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Short Report

CONSANGUINEOUS MARRIAGE IN JORDAN: AN UPDATE

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Summary. This study examined the recent level, trends and determinants of consanguineous marriage in Jordan using time-series data from the Jordan Population and Family Health Surveys (JPFHSs). According to the 2012 JPFHS, 35% of all marriages were consanguineous in Jordan in 2012. There has been a declining trend in consanguinity in the country, with the rate decreasing from a level of 57% in 1990. Most consanguineous marriage in 2012 were first cousin marriages, constituting 23% of all marriages and 66% of all consanguineous marriages. The data show that women with a lower age at marriage, older marriage cohort, larger family size, less than secondary level of education, rural place of residence, no employment, no exposure to mass media, a monogamous marriage, a husband with less than higher level of education and lower economic status, and those from the Badia region, were more likely to have a consanguineous marriage. Increasing age at marriage, level of education, urbanization and knowledge about the health consequences of consanguinity, and the ongoing socioeconomic and demographic transition in the country, will be the driving forces for further decline in consanguinity in Jordan.

Consanguineous marriage refers to marriage between a man and a woman who share a common ancestor or 'blood'. Depending on religion, culture, socioeconomic conditions and geography, the prevalence of consanguineous marriage varies significantly from one population to another. Western Europe, North America, Australia and Russia have the lowest prevalence of consanguineous marriage (less than 1%), while the Iberian Peninsula, Japan and South America have an intermediate level (1–20%). North Africa and sub-Saharan Africa, and West, Central and South Asia, have the highest levels (20–50%+) of consanguineous marriage (Bittles, 2012). The highest rates

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of consanguineous marriages are found among Arab Muslims and some other Muslim communities because, despite it resulting in a higher risk of negative health effects in offspring, consanguinity is deeply rooted in the culture of these communities and has many social and economic advantages (Tadmouri *et al*., 2009; Bittles, 2012; Islam, 2017).

In Jordan, like most other Arab communities, consanguineous marriage is widely practised. Previous studies have reported that more than half of total marriages were consanguineous in Jordan during the 1970s through to the 1990s (Hijazi, 1977; Khoury & Massad, 1992; Al-Salem & Rawashdeh, 1993). More recently it has shown a declining trend (Assaf & Bradley, 2014). However, most of these studies were based on regional or hospital-based data. In this respect, the large national-level Demographic and Health Survey (DHS) data sets conducted in Jordan provide an opportunity to analyse the different aspects of consanguinity in the country. This short report presents an update of the level, trends and determinants of consanguineous marriage rates in Jordan using the 2012 Jordan Population and Family Health Survey (JPFHS) data, along with data extracted from the previous JPFHS (Department of Statistics & ICF International, 2013).

The dependent variable was consanguineous marriage. This was derived from the individual questionnaire of the JPFHS, which asked ever-married women if they had any blood relation to their husband. Socioeconomic and demographic characteristics of women were considered as explanatory variables. Multivariate logistic regression analysis was performed with consanguinity as a dichotomous dependent variable and socioeconomic and demographic variables as explanatory variables to identify the significant determinants of consanguinity.

Information on consanguineous marriage was available from the 1990, 2002, 2007 and 2012 JPFHSs. Figure 1 presents the estimates of consanguineous marriage rates obtained from these surveys. The results indicate that consanguineous marriage was still very common in Jordan in 2012 as more than one-third (34.6%) of ever-married women reported having a blood relation with their husbands. Most consanguineous marriages were first cousin marriages (23%). The results indicate a secular declining trend in all form of

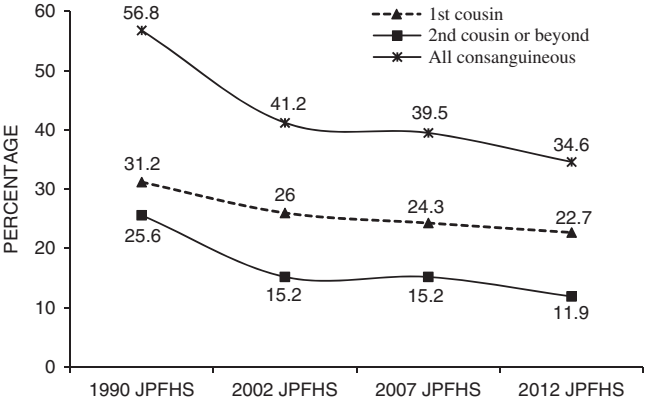


Fig. 1. Levels and trends of different forms of consanguineous marriage in Jordan, 1990–2012.

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consanguineous marriage in Jordan. Overall, the prevalence of consanguineous marriage declined by 39% – from 56.8% in 1990 to 34.6% in 2012 – a decline of 1.8% per year (statistically significant at $p < 0.001$). The most significant decline occurred in second cousin or beyond second cousin marriages.

Table 1 presents the results of the logistic regression analysis showing the effects (odds ratio, OR) of the significant determinants of consanguineous marriage in Jordan. The results indicate that women's age at first marriage, marriage cohorts, family size, urban/rural place of residence, administrative region (governorates), women's education, work status, wealth index and mass media exposure, husband's education, types of marriage (monogamous/polygynous) and women from Badia region have significant independent effects on consanguineous marriage in Jordan. Similar patterns of consanguinity have been found in several other Arab and Muslim countries (Radovanovic *et al*., 1999; Jurdi & Saxena, 2003; Bittles, 2012; Islam, 2012).

Women's age at marriage and marriage cohort showed significant negative associations with the incidence of consanguineous marriage. The data indicated that a 1-year increase in age at marriage decreased the likelihood of a consanguineous marriage by 9% (OR = 0.91; 95% CI: 0.89–0.93). Similarly, older marriage cohorts were more likely to have consanguineous marriage than their more recent counterparts. Family size showed a significant positive association with the incidence of consanguineous marriage. It is seen that a one-unit increase in family size increased the likelihood of consanguineous marriage by about 4% (OR = 1.04; 95% CI: 0.78–0.97). Women living in rural areas were 1.18 times more likely to have a consanguineous marriage than those living in urban areas (OR = 1.18; 95% CI: 1.04–1.34).

Consanguinity varied significantly across the administrative regions of the country. Women from Madaba, Ajlun and Balqa governorates were 29–55% more likely to have a consanguineous marriage than those from Amman governorate. Women from Badia region were 1.4 times more likely to have a consanguineous marriage than women from non-Badia regions (OR = 1.41; 95% CI: 1.14–1.76). The Badia region is an arid or semi-arid area of Jordan that constitutes 80% of the total land area and 6.5% of the total population of the country (Setlur, 2012). It is not exactly desert as there is some rainfall, and plants and animal life. The inhabitants of the region are mostly the Bedouin tribes who lead a traditional nomadic life. The higher prevalence of consanguineous marriage among the tribal Badia women is consistent with the findings of other studies (Raz & Atar, 2005; Bittles, 2012; Bakoush *et al*., 2016). The higher prevalence of consanguineous marriage among tribal communities is generally attributed to their cultural system of inheritance, poor economic condition, lack of education and low level of social security (Khlat, 1997).

Women with no education, or secondary or less education, were at least 17–38% more likely to have a consanguineous marriage than women with higher levels of education. Women who did not participate in the labour force were 1.1 times (OR = 1.1; 1.01–1.27) more likely to have a consanguineous marriage than those who were employed. Women having no exposure to any type of media or infrequent exposure to any one of the three media types (radio, TV and newspaper) were more likely to have a consanguineous marriage than those who had exposure to all three media types. This result indicates that there is a significant negative impact of higher level of education of the husband in lowering the risk of consanguinity. Women having husbands with

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Table 1. Logistic regression analysis showing the effect (odds ratios) of socioeconomic and demographic factors of women on consanguineous marriage in Jordan, 2012

Factor	Coefficient	*p*-value	OR	95% CI
Age at first marriage	−0.092	<0.001	0.912	0.893–0.931
Marriage cohort	−0.138	0.015	0.871	0.779–0.973
Household size	0.037	<0.001	1.038	1.018–1.061
Place of residence		0.009		
Urban (Ref.)	0.000		1.000	
Rural	0.166	0.009	1.181	1.042–1.338
Governorate		0.001		
Amman (Ref.)	0.000		1.000	
Balqa	0.252	0.013	1.286	1.054–1.569
Zarqa	0.027	0.706	1.028	0.892–1.183
Madaba	0.439	0.003	1.552	1.167–2.063
Irbid	0.048	0.497	1.049	0.913–1.206
Mafraq	0.145	0.224	1.156	0.915–1.462
Jarash	0.189	0.185	1.208	0.913–1.598
Ajlun	0.316	0.042	1.371	1.011–1.860
Karak	0.313	0.014	1.368	1.064–1.757
Tafiela	0.062	0.744	1.064	0.731–1.549
Ma'an	0.311	0.085	1.365	0.958–1.946
Aqaba	0.161	0.313	1.175	0.859–1.606
Badia		0.003		
Non-Badia (Ref.)	0.000		1.000	
Badia	0.347	0.003	1.414	1.136–1.761
Education		0.006		
None	0.155	0.087	1.168	0.821–1.661
Elementary	0.319	0.048	1.375	0.983–1.925
Preparatory	0.274	0.051	1.316	0.961–1.801
Secondary	0.213	0.094	1.238	0.897–1.708
Higher (Ref.)	0.000		1.000	
Wealth Index		<0.001		
Poorest	0.770	<0.001	2.159	1.839–2.535
Poorer	0.583	<0.001	1.792	1.535–2.092
Middle	0.480	<0.001	1.616	1.393–1.874
Richer	0.385	0.005	1.470	1.271–1.700
Richest (Ref.)	0.000		1.000	
Work status		0.042		
Yes (Ref.)	0.000		1.000	
No	0.133	0.042	1.107	1.012–1.268
Mass media exposure		0.002		
None	0.097	0.051	1.102	1.012–1.648
Infrequent	0.238	0.001	1.269	1.098–1.467
Exposed to all media types (Ref.)	0.000		1.000	
Husband's education		<0.001		
No education	−0.114	0.533	0.892	0.624–1.276
Elementary	0.239	0.002	1.270	1.089–1.482
Preparatory	0.359	<0.001	1.432	1.254–1.636
Secondary	0.234	<0.001	1.264	1.137–1.405
Higher (Ref.)	0.000		1.000	
Type of marriage		<0.001		
Monogamous	0.404	<0.001	1.497	1.210–1.853
Polygynous (Ref.)	0.000		1.000	

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monogamous types of marriage were 1.50 times more likely to have a consanguineous marriage than those with polygynous marriages (OR = 1.50; 95% CI: 1.21–1.85).

The findings of this study reveal that consanguineous marriage is highly preferred in Jordan as more than a third (35%) of all marriages were consanguineous in 2012. Consanguinity, however, is gradually losing ground in Jordan as it is gradually declining. A clinic-based study in Amman, the capital city of Jordan, also reported a declining trend in consanguineous marriage in three generations: before 1950, 1950–1979 and 1980 and later (Hamamy *et al*., 2005). The declining trends in consanguinity in Jordan could be attributed to socioeconomic development and increased urbanization and modernization of Jordanian society. Although cousin marriage is a cultural preference in Jordan, the execution of such a preference is likely to be affected by the ongoing demographic transition in Jordan with declining fertility and improvement in health and survival. Also, increasing awareness about the negative health impact of consanguineous marriage on offspring might act as a constraint for preference for consanguinity in the future in the country.

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