Published in final edited form as:

J Biosoc Sci. 2012 January ; 44(1): 57–71. doi:10.1017/S0021932011000459.

Concordance between partners in desired waiting time to birth for newlyweds in India

Abhishek Singh [Assistant Professor] and

Department of Public Health & Mortality Studies, International Institute for Population Sciences, Mumbai – 400 088, India

Stan Becker [Professor]

Johns Hopkins School of Public Health, Baltimore, USA

Abhishek Singh: abhi_iips@yahoo.co.in; Stan Becker: sbecker@jhsph.edu

Abstract

Examining waiting time to birth among newlywed couples is likely to provide insights into the desire for spacing births among newlywed husbands and wives. Data from the Indian National Family Health Survey of 2005-06 is used to examine the desired waiting time (DWT) to birth among newlywed couples. The dependent variable is spousal concordance on desired times. Overall 65 % of couples have concordant DWTs. Among discordant couples, wives were more likely to want to wait longer than their husbands. Couples from richer wealth quintiles were more likely than couples from poorest quintile to have a concordant DWTs. Muslims were less likely than Hindus to have concordant desires. There is a need for spacing methods among newlyweds. This may have implications for the Indian Family Planning Programme which to date has largely focused on sterilization. Programmes need to include newlywed husbands to promote use of spacing methods.

Introduction

Research on fertility and family planning has focused almost exclusively on the responses of women; men have been neglected. In the early 1990s, researchers and family planning workers started realizing the important role of men in decisions about the number of children to have and use of family planning and some studies relating to couples have appeared. However, most of these studies have focused on the African subcontinent (Ezeh, 1993; Dodoo & Landewijk, 1996; Lasee & Becker, 1997; Bankole & Singh, 1998; Dodoo, 1998). A few studies have examined the joint responses of spouses in Asia-- studies from Malaysia, Pakistan and Bangladesh (Razzaque, 1999; Hossain et al., 2001; DaVanzo et al., 2003). Only three studies have dealt with couple data in India (Mason & Smith, 2000; Jejeebhoy, 2002; Singh et al., 2007). Two of these included a few communities from the states of Tamil Nadu and Uttar Pradesh (Mason & Smith, 2000; Jejeebhoy, 2002). The study by Jejeebhoy found weak concordance between spouses concerning the levels of women's autonomy within the house. The study by Singh, Ram & Ranjan (2007) compared couples' fertility intentions in two northeastern states of India--one had a patriarchal system and the other a matriarchal system. They found that husbands, in general, desire more children than wives irrespective of the family structure.

Decision-making on fertility and family planning typically involves a complex process of discussion and negotiation between marital partners and decisions are affected by the attitudes and perceptions of both spouses. Indeed, in developing societies, the husband may sometimes be the primary decision-maker on matters of family size and family planning. For example, a study in Egypt found that husbands are the primary decision-makers regarding spacing of pregnancies (SPAAC, 2004). Therefore, a woman may choose not to space in order to satisfy her husband's desire for children. Studies in sub-Saharan Africa have shown that many women desire to have longer birth intervals than their husbands (Blanc et al., 1996; Rafalimanana & Westoff, 2000). Given that longer intervals are better for the health of both the mother and children (Rafalimanana & Westoff, 2000; Rutstein, 2000; Population Reports, 2002; Rutstein, 2003; DaVanzo, 2004) and that both spouses' attitudes and perceptions affect birth spacing preferences (Ezeh, 1993; Bankole, 1995), it is important to examine the responses of both on desired waiting time (DWT) to birth and factors that affect spousal concordance on this.

Three studies have explored spousal reports of DWT to next birth. Gebreselassie & Mishra (2007) found that in sub-Saharan Africa spousal concordance on DWT is associated with wanting the next child sooner. In case of discordance, in 8 of 14 countries more wives wanted to wait longer than their husbands and in 6 it was the reverse. Studies have also examined the association of socio-economic and demographic factors with DWT to next birth for women (Rafalimanana & Westoff, 2000) but only one study examined the predictors of spousal concordance on DWT. Demographic factors were more important than socio-economic factors as determinants of spousal concordance on DWT in sub-Saharan Africa (Gebreselassie & Mishra, 2004). The evidence on predictors of spousal concordance on DWT to next birth is thus very limited.

The DWT to birth among newlywed couples has not been studied. In South Asia and many other developing countries there is a social expectation for couples to have their first child soon after marriage. In many cases couples are expected to have at least two children before they consider delaying or preventing future births. In India, mothers-in-law reportedly play a major role in deciding the timing of first birth (Setty-Venugopal & Upadhyay, 2002). Studies from India and Bangladesh have also documented the influence of mothers-in-law on family planning decisions of daughters-in-law (Arundhati et al., 2010) and suggest that the gap between knowledge and adoption of modern contraceptive methods among women is at least in part due to opposition of mothers-in-law (Qurub, 1995). However, the influence of mothers-in-law is waning with the increase of nuclear families and urban living.

Newlyweds are a special group among all couples in India where the society is predominantly patriarchal. Newlywed wives have little decision-making and negotiating power in their households. Discussion and negotiation on DWT to first birth is also likely to be less among newlyweds (IIPS & Population Council, 2009). The analysis of responses of newlyweds on DWTs to birth may provide important insights into their spacing needs.

This paper examines the concordance between newlywed partners on DWT to first birth. We, also examine who wants to wait longer in case of discordance. Finally, we explore how

various socio-economic and demographic factors influence spousal concordance on the DWT.

Data & Methods

We use couples' data from the Indian National Family Health Survey of 2005-06 (NFHS-III) to test the following hypotheses.

Concordance on DWT will be greater among couples in which:

1. the couple resides in an urban area compared to their rural counterparts; and
2. spouses are more homogeneous on certain characteristics (education, exposure to mass media, work status, and age) compared to less homogeneous couples.

In NFHS III information was collected from a nationally representative sample of 109,041 households including 124,385 women age 15-49, and 74,369 men age 15-54. It covered 99 percent of the India's population living in 29 states (IIPS & ORCMacro 2007). In each state, the rural sample was selected in two stages, with the selection of primary sampling units (PSUs), which are villages, with probability proportional to population size (PPS) at the first stage, followed by the random selection of households within each PSU in the second stage. In urban areas, a three-stage procedure was followed. In the first stage, wards were selected with PPS sampling. In the next stage, one census enumeration block (CEB) was randomly selected from each sample ward. In the final stage, households were randomly selected within each selected CEB (IIPS & ORCMacro, 2007). Since the NFHS follows a multistage sampling design, the results are representative only after applying appropriate weights.

The survey interviewed adult women age 15-49 in all the households and adult men age 15-54 in a subset of households. Men age 15-54 were eligible for an interview in all sampled households in seven states, namely Andhra Pradesh, Karnataka, Maharashtra, Manipur, Nagaland, Tamil Nadu, and Uttar Pradesh. In the remaining 22 states, all men age 15-54 were eligible for interview in a 38 percent sub-sample of households. The men's questionnaire contained a subset of questions in parallel to those in the women's questionnaire. The individual response rate, i.e., the number of completed interviews per 100 eligible women identified in the households, was 95% for the country as a whole (93% in urban areas and 96% in rural areas). The response rate for eligible men was 87% for the country as a whole (85% in urban areas and 90% in rural areas). Matching of information from the male and female interviews yielded 39,257 couples.

Men and women were asked about their background characteristics, reproductive behavior and intentions, knowledge and use of contraception, involvement in health care, health and nutrition, attitudes towards gender roles, sexual behavior and knowledge of HIV/AIDS and other sexually transmitted infections. The sections on reproduction, fertility behavior and intentions included detailed questions on number of children born, number of surviving children, fertility preferences and future intentions to have children. The specific questions on fertility preferences were:

For non-pregnant women

Would you like to have (a/another) child, or would you prefer not to have any (more) children at all?

How long would you like to wait from now before the birth of a/another child? (for pregnant women)

For husbands of non-pregnant women

Would you like to have (a/another) child, or would you prefer not to have any (more) children at all?

How long would you like to wait from now before the birth of (a/another) child?

The present analysis is restricted to newlywed couples. For these analyses we define a newlywed couple as one with both partners married for the first time and the marital duration is less than or equal to 12 months. Further, we consider only those couples wherein the wife is self-reported fecund, neither spouse is sterilized and the wife is not pregnant. These restrictions yielded 884 matched couples.

A statistical issue in the analysis of couples' data is the choice of appropriate sampling weights. In general, neither the men's weights nor the women's weights are appropriate for carrying out a couple level analysis. We followed the approach suggested by Becker & Sayer (2009) to generate 'couple' weights for use in the present analysis. To construct couple weights, we use the household data to first identify the households having at least one couple. To accomplish this we had to use information on 'relationship of member to the head of the household', 'marital status of the member', 'age of the member', and 'usual resident status of the member' since the line number of spouse was not recorded for couples in NFHS. After identifying the households having at least one eligible couple we counted the number of couples in these households. Then two probabilities were estimated--the probability of at least one eligible couple among completed households in the men's sample and the probability of a completed couple interview in households with at least one eligible couple. The two probabilities can be represented by

P_1 = Probability (at least one eligible couple in household| household completed and selected for husband sample)

= (households with eligible couple/households selected for male interview)

P_2 = Probability (couple completed| eligible couple)

= (Number of couples completed/number of couples eligible)

The two probabilities were estimated separately for urban and rural areas in the 29 states. The household weights available in the NFHS III dataset were inverted and multiplied by these two probabilities. This product was then inverted to get the non-normalized couple weights. Then these were normalized to sum to the number of couples. The 58 estimated probabilities are available from the authors on request.

The states of India are at different stages of socio-economic and demographic development. The different geographic regions also differ considerably on various indicators of social and economic development with southern India much more economically and demographically

developed than northern India (Dyson & Moore, 1983; Bose, 1991; Bhat & Xavier, 1999; Kurian, 2000). So providing estimates at the regional level may help us better understand the patterns. In order to facilitate the regional level analyses, India is divided into six broad geographical regions namely, North, Central, East, North-East, West and South. The north region consists of states like Jammu and Kashmir, Himachal Pradesh, Punjab, Uttaranchal, Haryana, Delhi and Rajasthan; Central region comprises of the states of Chhattisgarh, Madhya Pradesh and Uttar Pradesh; The east region includes the states of Bihar, Jharkhand, Orissa and West Bengal; The seven states of Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Assam and Meghalaya come under the North-East region; The west region consists of the states like Goa, Gujarat and Maharashtra; The south region includes the state of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu.

Spousal concordance on DWT to birth is measured using matched information from each spouses' response to the questions listed above; these questions were only asked to men and women who reported that they desire a(nother) child. The response categories were: – waiting time in months/years, soon/now, other, do not know. None of the partners among the newlywed couples reported 'other' or 'do not know' For women and men who responded "soon/now", a value of 9 months was assigned. The differences in the responses of husbands and wives on DWT to birth are grouped into three categories: 1) spouses have concordant reports (concordance is defined as any difference in the range of -6 to +6 months), 2) the husband had a longer DWT (the difference was larger than +6 months), 3) the wife had a longer DWT (the difference was smaller than -6 months).

We use binary logistic regression to examine the effects of various socio-economic and demographic characteristics on spousal concordance on DWT. The binary model can be represented as

$$\ln(P/(1-P)) = b_0 + b_1X_1 + b_2X_2 + \dots + b_kX_k$$

where P is the probability of spousal concordance, $b_0, b_1, b_2, \dots, b_k$ are the regression coefficients and $X_1, X_2, \dots, X_k$ are the set of covariates at the levels of husbands, wives, couples and households.

To test the first hypothesis the dependent variable is the spousal concordance on DWT (concordance = 1 and 0 otherwise). Among the discordant couples, we also use logistic regression to predict the odds that the wife wants to wait longer. The choice of factors for analyzing the concordance between partners is based on the framework on 'couples and reproductive health' developed by Becker (1996). The covariates in the model are: urban-rural residence, wealth quintile, religion (Hindu; Muslim; Others), caste (scheduled castes/scheduled tribes; other backward castes; other castes), type of household (nuclear; non-nuclear) and pregnancy status of the wife (pregnant; not pregnant). The wealth quintile available in the NFHS data is an index of economic status of households. This index was constructed using household asset data and housing characteristics. Each household asset is assigned a weight generated through principle components analysis (Filmer & Pritchett, 2001). Each household is then assigned a score for each asset, and the scores are summed;

individuals are assigned the total score of the household in which they reside. The sample is then divided into quintiles (IIPS & ORCMacro, 2005-06).

We also created five couple-level variables having two categories each. First, is couple's schooling (husband and wife had dissimilar levels of schooling; both had similar levels of schooling). The second variable was couple's work (both husband and wife work; other). The third variable was couple's frequency of reading the newspaper (both partners had similar frequency of reading; spouses had dissimilar frequency). Fourth was the couple's frequency of watching television (both partners had similar frequency of watching; both had dissimilar frequency). The fifth variable was the difference between the ages of husband and wife (wife older or husband less than 5 years older; husband 5 or more years older).

The predictor variables were tested for collinearity before including them in the logistic model. Adjusted Wald statistics were used to test the significance of the predictor variables in the regressions. A test that is commonly used to assess goodness of fit of a logistic model is the Hosmer- Lemeshaw test (Hosmer & Lemeshow, 1989) but this test does not give good results in the case of complex sample survey data. Therefore, goodness of fit was assessed using the F-adjusted mean residual test for complex sample survey data (Archer & Lemeshow, 2006).

The analysis was carried out using 'SVY' commands in STATA (StataCorp, 2005) which corrects the standard errors associated with estimates by taking into account the complex sampling design. The results are presented in two sections. First, we analyze all 1224 newlywed couples and test our first hypothesis. In the second section, to test the second and third hypotheses we restrict the analysis to only those 884 couples where wives were not pregnant.

Results

Figure 1 gives the spousal reports on DWT among all newlywed couples by region. Overall, 65 percent of the couples had concordant desires. The correlation coefficient between the DWTs of husbands and wives was 0.50 ($p < 0.001$). Concordance was highest among couples from the western and southern parts of India (72-73 percent) and lowest among couples from the central region (53 percent). In 4 of the 6 regions, the proportion of husbands who desired a longer waiting time exceeds the corresponding proportion for wives but in the western and southern regions, a higher proportion of wives desired a longer time to birth compared to their husbands. The Proportion of husbands desiring a longer waiting time compared to their wives was highest in the northern region. Figure 2 gives DWTs for newlywed husbands and wives in India. Findings suggest that husbands were more likely to desire longer waiting times than their wives; 25 percent of husbands and 22 percent of wives desired to wait for more than 21 months to have a(nother) child.

For selected covariates, Table 1 gives the percent distribution by category and then the percentage of spouses in each category who have concordant DWTs. The majority of the couples lived in rural areas (64%) and were Hindus (82%). Thirteen percent were Muslim and the rest belonged to other religious groups. Thirty percent of the couples belonged to

scheduled castes and scheduled tribes (SC/ST), 39% belonged to “other backward castes” (OBC) and the rest belonged to other castes. A majority of the couples lived in non-nuclear households (86%) and in 75% of couples both partners had similar levels of schooling. Both spouses were working in 29% of the couples. In 54% the husband was 5 or more years older than his wife and in the rest of the couples the husband was older by four years or less or the wife was older. Both partners reported similar frequency of reading a newspaper in 59% of couples and a majority of couples reported similar frequency of watching television.

Concordance on DWT was slightly higher in urban (69%) compared to rural areas (64%), the top wealth quintile (70%) compared to the lowest wealth quintile (55%), Hindu couples (68%) compared to Muslim couples (55%), couples where both spouses had similar levels of schooling (67%) compared to couples where the partners had different levels of schooling (62%), and couples where both spouses work (71%) compared to all other couples (64%).

Multivariate Analysis

Logistic regressions for testing the first and second hypotheses are presented in Table 2. Place of residence had no significant association with DWT after adjustment for other factors. Wealth quintile was significant in predicting spousal concordance--couples in the richer quintile had twice the odds as couples in the poorest quintile to have concordant DWTs. The relative odds that a Muslim couple had concordant DWTs was only 42% of the odds that a Hindu couple had concordant desires. However, other religious groups did not differ significantly from Hindu couples on concordance. One of the important predictors of spousal concordance was the age of the wife; an increase in age of one year increased the odds of spousal concordance by 1.06. But age difference had no significant association with concordance. Marital duration was also insignificant.

Couples with partners having similar levels of schooling did not differ significantly from couples with partners having dissimilar levels. Couples with both partners working were significantly more likely to report concordant desires compared to couples with only one or no partner working (odds ratio 1.48). The F-adjusted mean residual test shows that the models were good fit.

Among the subset of discordant couples we examined the odds that the wife wanted to wait longer as opposed to the husband wanting to wait longer. Wives belonging to “other” religious groups were 2.9 times more likely than wives belonging to Hindu religion to have longer DWT than their husbands. Other covariates did not have significant associations with the odds that the wife was the one who wanted to wait longer.

Discussion

The present analysis has a number of strengths and limitations. This is the first study that has considered the DWT to birth reported among newlywed spouses and the covariates predicting spousal concordance in these desires. It is also the first study to use couple weights for generating the results. Earlier studies hardly mention the weights that need to be used with couple level data. Couple level studies have used men's or women's weight instead of deriving couple's weight. Use of men's or women's weights is likely to yield biased results

since the response rates for men and women differ and are usually quite different than those for couples because single women and men are included in the former in the DHS weighting schema (Becker & Sayer, 2009).

A difference of up to six months between the spouses' reported DWT to birth was taken as concordant in the analysis. The difference of six months is only somewhat arbitrary. The common use of 'half' in day to day life in Indian society guided us in using up to six months as no difference. To check if our results were robust to this choice we carried out the analyses with a difference of three months, then nine months as concordance. The results were very similar to the results presented here. Thus, our findings are robust to the choice of cut-off for defining concordant DWTs.

In India spousal concordance on DWT among newlyweds is associated with wanting it sooner but one third of the newlyweds have discordant desires. Concordance varies by geographical regions with the central region having the lowest percentage of couples concordant. This region includes the states having the highest fertility levels in the country-- the total fertility rates in Uttar Pradesh, Madhya Pradesh and Chattisgarh are 3.82, 3.12 and 2.62, respectively (IIPS & ORC Macro, 2007). Among discordant couples, a higher proportion of husbands want to wait longer than their wives in all geographical regions except the western and the southern ones. That the concordance was lowest in the central region has important policy implications for fertility control programmes there. Given that patriarchy is the predominant family structure in this region and the large majority of newlywed wives (a little more than 83% for all India and more than 91% in the central region) reside in joint households, newlywed wives are less likely to translate their desire for longer waiting time to birth into practice. Under such circumstances, newlywed wives are more likely to adhere to the decisions of others, including husbands and mothers-in-law in the household. Studies based on all women have established household type as an important factor in determining utilization of maternal health services in India, even after adjusting for other socio-economic factors (Saikia & Singh, 2009). Hence, the lower concordance on DWT is likely to stall the process of fertility decline in the central region. Data from NFHS II and NFHS III clearly show slower fertility declines in the states belonging to that region (IIPS & ORCMacro, 2000; IIPS & ORCMacro, 2007).

Socio-economic factors play an important role in explaining spousal concordance on DWT. Couples belonging to the richer wealth quintile were more likely to have the same DWT compared to couples from the poorer wealth quintiles. Muslim couples were less likely than Hindu couples to have concordant desires. Contrary to our first hypothesis, urban-rural residence was not significantly associated with concordant desires. This could be because a majority of the newlyweds live in a joint family where the spouses have less opportunity to privately discuss issues related to fertility and family planning irrespective of their urban-rural residence. In fact, NFHS-II data (collected in 1998-99) clearly show a significant association between household type and discussion on family planning issues between spouses; couples in non-nuclear households having lower odds of discussion compared to couples in nuclear households (IIPS & ORCMacro, 2000). It is not possible to test this proposition with NFHS-III data as information on couple communication was not collected.

There was a mixed finding for our second hypothesis. After adjusting for other background characteristics, couples in which husbands and wives had similar levels of schooling and exposure to mass media (like newspaper and television) were no more likely to have concordant DWT than couples in which the husband and wife were dissimilar. On the other hand, couples in which both husband and wives were working were more likely to have concordant DWT than couples in which the husband and wife had different working status. The couples in which both spouses work would want to discuss delaying birth more often compared to couples in which either partner works. This could be one of the plausible reasons for higher concordance in couples in which with both partners work.

Age difference between spouses is frequently cited as a factor determining the status of women, an indicator of the degree of inequality within the couple (Ware, 1981; Safilios-Rotschild, 1982; Cain, 1984; Mason, 1984; Casterline et al., 1986; Cain, 1993; Mason, 1993; Mason, 1997). This age difference can also be considered an indicator of the nature of the marital bond, and thereby influences the couple's fertility expectations (Barbieri & Hertrich, 2005). Difference in age has been shown to affect reproductive preferences and behaviors (Wolff et al., 2000; Beegle et al., 2001; Barbieri & Hertrich, 2005). However, we found no significant association between age difference and concordance in DWT. The effect of age difference between the spouses on spousal concordance in DWT was also not significant in the study conducted by Gebreselasie & Mishra (2007) in Sub-Saharan Africa.

Limitations of the present analysis need consideration. First is the selectivity of couples studied. A comparison of the characteristics of the households in which couples were interviewed and households in which couples resided but interviews were not completed shows significant differences. Households without complete interviews for both spouses were more likely to be urban, belong to the highest two wealth quintiles, belong to Muslim religion or belong to socio-economically advanced caste groups. Clearly better-off households were more likely to have incomplete couple interviews. Though, it is difficult to conclude about the possible effect of such selection on our findings we do get some clues. Findings suggest a positive association between wealth quintile and overall percent concordant. If we account for such association, the estimates of overall concordance presented in the paper would be lower than the true concordance. Similar would be case if we account for such associations with other covariates. So, the estimates of concordance presented in the paper can be considered as a lower bound to the true value. Despite the knowledge of this selection bias in the sample, it was impossible to adjust the results for such selection--using Heckman selection models' was not possible because variables needed for the adjustment were not available for the couples who were not interviewed. Use of couple weights adjusts for non-response but assumes non-responders are like those in the same strata (state/urban-rural residence) who did respond so do not account for differences in response rates by socio-economic status. Second, couples in which spouses disagree on wanting any more children were excluded from the analysis. This restricted sample could lead to bias but it is trivially small because the sample was newlyweds and 99 percent of these couples desire a(nother) child. Another limitation of study is the non-inclusion of marital duration in the computation of DWTs. There is a possibility that the DWTs in general will depend on marital duration. Since this analysis is based on only those couples who had a marital duration of 12 months or less than 12 months, the chances of such biases

are limited. This can be verified from the fact that marital duration was insignificant in Table 2.

The results have important policy implications for the Indian Family Planning Programme which has historically focused on female sterilization. Twenty-five percent of husbands and 22 percent of wives wanted to wait longer than 12 months. Moreover, over 10 percent of couples had concordant desires to wait longer than 21 months. Of those couples, more than half were not using any contraceptive method (result not presented). While female sterilization is the most commonly used family planning method in India (IIPS & ORC Macro, 2007), the present analysis clearly shows a need for spacing methods among a proportion of newlyweds. These couples have largely been ignored in the family planning program. Our results contradict the general notion that newlyweds do not need contraception as they want to have children soon after marriage (Setty-Venugopal & Upadhyay, 2002). Many do require family planning methods to have longer intervals to first birth or to space a second birth. A recent study conducted among young men aged 15-29 and young women aged 15-24 in Maharashtra, called for the need to develop appropriate strategies to reach young newlyweds (IIPS & Population Council, 2009). Further, among our discordant couples, husbands were more likely to want to wait longer than wives to have a birth, inconsistent with the findings of Gebreselassie & Mishra (2007) from 14 recent Demographic and Health Surveys (DHS) in sub-Saharan Africa, conducted during 1999 to 2004. Programs could benefit by including newlywed husbands which may help in promoting the use of spacing methods. Male involvement in family planning decisions and practice has been shown to be considerable (Drennan, 1998; Terefe & Larson, 1998; Wang et al., 1998; Sliman, 1999; Varkey et al., 2004). Studies have also shown that providing men with information and involving them in counseling sessions can help them to be more supportive of contraceptive use (Wells, 1997). Since childbearing occurs within couples in India, including both partners may be more appropriate than a focus on wives or husbands alone.

The ‘*Satara Honeymoon Package*’ Scheme launched by the Government of Maharashtra in ‘*Satara*’ district in 2008 to encourage newlywed couples to delay their first birth is very much in line with the findings of this study. The scheme aimed to locate newlywed couples and introduce them to a family planning scheme with a cash incentive; couples who delay their first child for two years are rewarded with approximately USD 110 (Rs. 5000.00) in cash. If they wait 3 years they receive USD 167 (Rs. 7500.00). A large number of couples have enrolled in this scheme. In the inception phase, it was the money that attracted newlyweds. But now, many have become aware of the associated health benefits for mother and child and thus are defying family pressures and are joining this scheme. Another benefit is that the newlywed couples get to know each other better during the ‘*waiting period*’ (<http://www.ndtv.com/article/india/delay-having-baby-get-honeymoon-package>). The Government of Maharashtra is considering extension of this scheme to other districts.

References

- Archer KJ, Lemeshow S. Goodness-of-fit test for a logistic regression model fitted using survey sample data. *The Stata Journal*. 2006; 6(1):97–105.

- Arundhati C, Saavala M, Kulmala T. Influence of mother-in-law on young couples family planning decisions in rural India. *Reproductive Health Matters*. 2010; 18(35):154–162. [PubMed: 20541094]
- Bankole A. Desired fertility and fertility behavior among the Yoruba of Nigeria: a study of couple preferences and subsequent fertility. *Population Studies*. 1995; 49(2):317–328.
- Bankole A, Singh S. Couples' fertility and contraceptive decision-making in developing countries: hearing the man's voice. *International Family Planning Perspectives*. 1998; 24(1):15–24.
- Barbieri M, Hertrich V. Age difference between spouses and contraceptive practice in sub-saharan Africa. *Population (English edition)*. 2005; 60(5/6):617–654.
- Becker S, Costenbader E. Husbands and wives reports of contraceptive use. *Studies in Family Planning*. 2001; 32(2):111–127. [PubMed: 11449861]
- Becker, S.; Sayer, B. Sampling Weights for Analyses of Couple Data in Demographic and Health Surveys. Paper presented in the Annual Meeting of the Population Association of America; Detroit, MI. April 30-May 02, 2009; 1999.
- Becker S. Couples and reproductive behavior: A review of couple studies. *Studies in Family Planning*. 1996; 27(6):15–24.
- Beegle, K.; Frankenberg, E.; Thomas, D. Bargaining power within couples and use of prenatal and delivery care in Indonesia. University of California; Los Angeles: 2001. Working Paper Series
- Bhat, PN Mari; Xavier, F. Findings of National Family Health Survey: Regional Analysis. *Economic and Political Weekly*. 1999; 34:3008–3032.
- Blanc, AK.; Wolff, B.; Gage, AJ.; Ezech, AC.; Neema, S.; Ssekamatte-Ssebioba, J. Negotiating reproductive outcomes in Uganda. Macro International and Institute of Statistics and Applied Economics, Makerere University; Calverton: 1996.
- Bose, A. Demographic diversity of India-1991 Census, State and district level data. B.R. Publishing Corporation; Delhi: 1991.
- Cain, M. World Bank Staff Working Paper. Washington: 1984. Women's status and fertility in developing countries: son preference and economic security.
- Cain, M. Patriarchal structure and demographic change. In: Federici, et al., editors. *Women's Position and Demographic Change*. Clarendon Press; Oxford: 1993. p. 43-60.
- Casterline J, Williams L, McDonald P. The age differences between spouses: variations among developing countries. *Population Studies*. 1986; 40(3):353–374.
- DaVanzo J, Peterson CE, Jones NR. How well do desired fertility measures for wives and husbands predict subsequent fertility? Evidence from Malaysia. *Asia Pacific Population Journal*. 2003; 18(4):5–24.
- DaVanzo, J., et al. Rand Labor and Population Working Paper. Rand; 2004. The effects of birth spacing on infant and child mortality, pregnancy outcomes, and maternal morbidity and mortality in Matlab, Bangladesh.
- Dodoo A, Landewijk P. Men, women, and the fertility question in sub-saharan Africa: an example from Ghana. *African Studies Review*. 1996; 39(3):29–41.
- Dodoo FN. Men matter: additive and interactive gendered preferences and reproductive behavior in Kenya. *Demography*. 1998; 35(2):229–242. [PubMed: 9622784]
- Drennan M. New perspectives on men's participation. *Population Reports*. 1998; J26:46.
- Dyson M, Moore M. On kinship structure, female autonomy, and demographic behaviour in India. *Population and Development Review*. 1983; 9(1):35–60.
- Eric B. Barriers to utilization of prenatal care services in Turkey. *Journal of Nursing Scholarship*. 2003; 35(3):269–273. [PubMed: 14562496]
- Ezech AC. The influence of spouses over each other's contraceptive attitudes in Ghana. *Studies in Family Planning*. 1993; 24(3):163–174. [PubMed: 8351697]
- Filmer D, Pritchett LH. Estimating wealth effects without expenditure data - or tears: an application to educational enrolments in states of India. *Demography*. 2001; 38:115–132. [PubMed: 11227840]
- Furuta M, Salway S. Women's position within the household as a determinant of maternal health care use in Nepal. *International Family Planning Perspectives*. 2006; 32(1):17–27. [PubMed: 16723298]

- Gebreselassie, T.; Mishra, V. DHS Working Paper 35. Macro International Inc; Calverton: 2007. Spousal concordance on waiting time to next birth in sub-saharan Africa.
- Hosmer, DW.; Lemeshow, S. Applied Logistic Regression. John Wiley & Sons; New York: 1989.
- Hossain MB, Phillips JF, Mozumder ABMKA. The effect of husbands' fertility preferences on couples' reproductive behavior in rural Bangladesh. *Journal of Biosocial Science*. 2007; 39:745–757. [PubMed: 17107632]
- IIPS & Population Council. Youth in India: Situation and Needs 2006-07, Maharashtra. International Institute for Population Sciences; Mumbai: 2009.
- IIPS & ORCMacro. National Family Health Survey, India, 1998-99. International Institute for Population Sciences and Macro International Inc; Mumbai: 2000.
- IIPS & ORCMacro. National Family Health Survey, India, 2005-06. International Institute for Population Sciences and Macro International Inc; Mumbai: 2007.
- Jejeebhoy SJ. Convergence and divergence in spouses' perspectives on women's autonomy in rural India. *Studies in Family Planning*. 2002; 33(4):299–308. [PubMed: 12553187]
- Kurian NJ. Widening regional disparities in India- some indicators. *Economic and Political Weekly*. 2000; 35(7):538–550.
- Lasee A, Becker S. Husband-wife communication about family planning and contraceptive use in Kenya. *International Family Planning Perspectives*. 1997; 23(1):15–20 & 33.
- Mason, KO. The status of women: a review of its relationships to fertility and mortality. The Rockefeller Foundation; New York: 1984.
- Mason, KO. Gender and demographic change: what do we know?. In: Jones, et al., editors. The continuing demographic transition. Clarendon Press; Oxford: 1997. p. 158-182.
- Mason KO, Smith HL. Husbands' versus wives' fertility goals and use of contraception: the influence of gender context in five Asian countries. *Demography*. 2000; 37(3):299–311. [PubMed: 10953805]
- McCaw-Binns A, Grenade JL, Ashley D. Under-users of antenatal care: a comparison of non-attenders and late attenders for ante natal care, with early attenders. *Social Science and Medicine*. 1995; 40(7):1003–1012. [PubMed: 7792624]
- Mumtaz Z, Salway SM. Gender, pregnancy and the uptake of antenatal care services in Pakistan. *Sociology of Health & Illness*. 2007; 29(1):1–26. [PubMed: 17286703]
- Population Reports. Three to Five Saves Lives. *Population Reports*. 2002; XXX(13)Series L
- Qurub SA. Hope for the future: planning for the sons. *People and Planet*. 1995; 4(4):23–24.
- Rafalimanana H, Westoff CF. Potential effects on fertility and child health and survival of birth-spacing preferences in sub-saharan Africa. *Studies in Family Planning*. 2000; 31(2):99–110. [PubMed: 10907276]
- Razzaque A. Preference for children and subsequent fertility in matlab: does wife-husband concordance matter? *Journal of Biosocial Science*. 1999; 31:17–28. [PubMed: 10081234]
- Rosero-Bixby L. Assessing and interpreting birth spacing goals in Costa Rica. *Journal of Biosocial Science*. 1998; 30:181–191. [PubMed: 9746824]
- Roy TK, et al. Can women's child bearing and contraceptive intentions predict contraceptive demand? Findings from a longitudinal study in central India. *International Family Planning Perspectives*. 2003; 29(1):25–31. [PubMed: 12709309]
- Rutstein, S. Effect of birth intervals on mortality and health: multivariate cross-country analysis. Macro International Inc.; Calverton: 2000.
- Rutstein, S. Unpublished paper. Macro International Inc.; Calverton: 2003. Effects of preceding birth and pregnancy intervals on child mortality and nutritional status in less developed countries: evidence from the Demographic and Health Surveys.
- Safilios-Rotschild, C. Female power, autonomy and demographic change in the third world. In: Anker, R.; Buvinic, M.; Youssef, N., editors. Women's roles and population trends in the third world. Croom Helm; London: 1982. p. 117-132.
- Setty-Venugopal V, Upadhyay UD. Birth spacing: three to five saves lives. *Population Reports*. 2002; XXX(3)

- Saikia N, Singh A. Does type of household affect maternal health? Evidence from India. *Journal of Biosocial Science*. 2009; 41(3):329–353. [PubMed: 19036173]
- Singh A, Ram F, Ranjan R. Couples reproductive intentions in two culturally contrasting states of northeastern India. *Demography India*. 2007; 36(1):39–53.
- Soliman MH. Impact of antenatal counseling on couples' knowledge and practice of contraception in Mansoura, Egypt. *East Mediterr Health Journal*. 1999; 5:1002–1013.
- SPAAC. Optimal birth spacing: an in-depth study of knowledge, attitudes and practices. Social Planning Analysis and Administration Consultants; 2004.
- StataCorp. Stata Statistical Software: Release 9. StataCorp LP; College Station, TX: 2005.
- Terefe A, Larson CP. Modern contraception use in Ethiopia: does involving husbands make a difference? *American Journal of Public Health*. 1993; 83:1567–1571. [PubMed: 8238680]
- Varkey, LC., et al. Involving men in maternity care in India. Population Council; Washington DC: 2004.
- Wang CC, et al. Reducing pregnancy and induced abortion rates in China: family planning with husband participation. *American Journal of Public Health*. 1998; 88:646–648. [PubMed: 9551010]
- Ware, H. Women, demography and development. The Australian National University; Canberra: 1981.
- Wells E. Involving men in reproductive health. *Outlook*. 1997; 14(3):1–8.
- Westoff CF, Bankole A. The time dynamics of unmet need: an example from Morocco. *International Family Planning Perspectives*. 1998; 24(1):12–14, 24.
- Wolff B, Blanc AK, Gage AJ. Who decides: women's status and negotiation of sex in Uganda. *Culture Health & Sexuality*. 2000; 3(1):1–19.

Figure 1. Spousal concordance on desired waiting time to birth among newly weds by region of India

Figure 2. DWTs for newlywed husbands and wives in India, 2005-06

Table 1
Percent distribution and proportion of newlywed couples in which spouses have concordant DWT to birth by covariates, NFHS 2005-06, India

Covariate and category	% of sample (n = 884)	% of couples concordant (n)
Place of residence		
Urban	35.5	69.3 (314)
Rural	64.5	64.1 (570)
Wealth quintile		
Poorest	12.2	55.5 (108)
Poorer	18.6	64.1 (165)
Middle	25.5	64.2 (225)
Richer	21.0	71.7 (185)
Richest	22.7	69.6 (201)
Religion		
Hindu	81.8	67.6 (723)
Muslim	12.8	55.4 (113)
Others	5.4	65.7 (48)
Caste		
SC/ST	30.1	61.6 (266)
OBC	38.8	67.9 (343)
Others	31.1	67.8 (275)
Type of household		
Nuclear	14.4	66.9 (127)
Non-nuclear	85.6	65.8 (757)
Couple's schooling		
Dissimilar levels of schooling	25.3	62.1 (224)
Similar levels of schooling	74.7	67.2 (660)
Couple's work		
Both work	29.4	71.2 (260)
Other	70.6	63.8 (624)
Read newspaper		
Dissimilar frequency of reading	40.9	67.5 (362)
Similar frequency of reading	59.1	64.9 (522)
Watch television		
Dissimilar frequency of watching	25.0	61.0 (221)
Similar frequency of watching	75.0	67.6 (663)
Age difference (husband –wife)		

Covariate and category	% of sample (n = 884)	% of couples concordant (n)
Wife older+0-4 years	46.0	65.8 (407)
5 years or more	54.0	66.0 (477)

Table 2
Odds ratios from binary logistic regression predicting spousal concordance on DWT to birth and odds ratios among the discordant couples that wife wants to wait longer, NFHS 2005-06, India

Covariate and category	Concordant on wait time (n=884) Odds ratio	Among discordant couples: odds ratio that wife wants to wait longer (n=284) Odds ratio
<i>Place of residence</i>		
Urban (ref)		
Rural	0.99	0.83
<i>Wealth quintile</i>		
Poorest (ref)		
Poorer	1.51	2.62
Middle	1.41	2.16
Richer	1.95*	1.94
Richest	1.45	0.98
<i>Religion</i>		
Hindu (ref)		
Muslim	0.58*	1.20
Others	0.77	2.98*
<i>Caste</i>		
SC/ST (ref)		
OBC	1.27	0.84
Others	1.32	1.43
<i>Type of household</i>		
Nuclear (ref)		
Non-nuclear	1.08	1.23
<i>Couple's schooling</i>		
Dissimilar levels of schooling (ref)		
Similar levels of schooling	1.13	1.09
<i>Couple's work</i>		
Other (ref)		
Both Work	1.48*	0.89
<i>Read newspaper</i>		
Dissimilar frequency of reading (ref)		
Similar frequency of reading	0.93	1.06
<i>Watch television</i>		
Dissimilar frequency of watching (ref)		

Covariate and category	Concordant on wait time (n=884) Odds ratio	Among discordant couples: odds ratio that wife wants to wait longer (n=284) Odds ratio
Similar frequency of watching	1.31	0.52 [*]
<i>Age of wife</i> (continuous)	1.06 [*]	1.00
<i>Age difference (husband-wife)</i>		
Wife older+0-4 years (ref)		
5 years or more	1.06	1.28
<i>Marital duration</i>	1.02	-

^{*}
p < 0.10