

EARLY MARRIAGE AND EARLY MOTHERHOOD IN NEPAL

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Summary. This paper examines age patterns of first marriage and motherhood and covariates of early marriage, delayed consummation of marriage and early motherhood in Nepal using data from the 2000 Nepal Adolescent and Young Adult Survey (NAYA). Both unmarried and married male and female youths (age 14–22) were included in the survey. The analysis is based on 2800 urban youths and 5075 rural youths with complete information on the variables examined. Proportional hazard models are used to estimate covariates of early marriage and early motherhood, and logistic regression models are used to estimate covariates of delayed consummation of marriage. The results show that early marriage and early motherhood are quite common among Nepalese women, especially in rural areas. Early marriage is much less common among men. Delayed consummation of marriage is common among very young brides, especially in rural areas. The main covariates associated with early marriage and early motherhood are respondent's education, region of residence and ethnicity. The main covariates of delayed consummation of marriage are age at first marriage, region of residence and ethnicity. The study highlights the need to focus on less educated female youths in the Terai region in order to reduce the reproductive and child health risks associated with early marriage and early childbearing.

Introduction

Many countries in East Asia and Southeast Asia have completed demographic transition to replacement level fertility and have experienced remarkable changes towards late marriage and delayed childbearing in recent years (Singh & Samara, 1996; Blanc & Way, 1998). However, early marriage and early childbearing persist among women in many South Asian countries, including Nepal (Singh & Samara, 1996; Singh, 1998). In most parts of Nepal, economic and social development, as well as demographic transition, are still in their early stages. The fertility level remains

high, and early marriage and early motherhood are quite common (Thapa, 1996; MoH *et al.*, 2002).

Most of the national-level studies on timing of marriage and childbearing rely on census data and demographic surveys. Census data provide limited information on the background characteristics of individuals. Demographic surveys, especially in Asia, have typically been limited to married women of reproductive age, thus lacking information about single women as well as men, both single and married. A few qualitative in-depth studies on marriage behaviour in Nepal have been carried out (Dahal *et al.*, 1993; Niraula & Morgan, 1996), but these are typically based on small samples from purposively selected areas.

This paper examines patterns and covariates of pace of marriage and motherhood in Nepal in recent years using large-scale youth survey data collected in 2000. The sample for this survey includes both unmarried and married female and male youths aged 14–22. Using these data, it has been possible to examine marriage and childbearing behaviour in relation to individual, family and community characteristics. The timing of marriage among female and male youths, and the timing of motherhood among female youths are examined. The major intermediate step between marriage and motherhood, the consummation of marriage, is also examined.

Background

Nepal consists of three broad ecological regions: Terai, Hill and Mountain. The Terai ecological region, a sub-tropical plains region, borders northern India. It is also the 'bread basket' for the country. Because of the proximity of northern India, the social and cultural practices in the Terai region are influenced by essentially the cultures of northern India. The Hill ecological region consists of numerous valleys including the capital (Kathmandu) and other urban areas, which are more developed than other areas in the country. The Mountain ecological region, which is sparsely populated (less than 7% of the total population), is not included in the present study.

In Nepal the fertility level, as measured by total fertility rate per woman of childbearing age, remained high until the late 1970s and then began to decline gradually, reaching 4.1 children per woman in 2001. The fertility among 15–19-year-olds remains high, showing only a small decline during the 1961–2000 period (Retherford & Thapa, 1999, 2003). The proportion of women giving birth before age 20 in Nepal ranks second highest among all Asian countries, only slightly behind Bangladesh (ESCAP, 2001). At the same time, the fertility level in urban Nepal had reached the replacement level of 2.1 children per woman (MoH *et al.*, 2002, pp. 56, 58).

Nepal is an ethnic mosaic. There are more than 60 ethnic groups differentiated by language, dialect, religion and region of residence (Bista, 1987; Thapa 1989; Gurung, 1998). The definition of marriage varies across ethnic groups. In some ethnic groups, the actual consummation of marriage may be a long drawn out process culminating in the public acknowledgement of paternity of a child. In the survey data analysed in this paper, the marriage and consummation of marriage were defined subjectively, as perceived and reported by the respondent himself or herself.

Early marriages remain quite common in Nepal, especially in rural areas, where a large majority (85%) of the country's population lives (Thapa *et al.*, 1997). The 2001 Demographic and Health Survey (DHS) data show that 40% of women aged 15–19 were married. The median age at marriage among women aged 20–49 was 16.7 years (MoH *et al.*, 2002, p. 106). The median age at marriage was lower in rural areas than in urban areas.

Thus, the basic demographic indicators show wide variations by region and socioeconomic characteristics of women, implying that Nepal is in the midst of demographic transition (Thapa *et al.*, 1998). Some groups exhibit advanced stages of demographic transition, while others still exhibit early stages of the transition, such as early marriage, early motherhood, high fertility and high levels of infant and childhood mortality.

Data and methods

The data analysed in this paper are from the Nepal Adolescent and Young Adult Survey (NAYA) conducted in 2000. The NAYA interviewed young males and females aged 14–22. Both unmarried and married youths were included in the survey. The survey over-sampled urban youths to allow separate analysis for urban and rural areas (Thapa *et al.*, 2002). Out of 7977 youths surveyed, the analysis is based on 7875 youths with complete information on the variables examined. All analyses are done separately for urban and rural youths.

First, the age pattern of marriage for both female and male youths is examined using the life-table method. This is followed by an examination of covariates of early marriage using the proportional hazard model. Next, the prevalence of delayed consummation of marriage is examined. The covariates of the probability of delayed consummation of marriage are estimated using the logistic regression model. This analysis is limited to married female respondents. For this model, a dichotomous dependent variable is created, which takes a value of 1 if the respondent did not begin to live with the spouse right after marriage and a value of 0 if the respondent began to live with the spouse right after marriage. Finally, age pattern of motherhood (giving first birth) and covariates of early motherhood are examined using the life-table method and the proportional hazard model, respectively. All female respondents are included in this analysis, regardless of their marital status. Thus, covariates of age at first birth, not first birth interval, are examined.

A number of covariates are thought to affect the timing of marriage, likelihood of delayed consummation of marriage and timing of motherhood. Covariates included in the analysis are: year of birth, birthplace, father's education, mother's education, respondent's education, urban locale (urban only), development level of district (rural only), ecological region (rural only) and ethnicity.

Year of birth is included in the models to estimate the secular trend. Place of birth partially explains the socialization process of the respondents and when combined with current residence, life-time migration. In urban areas, respondents born in rural areas are likely to have more traditional behaviour, marry early and delay consummation of marriage. Among rural residents, those who were born in urban areas, with some urban exposure, may be marrying later than those who were born

in rural areas. Also, they may not delay consummation of marriage as much as the life-time rural residents.

Father's education and mother's education are generally known to be strong correlates of the socioeconomic status of the family. In the context of social change, youths from families with higher socioeconomic status are likely to behave less traditionally. For this reason, higher levels of father's and mother's education are expected to be associated with lower probability of early marriage, lower probability of delayed consummation of marriage and lower probability of early motherhood. Father's education is classified as none, primary or less, and secondary or higher. Mother's education is classified as no formal education and some formal education.

Higher education of the respondent is also likely to be associated with lower probability of early marriage, lower probability of delayed consummation of marriage, and lower probability of early motherhood. Typically, young men and women in Nepal do not marry while they are in school, and the longer they stay in school, the later they are likely to marry. In some cases, the causation may, however, go in the reverse direction as well: a person, especially a young woman, may continue attending school until the family finds a suitable match. For many school-going girls the main reason for discontinuing is reported to be marriage and pregnancy (Thapa *et al.*, 1997). More importantly, young men and women who have higher levels of education are likely to develop higher levels of autonomy *vis-à-vis* their parents both by having better knowledge and by having better opportunities for paid employment and economic independence, which usually result in later marriage (Taj, 1989; Wolf, 1990). Furthermore, young women with a higher level of education are more likely to be employed and the employment is likely to delay marriage. A set of dummy variables is included indicating the level of education of the respondent as none, primary, secondary, high school, and college or higher.

Previous studies have found that cultural background, as measured by ethnicity and ecological region of residence, affects marriage behaviour in Nepal strongly (Thapa, 1989, 1997). To capture these ethnic and ecological differences in marriage and childbearing practices, both locality and ethnicity are included in the analytical models. In this analysis, ethnicity has been categorized into six groups: (i) Brahmin, (ii) Chhetri and Thakuri, (iii) Newar, (iv) Gurung, Magar, Tamang, Rai and Limbu, (v) Muslim and Churaute, and (vi) other.

Place of residence for the urban sample is represented by a set of dummy variables indicating urban locale (Kathmandu, Lalitpur, Pokhara, Biratnagar and Birgunj). For the rural sample, dummy variables indicating ecological region (Terai and Hill) are used, and the classification of districts as more or less developed. The district development level is measured by the United Nations Human Development Index (Thapa, 1995). Using the Human Development Index values and ranking of the districts, three districts (Kavrepalanchowk, Arghakhanchi and Rupandehi) are classified as relatively more developed and five districts (Ilam, Dailekh, Saptari, Mahottari and Banke) are classified as less developed. Early marriage is expected to be more common in districts with lower level of development, and to be less common in urban areas than in rural areas, especially in the Hill region.

Lower age at marriage is expected to be associated with higher probability of delayed consummation of marriage. In addition, the covariates that affect early

marriage are likely to affect delayed consummation of marriage and early motherhood as well. The effects of covariates on age at motherhood are expected to be similar to their effects on age at first marriage, but the magnitude of the effects is expected to be smaller for age at motherhood than for age at marriage.

Characteristics of the sample

Table 1 shows the percentage distribution of the covariates for urban and rural samples by sex. More than a quarter of youths (28% of females and 30% of males) who were living in urban areas at the time of the survey were born in rural areas. Much smaller proportions of youths (12% of females and 10% of males) were born in urban areas but living in rural areas.

Educational levels of fathers and mothers of Nepalese youths show large differences by urban–rural residence. Only about one in ten urban youths have fathers who received no formal education, compared with nearly four in ten rural youths. At the other end, more than one-half of urban youths have fathers with secondary or higher levels of education in contrast to only about one-quarter of rural youths. Mothers have much lower levels of education than fathers in both urban and rural areas. The proportion of youths whose mothers have no formal education amounts to nearly one-half in urban areas and nearly four-fifths in rural areas.

Respondents' own level of education also varies greatly by urban–rural residence and sex. Nearly all urban male youths have some level of formal education but one in eight female urban youths have no formal education. In rural areas, more than one in three female youths and one in ten male youths have no formal education. The majority of urban youths have high school or higher levels of education, the proportion being greater for males than for females. In rural areas, less than one-quarter of female youths and slightly more than one-third of male youths have high school or higher levels of education.

Kathmandu represents over half of urban sample according to the weighted distribution. About two-fifths of the rural sample lives in districts that are classified as more developed. About half of the rural sample is from the Terai region, and the other half is from the Hill region (by sampling design). The distribution of the respondents by ethnicity shows that there is no dominant ethnic group. One ethnic group, Newar, is of sizable proportion in urban areas but not in rural areas.

Results

Pace of marriage

Age pattern of marriage is estimated by the life-table method. Data allow the estimation of the cumulative proportions of female and male youths marrying by ages 13–21. Figure 1 shows these proportions by urban–rural residence. Marriages occur very early among rural female youths, with 16% of them marrying before age 15. About one-half marry between ages 15 and 20, and more than two-thirds of rural female youths are married by age 20. The pace of marriage is slower among urban female youths. But even in urban areas, child marriages (marriage before age 15) amount to 11%, and 43% of urban female youths are married by age 20.

Table 1. Background characteristics (weighted percentage distribution) of the respondents (aged 14–22) by sex and urban–rural residence, Nepal 2000

| Background characteristic | Urban | | Rural | |
|-------------------------------|--------|------|--------|------|
| | Female | Male | Female | Male |
| Birthplace | | | | |
| Urban | 72 | 70 | 12 | 10 |
| Rural | 28 | 30 | 88 | 90 |
| Father's education | | | | |
| None | 10 | 11 | 39 | 38 |
| Primary or less | 37 | 36 | 36 | 39 |
| Secondary or higher | 53 | 53 | 25 | 23 |
| Mother's education | | | | |
| None | 43 | 48 | 80 | 77 |
| Some | 57 | 52 | 20 | 23 |
| Respondent's education | | | | |
| None | 13 | 2 | 38 | 10 |
| Primary | 12 | 15 | 18 | 26 |
| Secondary | 20 | 23 | 21 | 29 |
| High school | 42 | 43 | 21 | 30 |
| College or higher | 13 | 17 | 2 | 5 |
| Urban locale | | | | |
| Kathmandu | 55 | 59 | na | na |
| Lalitpur | 9 | 8 | na | na |
| Pokhara | 11 | 8 | na | na |
| Biratnagar | 16 | 17 | na | na |
| Birgunj | 9 | 9 | na | na |
| Development level of district | | | | |
| Less developed | na | na | 60 | 62 |
| More developed | na | na | 40 | 38 |
| Ecological region | | | | |
| Terai | na | na | 50 | 52 |
| Hill | na | na | 50 | 48 |
| Ethnicity | | | | |
| Brahmin | 17 | 20 | 17 | 16 |
| Chhetri/Thakuri | 14 | 13 | 15 | 14 |
| Newar | 19 | 22 | 5 | 5 |
| Gurung/Magar/Tamang/Rai/Limbu | 19 | 11 | 15 | 14 |
| Muslim/Churaute | 5 | 5 | 4 | 4 |
| All other | 26 | 29 | 44 | 47 |
| Number of respondents | 1424 | 1376 | 2667 | 2408 |

Note: na indicates not applicable.

Male youths experience a much slower pace of marriage than female youths. There is a large urban–rural difference in the pace of marriage among males as well. By age 20, about one-third of rural males are married, compared with one in ten

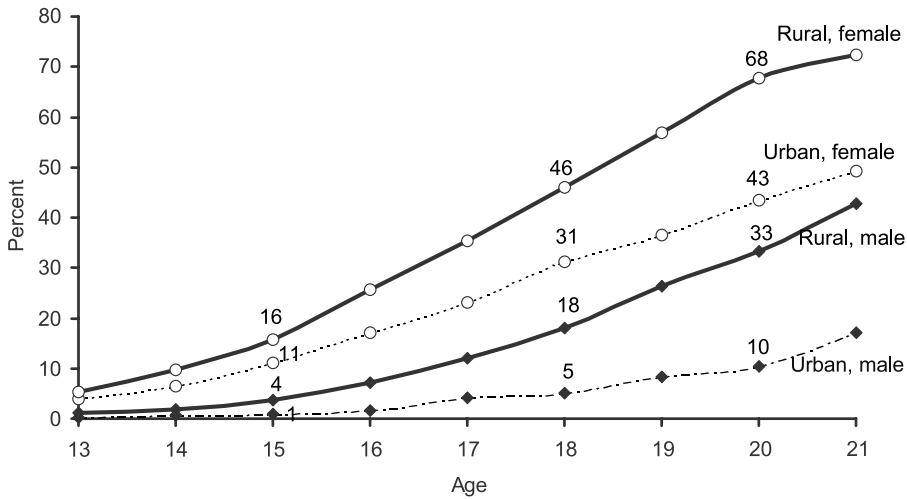


Fig. 1. Estimated cumulative percentages married by ages 13–21 by urban–rural residence and sex, Nepal 2000. Note: the percentages are estimated by the life-table method.

urban males. In both urban and rural Nepal, husbands tend to be older than wives by a few years. The mean age difference is larger in urban areas than in rural areas (5.3 years vs 4.2 years). Within urban and rural areas, the age difference is larger for couples with brides under age 18 than for couples with brides 18 years or older (results not shown).

Views on early marriage

Although early marriages do occur frequently, especially among females, they are not viewed as desirable by most youths in the survey. The majority of females who married before age 18 and the majority of males who married before age 20 think they married too early. These data show that the majority of Nepalese youths who married early did so according to the wishes of their parents. Among those who think they married too early, 82% of rural females and 83% of rural males report that they married early because their parents wanted them to. The proportions are smaller in urban areas: 63% among females and 58% among males.

These statistics indicate that Nepalese parents have a large influence on when their children get married, especially in rural areas. They also indicate that parents' decisions often conflict with their children's preferences. Previous studies on marriage behaviour in other countries have argued that age at marriage tends to be younger when marriage is primarily a union of two families and the marriage decisions are made by parents than when marriage is primarily a union of two individuals and decisions are made by the marrying individuals (Williams, 1990; Malhotra, 1991; Caldwell & Caldwell, 1992; Dahal *et al.*, 1993). The present data support these arguments.

Table 2. Percentages of youths (aged 14–22) who ever had a girlfriend/boyfriend by sex, marital status and urban–rural residence, Nepal 2000

| Sex and marital status | Urban | Rural |
|------------------------|-------|-------|
| Male | | |
| Single | 28 | 14 |
| Married | 35 | 20 |
| Female | | |
| Single | 7 | 8 |
| Married | 19 | 8 |

Friendship before marriage

Parents continue to play important roles in the marriage decisions of their children in Nepal, especially in rural areas. At the same time, young men and women are getting more involved in choosing their spouses. Table 2 shows, for example, that considerable proportions of Nepalese youths have experiences of having a girlfriend or boyfriend.

Male youths are much more likely to report ever having a friendship with the opposite sex than female youths in both rural and urban areas. Such gender difference is commonly observed in Asian countries and is probably mainly due to differences in the reporting of the relationship (Sittitrai *et al.*, 1992; Xenos *et al.*, 1999). Male youths may exaggerate their experiences of having had girlfriends but female youths may underreport their experiences of having had boyfriends. The difference in reporting is probably due to 'double' standards regarding premarital sexual behaviour for youths in Nepal. The focus group studies that preceded the NAYA survey document that premarital sexual relationships are viewed as strictly prohibited for female youths but permissible for male youths (Thapa *et al.*, 2001).

The association between friendship and marriage seems to be strong but not absolute. About half of the single female youths in urban areas who have a boyfriend report that they intend to marry their current boyfriend. The association seems to be weaker among male youths. Only 40% of urban male youths who have girlfriends intend to marry them. The reported level of premarital sex is very low among female youths. Less than 1% of female respondents reported that they ever had premarital sex. Among male youths, the level is substantial: 9% among 15–19-year-olds and 17% among 20–22-year-olds reported that they ever had premarital sex, with little difference by urban–rural residence.

Another view of how Nepalese youths are making decisions about their marriage is obtained by looking at the marriages that are 'love marriages' instead of 'arranged marriages'. Table 3 shows that a considerable proportion of married youths report their marriage as 'love marriage' and this proportion increases with age at marriage: from 10% among those who got married under age 15 to 36% among those who married at age 18–22 in urban areas; and from 4% to 21% respectively in rural areas. Not surprisingly, the proportion of 'love marriages' is high among married female

Table 3. Percentages of married youths (aged 14–22) whose marriages were ‘love marriages’ by age at first marriage and urban–rural residence, Nepal 2000

| Age at marriage | Urban | Rural |
|-----------------|-------|-------|
| < 15 | 10 | 4 |
| 15–17 | 25 | 13 |
| 18–22 | 36 | 21 |
| All | 22 | 11 |

youths who have had a boyfriend: 87% among married urban females and 75% among married rural females (results not shown).

In summary, these data indicate that the marriage process in Nepal is changing. On the one hand, parents continue to play a large role in deciding the timing and choice of marriage of their children, especially in rural areas. On the other hand, there are indications that a substantial proportion of young people in Nepal, especially in urban areas, are making their own decisions on when and whom to marry.

Covariates of early marriage

In this section, the covariates of early marriage are examined using results from the proportional hazard model analysis, separately for female and male youths in urban and rural areas. Table 4 shows the estimated relative risks of age-specific marriage probabilities (at ages under 22) by sex and urban–rural residence.

The relative risk associated with year of birth is less than 1.0 and statistically significant for both female and male youths in urban and rural areas, indicating that younger respondents are less likely to marry early. The effect is stronger among male youths than among female youths and stronger among urban youths than among rural youths. The effect of birthplace on the pace of marriage also differs significantly by sex and current residence. Among urban residents, females who were born in rural areas are more likely to marry early than females who were born in urban areas. Among urban males, the place of birth has no effect on the timing of marriage. Among rural males, rural birthplace is associated with a higher probability of marrying early, as expected. However, contrary to expectation, rural birthplace is associated with a lower probability of early marriage among rural females.

As expected, higher levels of father’s and mother’s education are associated with a lower probability of early marriage in all groups, with the exception that a low level of mother’s education is associated with lower probability of early marriage among urban females. One possible explanation for this pattern is that girls in poor urban families (with a low level of mother’s education) need to help their families either economically (by employment or helping with family work) or by looking after their younger siblings.

A respondent’s own level of education has a very large and statistically significant effect on the pace of marriage among urban female youths. Each additional level of

Table 4. Estimated relative risks of age-specific probabilities of marrying among urban and rural youths (aged 14–22) by sex, Nepal 2000

| Covariate | Urban | | Rural | |
|-------------------------------|--------|-------|--------|-------|
| | Female | Male | Female | Male |
| Year of birth | 0.89* | 0.73* | 0.92* | 0.87* |
| Birthplace | | | | |
| Urban (ref.) | 1.00 | 1.00 | 1.00 | 1.00 |
| Rural | 1.50* | 1.03 | 0.79* | 1.81* |
| Father's education | | | | |
| None (ref.) | 1.00 | 1.00 | 1.00 | 1.00 |
| Primary or less | 0.83 | 0.54* | 0.81* | 0.75* |
| Secondary or higher | 0.55* | 0.62 | 0.77 | 0.40 |
| Mother's education | | | | |
| None (ref.) | 1.00 | 1.00 | 1.00 | 1.00 |
| Some | 1.35* | 0.37* | 0.71* | 0.69 |
| Respondent's education | | | | |
| None (ref.) | 1.00 | 1.00 | 1.00 | 1.00 |
| Primary | 0.89 | 1.52 | 0.68* | 1.05 |
| Secondary | 0.60* | 1.18 | 0.40* | 0.84* |
| High school | 0.21* | 0.61 | 0.26* | 0.50* |
| College or higher | 0.03* | 0.22* | 0.11* | 0.11* |
| Urban locale | | | | |
| Kathmandu (ref.) | 1.00 | 1.00 | na | na |
| Lalitpur | 1.01 | 0.49 | na | na |
| Pokhara | 1.93* | 1.52 | na | na |
| Biratnagar | 1.46† | 1.17 | na | na |
| Birgunj | 3.67* | 2.03† | na | na |
| Development level of district | | | | |
| Less developed (ref.) | na | na | 1.00 | 1.00 |
| More developed | na | na | 1.20* | 1.41* |
| Ecological region | | | | |
| Hill (ref.) | na | na | 1.00 | 1.00 |
| Terai | na | na | 2.04* | 2.78* |
| Ethnicity | | | | |
| Brahmin | 0.56* | 0.73 | 1.01 | 0.75 |
| Chhetri/Thakuri | 0.66* | 0.29* | 0.88 | 1.11 |
| Newar | 0.28* | 0.65 | 0.63* | 0.51* |
| Gurung/Magar/Tamang/Rai/Limbu | 0.49* | 0.45 | 0.45* | 0.53* |
| Muslim/Churaute | 0.90 | 1.29 | 1.01 | 0.92 |
| All other (ref.) | 1.00 | 1.00 | 1.00 | 1.00 |
| Number of observations | 1424 | 1376 | 2667 | 2408 |

* $p < 0.05$; † $p < 0.10$.

Note: na indicates that the covariate is not included in the estimation model.

education beyond the primary school level lowers the probability of early marriage significantly. Among male urban youths, only college or higher education has an effect of lowering the probability of early marriage significantly. Among rural youths, the effect of respondent's education on the timing of marriage begins to show at earlier levels: primary school for females and secondary school for males.

Urban locale has a strong effect on the pace of marriage for urban female youths. Early marriage is much more common among female youths in Birgunj, Pokhara and Biratnagar than in Kathmandu and Lalitpur. Urban locale has a weaker effect on the probability of early marriage among urban male youths. Male youths in Birgunj are more likely to marry early than those in Kathmandu and Lalitpur (the difference between Lalitpur and Birgunj is statistically significant at the 5% level). Among rural residents, respondents in more developed districts are more likely to marry early. This finding is contrary to expectation and suggests that youths from very poor regions may be postponing their marriages for economic reasons. Early marriage is much more common in the rural Terai region than in the rural Hill region for both male and female youths. This finding is comparable to the finding that among urban youths the pace of marriage is much faster in Birgunj for males and in Birgunj and Biratnagar for females than in Kathmandu or Lalitpur (Birgunj and Biratnagar are located in the Terai region).

The relationship between ethnicity and pace of marriage is complex. Among urban females, early marriage is less common for most of the large ethnic groups (Brahmin, Chhetri/Thakuri, Newar and Gurung/Magar/Tamang/Rai/Limbu) compared with Muslims/Churaute and all other smaller ethnic groups. Among urban males, early marriage is less common among Chhetri/Thakuri than others. Among rural female and male youths, Newar and Gurung/Magar/Tamang/Rai/Limbu are less likely to marry early than other ethnic groups.

Consummation of marriage

In many parts of Nepal, delayed consummation of marriage is common, especially for the couples who marry early. Figure 2 shows the proportions of married female youths who did not begin to live with their husbands right after marriage by urban-rural residence and age at marriage. Delayed consummation of marriage is much more common for brides under age 15, amounting to three-fifths in urban areas and two-thirds in rural areas. It is less common among brides age 15-17, amounting to one-fifth in urban areas and one-third in rural areas. For brides age 18-22, one in twelve in urban areas and one in nine in rural areas do not begin to live with their husbands right after marriage. Among married female youths with delayed consummation, the most frequent duration between marriage and spousal co-residence is 12 months, and the median duration is 24 months (results not shown).

Does delayed consummation of marriage depend on some community, family and individual characteristics in addition to age at marriage? The net effects of selected covariates on the likelihood of delayed consummation of marriage were estimated using the logistic regression model. Table 5 shows estimated odds ratios of delayed spousal co-residence for urban and rural married female youths.

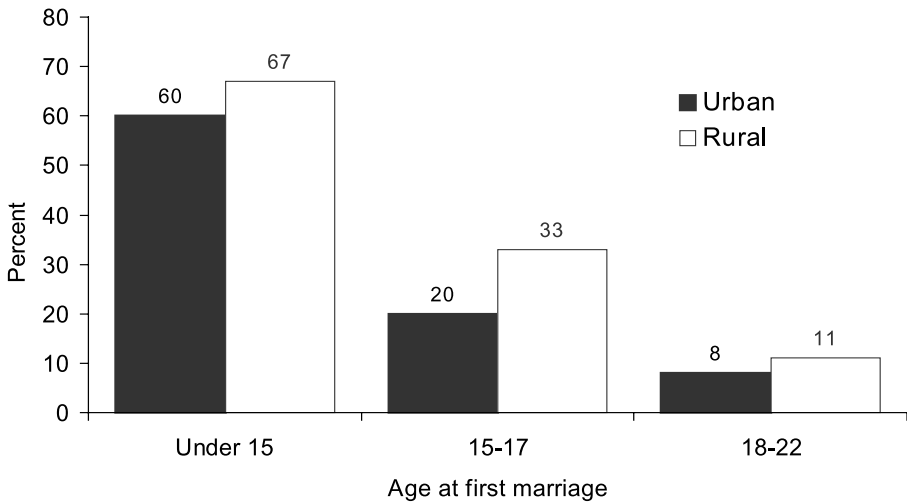


Fig. 2. Percentages of married female youths (aged 14–22) who did not begin to live with their husbands right after marriage, by urban–rural residence and age at first marriage, Nepal 2000.

As expected, age at marriage has a large negative effect on the likelihood of delayed consummation of marriage. Female youths marrying at older ages are much less likely to experience delayed consummation than those marrying at younger ages both in urban and rural areas. A few additional factors are associated with the likelihood of delayed consummation of marriage. Father's education has a significant effect among urban females, but not among rural females. However, contrary to expectation, urban females whose fathers have primary school level education are significantly more likely to postpone living with their husbands after marriage than females with fathers having no education. As expected, mother's education reduces the likelihood of delayed consummation of marriage in both urban and rural areas, but these effects are not statistically significant. Respondent's own education also has no statistically significant effect in urban areas and only a weak effect in rural areas. Rural females with primary education are less likely to have delayed co-residence with husbands than those with no education or secondary school education.

Among urban localities, delayed co-residence with husbands is much more common in Biratnagar and Birgunj, the two urban localities in the Terai region, than in Kathmandu, Lalitpur or Pokhara. Among rural youths, delayed co-residence is much more common in the Terai region than in the Hill region. The development level of the district in rural areas has no significant effect on the likelihood of delayed consummation of marriage. The effect of ethnicity on the delayed spousal co-residence is weak among urban women but strong among rural women. Delayed spousal co-residence is less common among Brahmin and Newar women in both urban and rural areas, and among Chhetri/Thakuri and Gurung/Magar/Tamang/Rai/Limbu women in rural areas. In summary, age at marriage and locality in urban areas and age at marriage, ecological region and ethnicity in rural areas have the strongest effects on whether newly married couples practise delayed consummation of marriage or not.

Table 5. Estimated odds ratios of delayed consummation of marriage among married female youths (age 14–22) by urban–rural residence, Nepal 2000

| Covariate | Urban | Rural |
|----------------------------------|-------|-------|
| Year of birth | 0.92 | 0.99 |
| Age at marriage | 0.59* | 0.73* |
| Birthplace | | |
| Urban (ref.) | 1.00 | 1.00 |
| Rural | 1.25 | 1.05 |
| Father's education | | |
| None (ref.) | 1.00 | 1.00 |
| Primary or less | 2.74* | 1.19 |
| Secondary or more | 2.08 | 1.16 |
| Mother's education | | |
| None (ref.) | 1.00 | 1.00 |
| Some formal education | 0.84 | 0.63 |
| Respondent's education | | |
| None (ref.) | 1.00 | 1.00 |
| Primary | 0.56 | 0.58* |
| Secondary | 0.88 | 1.01 |
| High school or more ^a | 0.35 | 0.81 |
| Urban locale | | |
| Kathmandu (ref.) | 1.00 | na |
| Lalitpur | 0.86 | na |
| Pokhara | 0.61 | na |
| Biratnagar | 5.53* | na |
| Birgunj | 7.54* | na |
| Development level of district | | |
| Less developed (ref.) | na | 1.00 |
| More developed | na | 1.22 |
| Ecological region | | |
| Hill (ref.) | na | 1.00 |
| Terai | na | 5.72* |
| Ethnicity | | |
| Brahmin | 0.11† | 0.40* |
| Chhetri/Thakuri | 0.48 | 0.54† |
| Newar | 0.12† | 0.09* |
| Gurung/Magar/Tamang/Rai/Limbu | 0.84 | 0.04* |
| Muslim/Churaute | 0.65 | 0.80 |
| All other (ref.) | 1.00 | 1.00 |
| Number of observations | 387 | 1090 |

* $p < 0.05$; † $p < 0.10$.

Note: na indicates that the covariate is not included in the estimation model.

^aEducational levels 'high school' and 'college or more' are combined for this part of analysis because only very few women with 'college or more' education are married.

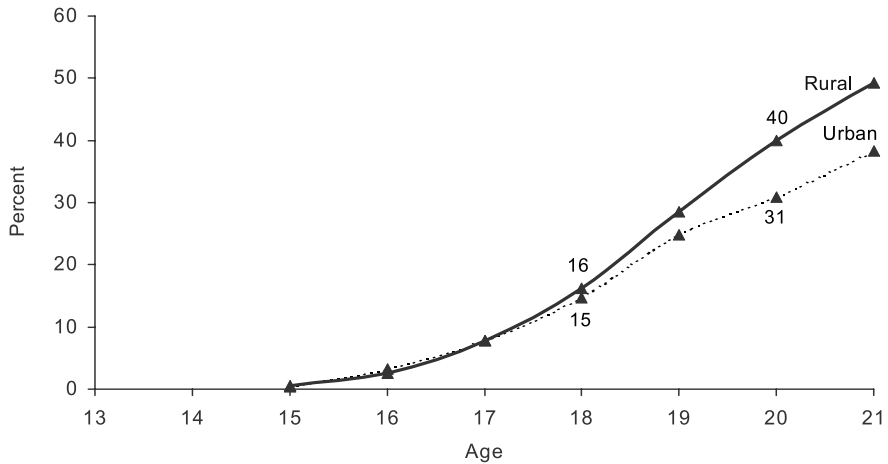


Fig. 3. Estimated cumulative percentages of female youths who had their first birth by ages 13-21 by urban-rural residence, Nepal 2000.

Pace of motherhood

The overall pattern of the pace of motherhood is estimated by the life-table method. Figure 3 shows the cumulative proportions of female youths having their first births by age 13-21, separately for urban and rural areas. There is no noticeable urban-rural difference in the pace of motherhood up to age 18, after which the difference grows quickly, but not as much as the difference in the pattern of marriage shown in Fig. 1. By age 20, about four in ten rural women and three in ten urban women have their first births.

The urban-rural difference in the pace of motherhood is much smaller than the difference in the pace of marriage, mainly because of the urban-rural difference in the probabilities of delayed consummation of marriage, especially among those who marry early. Rural women who marry before age 18 tend not to live with their husbands for a year or two, resulting in the delay of the birth of their first child.

Covariates of early motherhood

The covariates of early motherhood are estimated using the proportional hazard models, for urban and rural females separately. The estimated relative risks are shown in Table 6. As described earlier, the relative risks are based on age-specific probabilities of giving first birth for all women, regardless of their marital status.

In Table 4, estimated relative risks of first marriage for females and males by urban-rural residence are presented for the same set of covariates. The relative risks of marriage and first birth would be similar if all married females experience similar progression to first birth after marriage. The two sets would be different for the factors that are associated with some proximate determinants of progression to first birth after marriage such as timing of co-residence with husband, frequency of intercourse, contraceptive use, fecundity and intrauterine mortality.

Table 6. Estimated hazard ratios of having first birth among urban and rural female youths (aged 14–22), Nepal 2000

| Covariate | Urban | Rural |
|-------------------------------|-------|-------|
| Year of birth | 0.86* | 0.87* |
| Birthplace | | |
| Urban (ref.) | 1.00 | 1.00 |
| Rural | 1.29† | 0.74* |
| Father's education | | |
| None (ref.) | 1.00 | 1.00 |
| Primary or less | 0.87 | 0.97 |
| Secondary or more | 0.62* | 0.97 |
| Mother's education | | |
| None (ref.) | 1.00 | 1.00 |
| Some | 1.34 | 0.83 |
| Respondent's education | | |
| None (ref.) | 1.00 | 1.00 |
| Primary | 1.12 | 1.04 |
| Secondary | 0.69† | 0.66* |
| High school | 0.24* | 0.38* |
| College or higher | 0.02* | 0.10* |
| Urban locale | | |
| Kathmandu (ref.) | 1.00 | na |
| Lalitpur | 1.35 | na |
| Pokhara | 2.13* | na |
| Biratnagar | 1.55† | na |
| Birgunj | 2.73* | na |
| Development level of district | | |
| Less developed | na | 1.00 |
| More developed | na | 0.77* |
| Ecological region | | |
| Hill (ref.) | na | 1.00 |
| Terai | na | 1.75* |
| Ethnicity | | |
| Brahmin | 0.94 | 1.28 |
| Chhetri/Thakuri | 1.07 | 1.07 |
| Newar | 0.48* | 0.66 |
| Gurung/Magar/Tamang/Rai/Limbu | 0.66* | 0.63* |
| Muslim/Churaute | 1.16 | 1.02 |
| All other (ref.) | 1.00 | 1.00 |
| Number of observations | 1424 | 2667 |

* $p < 0.05$; † $p < 0.10$.

It has been seen in Table 5 that female youths who marry at younger ages are more likely to delay co-residence with husband than those who marry at older ages. For this reason, the factors that were associated with faster pace of marriage would

have smaller effects on the pace of motherhood. A comparison of results in Table 6 with Table 4 shows that most of the covariates that are statistically significant for the pace of marriage are also statistically significant for the pace of motherhood with reduced effects.

Among urban female youths, the effects of rural birthplace, father's education, mother's education, respondent's education of primary or secondary level, the urban locale of Birgunj, and ethnicity are smaller either in magnitude or in statistical significance, or both. Some exceptions are also found. The effect of the urban locale of Pokhara is larger on the pace of motherhood than on the pace of marriage. This pattern, however, is consistent with the findings on the probability of delayed consummation of marriage. Table 5 shows that Pokhara residents are less likely to delay consummation of marriage than residents in other urban locales. An interesting pattern is observed for Biratnagar. The effect of being a Biratnagar resident is very strong on delayed consummation of marriage, but its effect on pace of motherhood is slightly stronger than its effect on pace of marriage. To explain this unusual pattern, more research is needed on the proximate determinants of fertility among Biratnagar women compared with women in other urban locales.

A comparison of Table 6 and Table 4 for rural areas shows that the effects of father's education, mother's education, respondent's education of secondary or high school level, Terai region and ethnicity on the probability of early motherhood are smaller than those on pace of marriage, either in magnitude or in statistical significance, or both. The effect of being in more developed districts among rural residents shows an unexpected pattern. It is associated with a high probability of early marriage (Table 4) but low probability of early motherhood. Interestingly, being in more developed districts has no effect on delayed co-residence with husband (Table 5). Possible explanations such as spousal separation due to employment-related temporary migration need to be investigated.

In Table 6, female youths' own education has a large effect on the prevalence of early motherhood. The effect of education on the probability of early motherhood is somewhat smaller among rural female youths than among urban female youths. This is partly because delayed consummation of marriage is more common in rural areas than in urban areas (Fig. 2). Other factors, such as higher fecundity and higher frequency of intercourse among married urban women than among married rural women, may also explain the pattern (Shrestha, 1998).

It can be seen in Table 4 that among rural female youths, those with primary level education are much less likely to marry early than those with no education, but Table 6 shows that primary level education has no effect on the pace of motherhood. This pattern is explained by the effect of primary level education on delayed consummation of marriage among rural female youths. As seen in Table 5, rural female youths with primary level education are less likely to delay consummation of marriage than those with no education. In other words, compared with those with no education, rural female youths with primary education marry later but are less likely to delay consummation of marriage. As a result, there is no significant difference in the pace of motherhood between these two groups of women. A similar pattern is observed among urban female youths but none of the effects of primary education are statistically significant, probably due to the small number of urban female youths with

primary level education in the sample. The probable reason for no delay in consummation of marriage among those married at relatively older ages may be that parents consider the newly married couples physically mature and ready for childbearing. On the other hand, those girls who are married at a relatively young age are allowed by their parents and in-laws to grow up and attain physical maturity before assuming the role of a wife and daughter-in-law in the groom's family. Thus, the timing of the consummation of marriage itself may be considered an indicator of a familial and socially regulated mechanism for when to begin childbearing.

Discussion

Many aspects of marriage behaviour of Nepalese youths show continuing traditional patterns. Large proportions of Nepalese females marry early and begin to have children before the age of 20. In addition, Nepalese parents have a large influence on when their children get married, especially in rural areas. At the same time, this study indicates that the marriage process in Nepal is changing. Younger youths are marrying at later ages and some are taking part in making decisions on when and whom to marry.

Marriage behaviour of Nepalese youths reflects the fact that Nepalese society is undergoing a transition. There are indications that parents' decisions on their children's age at marriage often conflict with their children's preferences. The patterns of covariates of early marriage and early motherhood among Nepalese youths also reflect a society in transition. On the one hand, covariates associated with modernization such as urban residence and higher levels of education are associated with a lower probability of early marriage and early motherhood. On the other hand, covariates associated with cultural background such as ethnicity and region of residence also have large impacts on the pace of marriage and motherhood. Because of the broad categorization of the various ethnic groups in the sample, some of the effects of ethnicity may not have been captured by the ethnicity variable and the variations might be partially reflected through region of residence and other variables.

Delayed consummation of marriage plays an intermediary role in reducing the impact of early marriage on early motherhood. Delayed consummation of marriage is very common if the bride is very young. Controlling for the age of the bride, some additional factors are associated with a high probability of delayed consummation of marriage. Women in the Terai region (including those in Biratnagar and Birgunj urban locales), where age at marriage is much lower, are significantly more likely to practise delayed consummation of marriage. On the other hand, rural women with primary level education, and women from some ethnic groups, are much less likely to practise delayed consummation of marriage. The education level of the youths has an especially large effect on the timing of marriage and first childbirth, but only a level of education higher than primary school lowers the probability of early motherhood significantly.

Early marriage and childbearing are known to be associated with a low level of women's autonomy after marriage and high level of health risks among women and

their children. Reducing the proportions of women marrying and giving birth while still in their teens, therefore, is a priority concern for population policies and programmes.

This study indicates that providing secondary level or higher education to all women will help reduce the proportions of women marrying and giving birth while still in their teens. However, it is difficult to provide a secondary level of education to a large segment of population in a short period of time. School-based reproductive health programmes need to be introduced early in rural areas, perhaps during the last years of primary school, considering that only a small proportion of rural girls attend secondary level schools.

In addition, alternative information and education programmes that emphasize the health advantages of delayed marriage and childbirth are needed, designed specifically for girls and young women. Mass media and community-based information and education programmes may be developed to compensate for low levels of education. The special challenge is to reach young women with little or no education and those with limited access to mass media. Both early marriage and early childbearing are more common in the Terai region and in certain ethnic groups such as Muslim or Churaute. Youth reproductive health programmes need to focus on these population groups. The programmes should carefully target not only young females, but also their husbands, parents and parents-in-law.

This analysis shows that delayed husband–wife co-residence after marriage is quite common among newly married couples, especially in rural areas and if the brides are very young. As this custom disappears gradually with rising age at first marriage and social modernization, the first birth interval is likely to shorten. Thus, the age at first birth is not likely to rise as quickly as the age at marriage. Emerging new patterns of behaviour such as rising prevalence of premarital friendships with the opposite sex and love marriages also indicate that the interval between marriage and first birth is likely to become shorter. Programmes that encourage postponement of first birth after marriage through adoption of temporary contraceptive methods should be considered seriously.

Acknowledgments

The United States Agency for International Development (USAID), through Family Health International (FHI), provided financial support for the Nepal Adolescent and Young Adults (NAYA) Survey. The Valley Research Group conducted the field interviews at the study sites. Shailes Neupane served as the field director. The analysis of data was supported in part by USAID through FHI and the MEASURE Evaluation project. The authors gratefully acknowledge the assistance of Bijayswor Shrestha, Anil Aryal and Victoria Ho in data processing and preparation of the tables. They also thank the anonymous reviewers of this paper for their helpful comments. An earlier version of this paper was presented at the 2002 Annual Meeting of the Population Association of America, Poster Session 1, May 9–11, Atlanta, GA. The interpretation of the data and conclusions reached in this paper do not necessarily represent the views or policies of USAID or the organizations with which the authors are affiliated.

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