Does wife's education influence spousal agreement on approval or disapproval of family planning? A comparative analysis between two Muslim majority Sub-Saharan West African Countries

Mian B. Hossain[1]
Saifuddin Ahmed[2]

[1]School of Community Health & Policy, Morgan State University, Baltimore, MD 21251
[2]Bloolmberg School of Public Health, Johns Hopkins University, Baltimore, MD 21287

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Abstract

Spousal approval on family planning is critical in contraceptive use dynamics. If a husband does not approve family planning it is difficult for a women to use contraceptive method even if she approves, especially in male dominating countries and in patriarchy societies. Both contraceptive use rates and women's education are low in many West-African countries. Empirical studies in South Asia and Latin America show that women's education is strongly associated with contraceptive use dynamics. This study examines the role of wives' education in spousal agreement on approval or disapproval of family planning in two Muslim majority sub-Saharan West African countries. This study uses matched couples' data from Demographic Health Surveys (DHS) in Senegal and in Niger, conducted in 2005 and 2006 respectively. About 47.4% wives in Senegal and 57.1% in Niger approve family planning. About 49.2% husbands in Senegal and 63.0% in Niger approves family planning. About two-third of the couples are in agreement of approval or disapproval of family planning in both Senegal and in Niger. About one-fourth of the women in Senegal, a little less than one-fifth of the women in Niger have some years of education. Multiple logistic regression results show that women with more than above primary education are two times more likely to have spousal agreement on approval or disapproval of family planning, ,compared to the women with no education adjusted for other socio-demographic and economic variables in both Niger and Senegal. Our findings suggest that improvement in women's education leads improvement in spousal agreement on family planning, which may lead to higher use of contraceptive method in Senegal and Niger.

Introduction

Decision-making regarding family planning is a complex route that involves familiarity, approval, discussion, compromise by married couples and accessibility appropriate methods for the couple. In sub-Saharan Africa, a number of studies have documented deficiency in spousal communication on fertility and family planning as one of the aspects confining the use of contraceptives to delay or prevent child bearing. Many researches suggest that in addition to discussion, husband's approval of family planning is an important predictor of family planning (Bongaarts and Bruce, 1995; Kamal, 2000; Mahmood and Ringheim, 1997; Tawiah 1997). A husband's opposition to family planning may prevent his wife from using contraceptive methods, even when she wants to delay or prevent childbearing (Casterline, Perez, and Biddlecom, 1997). Husband's endorsement of family planning, in fact, is a prevailing aspect in explaining contraceptive use to delay or prevent childbearing (Tawiah, 1997; Lasee and Becker, 1997). Kamal (2000) found that women who do not know whether their husbands approve of family planning or who believe that their husbands do not approve family planning are less likely to use a method of family planning than those who believe that their husband approve it. Similar findings are documented by Lasee and Becker (1997). Tawiah (1997) found that in Ghana, wife's approval of family planning was the most important predictor of current contraceptive use by the married couple.

Gebreselassie and Mishra (2007) found that in sub-Saharan Africa spousal agreement on waiting time to next birth is associated with wanting the next child sooner. When both the spouses do not agree on waiting time to next birth, in most cases the wives want to

wait longer than their husbands. In multivariate analyses, Gebreselassie and Mishra (2007) found a strong positive influence of wife's education on spousal approval of family planning and discussion of family planning in most sub-Saharan African countries. Education, spousal discussion, and agreement on family planning among couples in Africa remain the one of the cost effective way of achieving Millennium Development Goals (MDG) for Africa (The MDG Report, 2009).

However, the relationship between wife's education and spousal agreement on approval or disapproval of family planning is not clearly well-understood. The objective of this study is to investigate the role of wife's education in spousal agreement on family planning in two predominately Muslim sub-Saharan West African countries - Senegal and Niger. We hypothesize that women with higher levels of education are more likely to have spousal agreement on approval or disapproval of family planning, compared to women with lower levels of education in Niger and Senegal.

Background

Socio-demographic conditions of Niger and Senegal

Niger is one of the poorest countries in the world, with infant mortality rates (88 per 1,000 live births) among the highest in Africa (Population Reference Bureau, 2009). In the world, Niger has the one of the highest birth rates (53 per 1,000 populations) and highest total fertility rate (TFR: 7.4 lifetime births per woman) (Table 1). About 80% are Muslim in Niger. The country has a lowest female literacy rate (15.1%) and a moderate male literacy rate (42.9%). Life expectancy is 53 years for both sexes. The rate of

natural increase (3.9%) is one of the highest in the world. By 2050, the population in Niger is projected to be more than 58 million, which is more than 4 times of the current population. Only 5% of women of reproductive age in Niger are currently using a modern method of contraception for delaying pregnancy or preventing birth (PRB, 2009).

Senegal's reputation as a model West African nation is built on its smooth transition to a democracy, low level of government corruption, successful economic reforms, and history of community participation in health care. Indeed, on several fronts, Senegal's health care system has vastly improved in the past 20 years. The crude birth rate in Senegal is 39 per 1,000 populations and total fertility rate is 5.0 lifetime births per woman. Infant mortality is 61 per 1,000 live births in Senegal. About 94% are muslim in Senegal. Senegal is a leading country in Africa where the Government of Senegal had focused more in women education through several projects co-sponsored by USAID. A little more than one-fourth (29.2%) of the female adults are literate. In contrast, a little more than half (51.0%) of the male adults are literate in Senegal. The life expectancy is 55 years for both sexes. The rate of natural increase is about 2.9%, which will make country's population double (about 26 million) by 2050. About 10% women of reproductive age 15-49 are using a modern method of family planning.

Education and family planning in sub-Saharan Africa:

World Bank calls women's education the "single most influential investment that can be made in the developing world". In cross-country analyses, Jejeebhoy (1995) found a consistent inverse relationship between women education and fertility -- women with

more schooling have lower fertility than those with less education. African countries which initiated Universal Primary Education policies have experienced appreciable reduction in their country's fertility rates (United Nations, 1995). As the overall education level rises, it is believed that social norms concerning childbearing and parenting change and couples choose to have fewer children. Education keeps the women away longer before initiation into family life. Education also exposes women to employment opportunities and greater labor force participation, and give them autonomy in her family and a voice in decision making process (Diamond, et. al., 1999). Demand for education remains high in Africa despite high costs of schooling and families are starting to choose between quantity and quality of children.

A study conducted by Uchudi (2001), based on Demographic and Health Surveys (DHS) in fourteen sub-Saharan countries, including Niger and Senegal, concluded as "while an educated wife needs the support of an educated husband to state a preference for family limitation in contemporary sub-Saharan Africa, controlling for husband's education and other relevant covariates does little to undermine the evidence that woman's advanced education and the adoption of modern family planning are positively related in the developing world".

Approval of family planning has been found to be higher when both the wife and the husband have formal education. When husbands are more educated than their spouses, the DHS data show that for West and Central African counties, such families discuss, and approve of family planning. Traditionally, women do marry men with more education than themselves and it is not surprising that men with some education marry

women with no education. From this standpoint, Basu (2002) argues that men are in much better position to understand the implications of high fertility and use of modern contraceptives in societies in West and Central Africa. Other salient factors include polygamy, a practice of a man marrying more than one wife, also more prevalent in West and Central Africa than Southern and Eastern African countries, being one of the reasons why men hold sway fertility and family planning decisions in West and Central Africa (Gebreselassie and Mishra, 2007). Gebreselassie and Mishra (2007) also found that couples' age range influences spousal discussion and approval of family planning in sub-Saharan Africa. Younger couples, under 35 years were found more likely to discuss, agree and use family planning than couples aged 35 years or older. In general, spousal agreement on the use of family planning is higher in urban areas of Africa than in the rural areas (Gebreselassie and Mishra, 2007).

Utilizing matched couple-level data, this study examines the role of wife's education on spousal agreement on approval and or disapproval of family planning in Senegal and Niger.

Data and Methods

We use couples data derived from Senegal Demographic and Health Survey 2005 (SDHS, 2005) and Niger Demographic and Health Survey 2006 (NDHS, 2006). Linking the husband data with their spouses/wives data generated the couple data sets for both SDHS and NDHS. A variable reflecting spousal agreement on family planning was created using matched information from both husband's and wife's response from the SDHS and NDHS question, "Would you say you approve or disapprove of couples using

a method to avoid pregnancy?" Response options to this question include: 1) Disapprove; 2) Approve; and 3) Don't know. The "don't know" response is neither treated as "approve" nor treated as "disapprove" and excluded from the multivariate analysis. The responses were divided into four categories: 1) Both spouses approve family planning; 2) Both spouses disapprove family planning; 3) The husband approves family planning, but the wife does not approve; and 4) The wife approves family planning, but husband does not approve. The concordant categories, both approving or disapproving family planning, are combined, and treated as spousal disagreement. The dependent variable of this research is spousal agreement on family planning (if both the partners agree on the issue of approval or disapproval of family planning the dependent variable is coded as 1, otherwise the dependent variable is coded as zero).

Wife's level of education is our key independent variable of interest. In addition, the place of residence, spousal education difference, wife's age, spousal age difference, wife's employment status, husband's employment status, type of marriage (monogamous or polygamous), and household wealth status are other independent variables used in this research. Household wealth status, which is an indicator of economic status of a household, is measured using the wealth index. From household asset data, using principal components analysis (PCA), the household wealth index was constructed from the first factor loading and provided in SDHS and NDHS data by the survey organization. we grouped the sample in three groups - poor, middle and rich – from the wealth index tertiles.

Logistic regression models are fitted for examining the statistical significant relationship between wife's education and spousal agreement in family planning. The place of residence, spousal education difference, wife's age, spousal age difference, wife's employment, husband's employment status, type of marriage, and household wealth status are used as covariates in the logistic regression models.

Results

Sample Characteristics

Table 2 shows the percent distribution of the characteristics of couples for Niger and Senegal. About 82.2% of the wives in Niger and 74% of the wives in Senegal have no education. In comparison, about 74% of the husbands in Niger and 64% of the husbands in Senegal have no education. About 73.5% in Niger and 65.5% in Senegal, both husband and wife have same level of education. The mean number of years of schooling for wife is 0.6 in Niger and 1.1 in Senegal. The mean number of years of schooling for husband is 1.0 in Niger and 1.4 in Senegal. The mean age of wife is 29.8 in Niger and 30.8 in Senegal. The mean age of husband is 40.2 in Niger and 42.2 in Senegal. The proportion of husbands older than their wives by 5 years and over is very high and uniformly distributed between Niger (86.4%) and Senegal (86.0%).

About 39.7% of the wives in Niger reported working for cash, compared to 40.6% of the wives in Senegal reported working for cash. In contrast, about 80% of husbands in Niger and 84.3% of husbands in Senegal are working for cash. In both Niger and Senegal, more than one-third (36%) of the wives reported that their husbands have

more than one wife. The proportion of wives approves family planning ranges between 47.4% in Senegal and 57.1% in Niger. The proportion of husband approves family planning ranges between 49.2% in Senegal and 63.0% in Niger. About half of the households in Senegal reported poor wealth index whereas about half of the households in Niger reported that they have mid-level household wealth status.

The level of spousal agreements on family planning

The distribution of couples' agreement on family planning is shown in Table 3. In Niger, about half of the couples (47.5%), both approve family planning. However, in Senegal a little more than one-third of the couples (34.1%), both approve family planning. In Niger, about one-sixth of the couples (16.9%), both disapprove family planning. In contrast, in Senegal, a little more than one-fourth of the couples (28.2%) both disapprove family planning. The proportions of the couples that are in disagreement of approval of family planning between spouses are almost equally distributed between these two countries. A little more than one-third of the couples (35.6%) in Niger are not in agreement in approving family planning. Similar proportions of the couples (37.7%) in Senegal are not in agreement in approving family planning.

Multivariate analyses

Logistic regression models were estimated for examining the relationship between wives' education and couples' agreement on approval or disapproval of family planning (Table 4). The likelihood of spousal agreement on approval of family planning is higher when a wife has formal education compared to a wife who has no formal education. In

Senegal, a wife who has primary education is 1.4 times significantly (p<0.05) more likely to have spousal agreement on approval or disapproval of family planning compared to a wife who has no formal education. A wife who has more than primary education is 2.3 times significantly (p<0.01) more likely to have spousal agreement on approval or disapproval of family planning compared to a wife who has no formal education. When other socio-demographic and economic covariates are controlled for the relationship between wife's education and spousal agreement on approval or disapproval of family planning remain positive and significant and the odds ratios remain almost same. In Niger, the likelihood of spousal agreement on approval or disapproval of family planning is also higher when a wife has formal education than a wife has no formal education. A wife who has primary education is 1.2 times more likely to have spousal agreement on approval or disapproval of family planning than a wife who does not have formal education. However the association is not statistically significant. A wife who has more than primary education is 2.1 times significantly (p<0.001) more likely to have spousal agreement on approval or disapproval of family planning compared to a wife who does not have any formal education. When other socio-demographic and economic covariates are controlled for the relationship between wife's education and spousal agreement on approval or disapproval of family planning remain positive and the odds ratios remain almost same. A wife who has more than primary education is 2.2 times significantly (p<0.001) more likely to have spousal agreement on approval or disapproval of family planning compared to a wife who has no formal education after controlling for the effect of socio-demographic and economic factors. Wives who are working for cash are more likely to have agreement with their counterpart on approval or

disapproval of family planning compared to those wives who are not working for cash. However, the relationship is significant (p<0.05) only for Senegal.

In Senegal, husbands who are working for cash are more likely to have agreement with their counterpart on approval or disapproval of family planning. The relationship is not statistically significant. In Senegal, couples with more than one wives are significantly (p<0.05) 0.29 times less likely to have agreement between husband and wife on approval or disapproval of family planning compared to those couple who are maintaining monogamous marriage. Similar pattern of relationship between type of marriage and agreement on approval or disapproval of family planning is observed for Niger. However, the relationship is not significant. In Niger, husbands those who have more education than their wives are more likely to agree on approval or disapproval of family planning compared to the couples when both husband and wife have the same level education. The relationship is statistically significant (p<0.05) in Niger, but not in Senegal.

Discussion and conclusions

Several studies convincingly show that women's education is critical for family planning use dynamics. Researches also show that the approval of family planning is key for a couple to use contraceptives. If a couple is not in agreement on approval or disapproval of family planning, it is very difficult to have successful family planning program in country. This research examines the relationship between women's education and spousal agreement on approval or disapproval of family planning. The results of this

study clearly show some policy implications. Without improving the education of the females, spousal agreement on approval or disapproval of family planning may not improve, and as a result, the family planning programs may not sustain. Universal education should be expanded to reach most females in both Niger and Senegal. Empowering women through formal education to become part of decision-making process shall help improve communication between spouses which eventually enhances the use of family planning methods.

Table 1. Socio-demographic characteristics of Niger and Senegal

Population Characteristics	Niger	Senegal
Population	15.3 million	12.5 million
Births per 1,000 population	53	39
Rate of natural increase	3.9%	2.9%
Projected population by 2050	58.2 million	26.1 million
Percentage Muslim†	97%	94%
Percent of married women 15-49 using any modern method of contraceptives	5.0%	10.0%
Life expectancy (both sexes)	53 years	55 years
Infant mortality rate (per 1,000 live births)	88	61
Total fertility rate (per woman)	7.4 lifetime births	5.0 lifetime births
Percentage literate (adult males)†	42.9%	51.0%
Percentage literate (adult females)†	15.1%	29.2%

Source: Population Reference Bureau (PRB) 2009
† US Department of States (2009)

Table 2. Characteristics of the couple, two Muslim majority sub-Saharan West African countries, Senegal and Niger, Demographic Health Surveys 2005 and 2006.

	Senegal 2005		Niger 2006	
Characteristics	n	%	n	%
Place of residence				
Rural	941	65.7	1,594	71.6
Urban	491	34.3	632	28.4
Wife's education (mean is1.1 years in Senegal & 0.6 year in Niger)				
No education	1,060	74.0	1,830	82.2
Primary education	283	19.8	244	11.0
Above primary	89	6.2	152	6.8
Husband's education (mean is1.4 years in Senegal & 1.0 year in Niger)				
No education	917	64.0	1,647	74.0
Primary education	273	19.1	314	14.1
Above primary	242	16.9	265	11.9
Spousal education difference				
Both have same education	938	65.5	1,636	73.5
Wife more educated	129	9.0	164	7.4
Husband more educated	365	25.5	426	19.1
Wife's age (mean age 30.8 years in Senegal & 29.8 years in Niger)				
15-34	933	65.2	1,525	68.5
35-49	499	34.9	701	31.6
Husband's age (mean is 42.2 years in Senegal & 40.2 years in Niger)				
15-34	344	24.0	659	29.6
35-44	451	31.5	745	33.5
45+	637	44.5	822	36.9
Spousal age difference				
Husband older by <5 years	201	14.0	302	13.6
Husband older by 5 years and over	1,231	86.0	1,924	86.4
Wife's employment				
Not working	850	59.4	1,339	60.3
Working for cash	580	40.6	881	39.7
Husband's employment				
Not working	225	15.7	452	20.4
Working for cash	1,207	84.3	1,762	79.6
Type marriage				
Monogamous	913	64.1	1,413	63.6
Polygynous	512	35.9	808	36.4
Wife approves family planning				
Disapproves	636	44.4	743	33.4
Approves	678	47.4	1,271	57.1
Don't know	117	8.2	212	9.5
Husband approves family planning				
Disapproves	640	44.8	718	32.3
Approves	704	49.2	1,404	63.0
Don't know	86	6.0	104	4.7
Household wealth status				
Poor	709	49.5	707	31.8
Middle	324	22.6	413	50.3
Rich	399	27.9	1,106	49.7
Total number of couples	1,432	100.0	2,226	100.0

Table 3. Percent distribution of couples by spousal agreement on approval of family planning, Demographic and Health Survey in Senegal and Niger 2005-2006

Country	Agreement		Disagreement			
	Both approve	Both disapprove	Only husband approves	Only wife approves	Total	Number of couples
Senegal	34.1	28.2	19.3	18.4	100.0	1,237
Niger	47.5	16.9	19.5	16.1	100.0	1,928

Table 4. Odds ratios from logistic regression models for the association between wife's education and couples agreement on the issue of approving family planning, two Muslim-majority sub-Saharan West African countries, Senegal and Niger, Demographic Health Surveys 2005 and 2006.

	Senegal 2005		Niger 2006	
	Odds Ratio	Odds Ratio	Odds Ratio	Odds Ratio
Wife's education				
No education (RC)	1.00	1.00	1.00	1.00
Primary education	1.39*	1.52*	1.21	1.31
Above primary	2.33**	2.11*	2.05***	2.17***
Place of residence	-		-	
Rural (RC)		1.00		1.00
Urban		0.72		1.16
Spousal education difference	-		-	
Both have same education (RC)		1.00		1.00
Wife more educated		0.74		0.74
Husband more educated		1.02		1.38*
Wife's age	-		-	
15-34 (RC)		1.00		1.00
35-49		1.16		0.92
Spousal age difference	-		-	
Husband older by <5 years (RC)		1.00		1.00
Husband older by 5 years and over		0.91		1.06
Wife's employment	-		-	
Not working (RC)		1.00		1.00
Working for cash		1.33*		1.10
Husband's employment	-		-	
Not working (RC)		1.00		1.00
Working for cash		1.11		0.92
Type marriage	-		-	
Monogamous (RC)		1.00		1.00
Polygynous		0.71*		0.98
Household wealth status	-		-	
Poor (RC)		1.00		1.00
Middle		0.99		0.85
Rich		1.40		0.87
Number of couples	1237	1231	1928	1909
-2 Log likelihood	1624.48	1598.56	2496.76	2455.88
LR chi-square	14.39***	32.62**	14.56***	30.41**

Significance: * p <0.05; ** p < 0.01; *** p <0.001
RC: Reference category

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