marrying daughters at an early age. Families may also seek to marry daughters early because of concerns about remaining unmarried at an early age for an extended period. This may be particularly relevant in a country where rural social norms remain influential. Despite the availability of financial resources, customs and traditions continue to play a major role, with early marriage sometimes being perceived by society as a means of protecting and safeguarding women.

Finally, the mean age at first marriage is associated with household wealth. Women belonging to the poorest and poor wealth categories have a lower mean age at first marriage, approximately 17.2 years. The mean age increases progressively with household wealth, reaching approximately 18.4 years among women belonging to the richest wealth category (See Table 2).

On the other hand, it is necessary to identify the independent variables that influence age at first marriage, particularly because the Chi-square test, analysis of variance (ANOVA), and Pearson correlation coefficient reveal bivariate relationships that do not take into account the combined effects of the independent variables. To identify the most important variables influencing early marriage, multiple regression analysis was employed to determine the variables affecting early marriage and explaining the variation in age at marriage among Yemeni females, and subsequently to examine the nature and direction of their effects on the dependent variable. This analysis also took into account the transformation of some categorical variables, such as place of residence, into dummy variables, as was also the case for the geographical region (governorates).

The results presented in Table 3 show that female illiteracy has a positive and statistically significant effect on age at first marriage at a significance level of less than one per cent. Thus, the lower a woman's level of education, the higher the likelihood of early marriage. Similarly, about the husband's illiteracy, the results indicate an inverse relationship with age at first marriage, which is statistically significant at the level of (.000). As for the household wealth index, particularly the low-income category for women, the results indicate an inverse effect on age at first marriage, which is statistically significant at the level of (.01). Furthermore, the results indicate that household size has an inverse effect on age at first marriage, with statistical significance at the level of (.000).

Table 3
Multiple regression analysis results for determinants of age at first marriage in Yemen.

Variable	B	t	(Beta)	Significance
Constant	17.892	112.731	–	.000
Family Size	–0.035	–5.379	–0.043	.000
Residence Pattern (Urban)	–0.232	–2.688	–0.026	.007
Wife's Illiteracy	–0.556	–8.596	0.071	.000
Husband's Illiteracy	0.330	3.442	–0.027	.001
Wealth Index (Poorest)	–0.182	–2.364	–0.019	.018
Ibb	–0.541	–3.197	–0.032	.001
Abyan	1.808	9.880	0.095	.000
Amanat Al–Asimah	0.173	0.936	0.010	.349
Taiz	0.565	3.333	0.034	.001
Al–Jawf	–0.151	–0.722	–0.007	.470
Hajjah	0.316	1.760	–0.117	.078
Al–Hudaydah	0.297	1.661	0.017	.097
Hadramout	1.065	6.068	0.060	.000
Dhamar	–0.101	–0.578	–0.139	.564
Shabwah	0.406	2.299	0.022	.021
Sa'ada	0.167	0.917	0.009	.359
Sana'a	0.308	1.808	0.018	.071
Aden	2.573	12.689	0.128	.000
Lahj	1.840	9.283	0.087	.000
Ma'rib	0.071	0.382	0.004	.703
Al–Mahwit	–0.072	–0.395	–0.004	.693
Al–Mahrah	0.144	0.617	0.005	.537
Amran	0.827	4.682	0.046	.000
Al–Dhale'e	–0.118	–0.668	–0.007	.504
Raymah	–0.354	–1.905	–0.118	.057
F–Test	35.753			–
R ²	0.632			–

From a geographical perspective, the results indicate an effect of urban residence compared with rural residence. To examine the effect of spatial variation across geographical environments on early marriage, governorate-level data were included as dummy variables, with Al–Bayda Governorate serving as an omitted category. The results show that women living in Aden Governorate have a higher age at marriage compared with women in the other governorates in general, and Al–Bayda Governorate in particular. This finding is expected, especially since Aden Governorate is characterised by higher levels of female education, in addition to a high level of urbanisation, reaching 100%. Moreover, Aden has historically been a setting in which various cultures have influenced patterns of life and social practices.

In contrast, the results indicate that age at first marriage is lower in the governorates of Dhamar, Raymah, and Hajjah compared with the other governorates, particularly the omitted governorate. This may be attributed to the predominantly rural lifestyle in these governorates,

which encourages early marriage and is characterised by social prestige and competition associated with marrying children at an early age.

Based on the foregoing, it is evident that all the independent variables included in the multiple regression model were able to explain approximately 63% of the variation in the dependent variable (age at first marriage), as the coefficient of determination R^2 was approximately .632. This proportion is considered quite substantial, and indeed relatively high, for studies of this nature.

The study considered age at first marriage as one of the indicators that may play a role in demographic outcomes. Linear regression analysis was employed to determine the statistical relationship between age at first marriage and its demographic effects in Yemen. According to the results, the R^2 values were .031 for the length of the reproductive period, .050 for the actual number of children, .013 for the ideal number of children, and .012 for child mortality, reflecting the importance of age at first marriage in explaining variation in these demographic outcomes.

The first two variables showed positive b coefficients, indicating a relationship whereby age at first marriage, particularly early marriage, increases the length of women's reproductive period, which in turn contributes to an increase in the number of children per family in Yemeni society. On the other hand, the ideal number of children decreases as the age of married women increases, as indicated by a negative b coefficient.

It is also suggested that early age at marriage among women contributes to child mortality and consequently affects fertility levels, increasing the likelihood of child mortality, as reflected by the inverse relationship indicated by the b coefficient. This means that a lower age at first marriage among Yemeni women is associated with a higher rate of child mortality, and this relationship is statistically significant. Furthermore, all variables have statistically significant b coefficients, highlighting the importance of women's age at first marriage in relation to demographic outcomes (see Table 4).

Table 4

Linear regression of the demographic effects of age at marriage, considering the age at first marriage among married women as an independent variable.

Model	Unstandardized B	Unstandardized std. Err.	Standardized Coefficients(B)	t	Significance
Reproductive Span					
Constant	26.641	0.298	–	–	.000
Age at First Marriage	0.247	0.017	0.115	14.885	.000
R ²	.031				
F	221.561				
Significance	.000				
Actual No. of Children					
Constant	6.878	0.104	–	–	.000
Age at First Marriage	–0.171	0.006	–0.224	–29.604	.000
R ²	.050				
F	876.416				
Significance	.000				
Ideal no. of Children					
Constant	4.827	0.066	–	–	.000
Age at First Marriage	–0.027	0.004	–0.054	–7.285	.000
R ²	.013				
F	53.074				
Significance	.000				
Child Mortality					
Constant	0.697	0.027	–	–	.000
Age at First Marriage	–0.022	0.002	–0.111	–14.457	.000
R ²	.012				
F	208.991				
Significance	.000				

Discussion

Age at first marriage among females in Yemen has generally tended to increase. This trend is undoubtedly attributable to the social and economic changes that Yemen has experienced over the past decades. However, early marriage remains prevalent in many areas and among numerous families, particularly in rural areas, where female education is relatively limited. Although the legal minimum age for marriage in Yemen is 15 years, the present study found that some participants still marry at younger ages. The geographical characteristics of Yemen, encompassing mountains, plains, and desert areas, have also played a role. In addition, tribal customs, represented by prevailing values, norms, and traditions, have played a significant role in determining the age at marriage, particularly among females. Furthermore, the economic context of Yemen should not be overlooked. As is well known, Yemen is classified as a low-income country according to the United Nations Human Development Report, ranking 186th on the Human Development Index in 2024.

The proportion of early marriage identified in the present study is relatively low compared with the findings of previous studies, such as Azzoun and Al-Saqqaf (2007), which reported that 28% of females were married before reaching the age of 15. Despite the relative decline in very early marriage, which may be attributed to the expansion of education, early marriage remains relatively prevalent compared with many developing and developed countries.

Yemen is predominantly rural in character. There is no governorate in Yemen in which the majority of the population does not reside in rural areas, except Aden and the Amanat Al-Asimah (the Capital Municipality). Therefore, some variation in the mean age at first marriage between rural and urban areas would be expected. However, as mentioned previously, the present study found no substantial difference between rural and urban areas in terms of the mean age at first marriage in Yemen. This finding contrasts with the results of several previous studies, including Rahman et al. (2009), Kradesha (2012), and Rajab (2023). This may be attributed to the fact that many people migrate from rural areas to cities while retaining the same customs and traditions practised in their rural communities. Other contributing factors may include the economic circumstances of the household and its large size. More importantly, most Yemeni families seek to marry off their children once they reach marriageable age, viewing marriage as a means of protecting them from deviant behaviour (Al-Sharjabi 2003).

Women in predominantly rural communities also face difficulties in refusing marriage. This has been confirmed by numerous previous studies, with some researchers indicating that early marriage is associated with cultural traditions, including the subordinate position of females and their limited ability to refuse marriage. The present study found that approximately 94% of women were forced into marriage, indicating that women in Yemen have very limited influence over the choice of their husbands.

Yemeni households are characterised by a relatively large average household size. The households of women who married early in Yemen comprise approximately nine members per household. This represents an indication of the large size of Yemeni families and places considerable pressure on household heads, particularly in the context of low educational attainment, low average monthly income, and widespread poverty among a large proportion of Yemeni families. These economic pressures may encourage families to marry off their daughters at an early age as a means of reducing the economic burden they face. Household size therefore appears to have an influence on age at first marriage. This finding is consistent with the literature on early marriage and is supported by several studies, including Sultana et al. (2015) and Ibn Azzoun and Al-Saqqaf (2007).

Age at first marriage is considered one of the most important factors contributing to the high fertility rate in Yemen. This relationship has been confirmed by a number of previous studies (Al-Kharif 2002; Buqari 2010; Al-Ziyadi 2010). Cultural values and Islamic education also have important effects on age at marriage and on both the actual and ideal number of children. Cultural attitudes toward family honour, marriage, and sexuality tend to confine women to a protected sphere. Specific moral expectations are imposed on women's roles as mothers and obedient homemakers.

In the present study, the regression model revealed that women who marry at an early age have more children than those who marry at a later age, in both the actual and ideal number of children. Age at marriage, particularly early marriage, also has predictive value for child mortality. This may, in turn, reinforce the desire to have additional children as a means of compensating for children who have been lost, without sufficient consideration of the woman's age or the health risks she may face, which may lead to maternal mortality. Consequently, the desire to have more children may be reinforced as a means of compensating for previous child losses. This pattern may be associated with strong religious beliefs and restrictions imposed on women, as is common within Yemeni society.

Conclusion

This study confirms that age at first marriage is one of the most important factors predicting a high fertility rate in Yemen. Household size, the educational levels of both spouses, and household wealth index are among the most important determinants of the age at first marriage of Yemeni women. The study also found no significant difference between rural and urban areas in terms of the mean age at first marriage.

The study recommends adopting effective community-based measures to raise awareness of the appropriate age for marriage among Yemeni females. Such measures should focus on reducing illiteracy and providing appropriate community awareness of the risks that early marriage may pose to women's health and the health of their children.

Declarations

Disclosure of interest

The authors report there are no competing interests to declare.

Funding:

Author Contribution

M. R. A. prepared the research methods and analyzed and interpreted the survey data regarding the determinants of age at first marriage among Yemeni women. Y. M. Sh. revised the results and proofread the manuscript. A. M. A. performed the discussion and was a major contributor in writing the manuscript. All authors read and approved the final manuscript.

Acknowledgement

The authors extend their appreciation to the Ongoing Researchers Funding Program (ORF-RICSP-2026-19), King Saud University, Riyadh, Saudi Arabia.

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Figures



Figure 1

Governorates of the Republic of Yemen.

Source: Based on maps from the Ministry of Planning and International Cooperation and the Central Statistical Organisation, 2013.

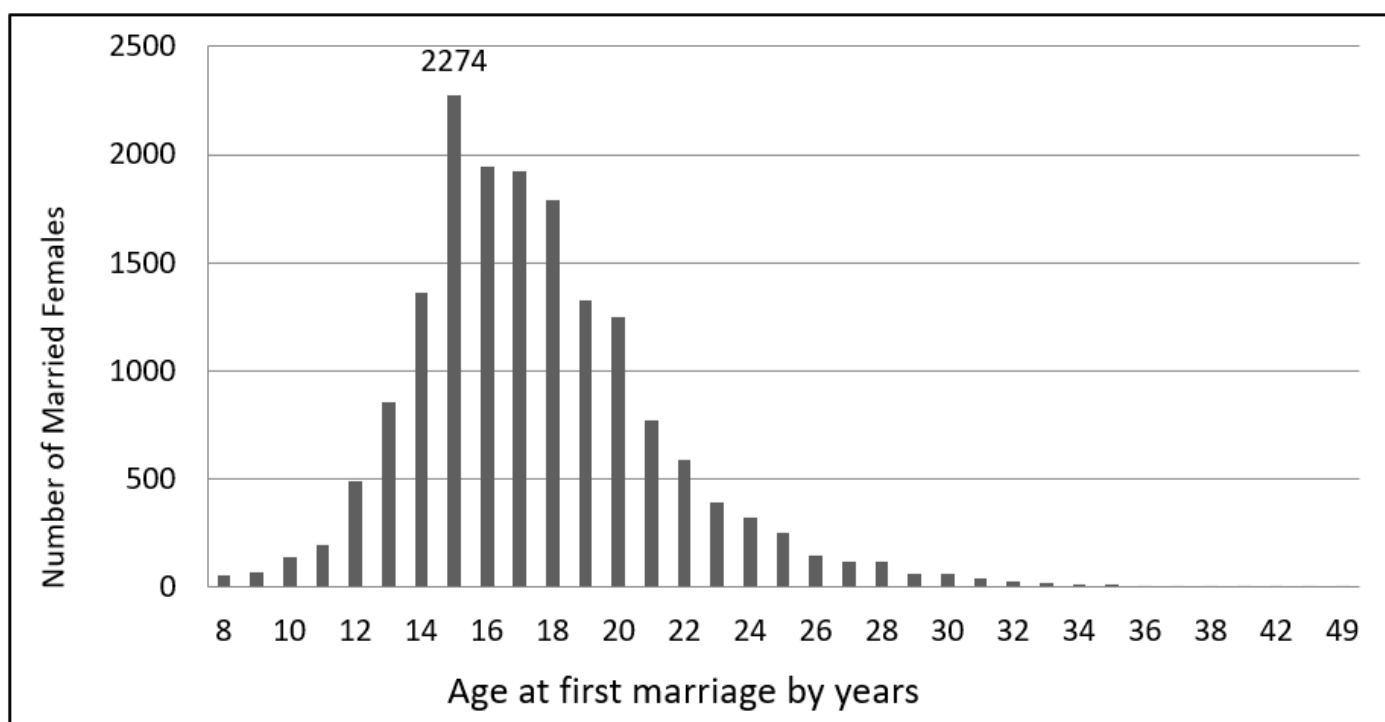


Figure 2

Distribution of women by age at first marriage, Yemen, 2013.