

Women's autonomy and male involvement in antenatal care: associations and tensions

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Abstract:

Women's empowerment programs focus primarily on increasing the decision-making power of women, while male involvement/couple-friendly programs emphasize communication and negotiation within couples in making decisions. In-depth-interviews and focus group discussions were conducted to investigate patterns of household decision-making and the context of male involvement behaviors in Katmandu, Nepal. A questionnaire focusing on household decision-making and husbands' roles during pregnancy was administered to 592 pregnant women receiving antenatal services at a large maternity hospital. Multivariate regression techniques were used to compare male involvement behaviors across varying levels of women's autonomy, represented by different decision-making patterns. Higher women's autonomy, as measured by her sole final decision-making power, was associated with significantly lower male involvement in pregnancy health. After adjustment for other covariates, each additional decision in which a woman had final say was associated with a significantly lower likelihood of her husband accompanying her to ANC (OR=0.70, $p<0.01$). Conversely, joint decision-making between the husband and wife was associated with significantly higher levels of male involvement in pregnancy health. For each additional decision made jointly with husbands, women were more likely to discuss health with their husbands (OR=1.47, $p<0.001$), to make birth preparations (OR=1.19, $p<0.05$), and to experience a high level of male involvement (OR=1.29, $p<0.05$). The positive associations between joint decision-making and male involvement imply that couple communication and shared negotiation strategies can improve health practices. These results indicate that programs intended to increase women's empowerment and/or women's health must consider the dynamics and ramifications of including or excluding males in their efforts. Involving husbands and encouraging couples' joint decision-making in reproductive and family health may provide an important strategy in achieving both women's empowerment and women's health goals.

Introduction:

Male involvement in reproductive health has recently been promoted as a promising new strategy for improving maternal and child health (UNFPA, 2000). Men, particularly husbands, often act as gatekeepers to their wives' and family's health-seeking behaviors and utilization of health services (Piet-Pelon, Rob & Khan, 1999; UNFPA, 2000). Men can also act as supportive caretakers and promoters of family health (Carter, 2002a; UNICEF, 1994; Blanc, 2001). While men's roles in fertility-related decisions are substantial, the role of male partners in other reproductive health behaviors remains largely unknown (Dudgeon & Inhorn, 2004; Becker & Robinson, 1998; Robey, Ross & Bhushan, 1996).

The goal of 'empowering women' by increasing their status and autonomy within families is integral to many international health and development programs. At the 1994 International Conference on Population and Development (ICPD) in Cairo, 179 nations agreed to a Plan of Action that included specific steps towards both empowering women and enhancing men's support. Specifically, the Plan stated:

"Changes in both men's and women's knowledge, attitudes, and behavior are necessary conditions for achieving a harmonious partnership of men and women. This would open the door to gender equality in all spheres of life, including improving communication between men and women on issues of sexuality and reproductive health, and improving understanding of their joint responsibilities..." (UNFPA, 2004: 29)

According to the ICPD 10-year progress report, a major remaining challenge is "the promotion of greater male responsibility in family and reproductive decision-making" (UNFPA, 2004: 32).

Though inherently related and potentially opposing, the relationship between women's status and male involvement remains largely unexamined. Empowering women generally requires a relative change in position of those with 'power,' usually men. While women's empowerment programs focus primarily on giving women the power of decision-making over their own life choices (Malhotra, Schuler & Boender, 2002), male involvement/couple friendly programs emphasize communication and negotiation between partners in making decisions (UNFPA, 2004; Becker & Robinson, 1998). Reporting on her findings from an investigation of husbands' involvement in maternal health in Guatemala, Carter (2002b: 276) concludes that:

"...female autonomy, status, and empowerment are desirable...but these concepts need to be viewed within the complex emotional lives of women and men...this point is important as male involvement programs continue to develop and proliferate, and do so alongside efforts promoting women's empowerment and rights."

Are women's empowerment and male involvement mutually exclusive, or do they reinforce one another? Tensions exist both at the resource allocation level, and, theoretically and practically, at the program implementation level.

Thus, to more effectively steer both women's empowerment and male involvement programs, understanding the differences between women whose husbands are 'involved' and women whose husbands are 'not involved' is essential. Little information is available to determine whether 'involved' men represent 'modernized' men, or if such involvement is linked to males who are overly protective and/or domineering over household decisions and familial activities (Helzner, 1996; Berer, 1996). Comparisons should also be made between women viewed as 'empowered' (by possessing sole decision-making power) and women who share decision-making power with a partner. Different patterns of decision-making may influence health-seeking behaviors as well as health outcomes.

Women's empowerment, status, autonomy and health outcomes --

Empowerment, though often used interchangeably with autonomy, essentially refers to a process, requiring change over time or a progression from one state to another (i.e., from gender inequality to gender equality) (Malhotra et al, 2002; Jeejeebhoy, 2000). Another important distinguishing feature of empowerment is that it is "embedded in the idea of self-efficacy and...the realization by individual women that they can be the agents of change in their own lives" (Malhotra et al, 2002, p. 8). While the measurement of empowerment as an outcome may represent the ideal, its dynamic nature makes such measurements difficult. Alternatively, the more static nature of women's status and autonomy lend themselves better to investigation.

Measuring women's status and autonomy can also be problematic, however, due to the wide array of attitudes and practices that these concepts potentially encompass. Women's status has traditionally been measured using education and employment status variables. In a study of female autonomy in India, Dyson and Moore (1983: 45) stated that autonomy represents the 'capacity to manipulate one's personal environment,' and that 'equality of autonomy between the sexes...implies equal decision-making ability with regard to personal affairs.' Autonomy has

thus increasingly been defined as a woman's 'ability or lack thereof to make decisions in the household' (Hindin, 2000b: 257).

Higher levels of women's autonomy, though context-specific and therefore measured slightly differently in different studies, have been associated with nutritional status (Hindin, 2000a), maternal health care utilization (Beegle, Frankenberg & Thomas, 2001; Bloom, Wypij, Das Gupta, 2001), and fertility behaviors and contraceptive use (Hindin, 2000b; Govindasamy & Malhotra, 1996; Al Riyami, Afifi & Mabri, 2004; Moursund & Kravdal, 2003). Malhotra et al. (2002) provide an overview of women's status, empowerment, and decision-making autonomy, and a review of the literature linking these variables to health outcomes.

The Nepal context --

Gender discrimination and disparity is commonplace in South Asia, including Nepal (Fikree & Pasha, 2004). According to the nationally representative Nepal 2001 Demographic and Health Survey (DHS), these inequalities extend to household decision making power, particularly regarding health-related decisions. Over 50% of surveyed women reported that final decisions about their own health care were made by their husbands alone. In general, joint decision-making between husbands and wives was reported by less than 20% of the DHS sample.

Study Aims:

In order to examine the potential tension between increasing women's empowerment and promoting male involvement in women's health in urban Nepal, the aims of this paper are:

- (1) To explore patterns of household decision-making and the context of male involvement behaviors.
- (2) To describe socio-demographic, couple, and women's status factors associated with:
 - a. women's autonomy, as measured by involvement in household decision-making;
 - b. male involvement in pregnancy health.
- (2) To describe associations between women's autonomy, as measured by involvement in household decision-making, and male involvement in pregnancy health.

Given that marriage is nearly universal among pregnant women (95%), out of wedlock birth is rare in urban Nepal (Nepal 2001 DHS), and this study's particular focus on husbands, we use the term 'male' to denote the male partner of the pregnant woman.

Methods:

Setting -- Prasuti Griha Maternity Hospital (PGMH) of Katmandu, the largest maternal health care center in Nepal, is a government hospital with a total catchment population estimated at 1.1 million people and 16,000 annual deliveries (MIRA/UNICEF, 2000). Roughly 40% of women attending their first antenatal (ANC) visit are accompanied by their husbands (Antenatal Registration Records, PGMH). Local research assistants (RAs) including two male auxiliary health workers, three female nurses, and two other individuals recruited from outside the hospital staff, were trained by the study Co-Investigator and the local Study Coordinator in qualitative and quantitative data collection methods.

Qualitative Data Collection and Analysis --

Qualitative data collection aimed to assess current household and health decision-making patterns, pregnancy health practices, and husbands' roles in pregnancy health. In-depth-interviews (IDIs) and focus group discussions (FGDs) were conducted with married pregnant women in their second trimester who were attending their first ANC visit of that pregnancy. Women who were widowed, divorced, separated, single, or under 18 years of age were ineligible. To adequately represent the clientele, purposive sampling was conducted according to women's parity and partner's presence at the hospital. After a brief screening process to determine a woman's marital status, gestational age, parity, and whether her husband was present or absent from the hospital, women were recruited to participate in the interview or discussion group. In order to provide matched couples' data, husbands of female participants were recruited to participate in IDIs and FGDs either at the hospital (if present on the day of the wife's recruitment) or in the home (if absent on the day of the wife's recruitment).

With the exception of a few interviews with husbands in their homes, all wives' and husbands' interviews and discussion groups were conducted and tape recorded in confidential rooms within the hospital with a same-sex RA. Upon completion of all FGDs, the RAs transcribed all recorded discussions into Nepali. The Project Coordinator and Local Study Coordinator examined the transcripts to identify topics for in-depth investigation in subsequent interviews. All transcripts were translated into English by a local NGO specializing in maternal health research. Transcripts from interviews and focus group discussions were entered in Microsoft Word 2000

(Microsoft Corporation, Redmond, Washington), coded, matched by husband and wife, and analyzed for different decision-making patterns and predominant attitudes towards male involvement.

Quantitative Data Collection --

Quantitative data collection activities were part of a larger intervention study of the impact of male involvement in ANC on maternal health outcomes that followed the same eligibility criteria as the qualitative phase described above. Every third eligible woman who was accompanied by her husband and every fifth eligible woman who was not accompanied by her husband were approached for study recruitment. Informed consent was obtained for all participants. Given the sampling procedure, women accompanied to ANC with their husbands were over-represented in the sample, as compared to the general clinic population.

Upon consent and enrollment, RAs verbally administered a 40-minute long questionnaire. The questionnaire determined knowledge, attitudes, and practices regarding maternal health and social support, with particular emphases on husband involvement, couple communication, household decision-making patterns, and traditional gender attitudes. Data was entered into a Microsoft Access 2000 (Microsoft Corporation, Redmond, WA) relational database and exported to Stata 8.0 (StataCorp, College Station, TX) for analysis. Ten percent of all forms were entered a second time and checked for consistency. As the error rate never exceeded a pre-selected level of 2%, a single round of data entry was deemed sufficient.

Measurement of Dependent Variables

The qualitative findings on husbands' roles in pregnancy suggested that communication with spouse concerning wife's health, provision of emotional support, alleviation of wife's workload, and couple's preparations for the case of an emergency were important actions taken by some husbands during pregnancy. All male involvement behaviors were measured using wives' reports. The following questions were selected to measure husbands' behaviors:

- "In the last month, how often have you discussed your health with your husband?" Women who reported never discussing health with their spouses were compared to those who gave a numerical answer or stated 'sometimes' or 'often.'
- "Who has helped you to reduce your household work during pregnancy?" Women who reported assistance from their husbands were compared to those who identified another family member or no one.
- "Have you or your husband made fixed arrangements for any of the following during this current pregnancy?: plans in case of pregnancy complications, place of delivery, purchase of safe delivery kit, plans for getting to the place of delivery, plans for financing delivery, and plans for blood donor in case of emergency." Women who reported that one or more of these were arranged were compared to those who reported no birth preparations.
- Husband's presence at the hospital on the day of recruitment was recorded as a binary variable (present versus absent).

In addition, a summary measure of male involvement was created. Husbands who reportedly performed two or more of the four male involvement behaviors listed above were classified as being 'highly' involved males, while husbands who performed zero or one male involvement behavior were classified as having 'low' male involvement.

Measurement of Independent Variables

Measures of autonomy --

Questions on decision-making were adopted from the Nepal 2001 Demographic and Health Survey (see Figure 1). For each of these eight questions, women were asked an open-ended question about who specifically had the *final* say in making that type of decision and RAs coded responses under one of the following categories: woman alone, husband alone, wife and husband together, or someone else. Three unique decision-making index variables ranging from 0-8 were created based on women's responses, representing: (1) the number of decisions in which the wife alone had final say, (2) the number of decisions in which the wife and her husband had joint final say, and (3) the number of decisions in which the husband alone had final say. Given the focus of this paper on couple dynamics as related to women's empowerment, these three index variables were considered the most appropriate measures of decision-making power. Higher levels of variables (1), (2), and (3) correspond to women who are more 'empowered' (those with greater sole decision-making power), women who are members of more gender-equal couples (those with greater joint decision-making power), and women who are 'disempowered' (those whose husbands dominate decision-making), respectively.

Measures of socio-demographic, women's status, and couple characteristics --

Socio-demographic information collected in the questionnaire included woman's age, gravida, parity, co-residence with mother-in-law, and possession of six household items (electricity, radio, television, telephone, bicycle, motorcycle). An overall household wealth index was calculated as a weighted sum of the number of items, with weights for each item defined as the inverse of the proportion owning that item among all respondents.

Women's education was categorized into three levels: secondary (completed grade 8 or higher; reference category), primary (completed anywhere between grades 1-7), or no formal education. A four-level categorical variable was created for employment status: only the husband worked for pay (reference category), only the wife worked for pay, both wife and husband worked for pay, and neither wife nor husband worked for pay.

To capture spousal emotional support, women were asked the following open-ended question: "If you had a big problem worrying you, who would you share it with first?" Women who responded 'my husband' were compared to those with alternate responses. Traditional gender attitudes were gauged by assessing agreement with the following statement: "It is much better for everyone if the man earns the main living and the woman takes care of the home and the family." Women who agreed or strongly agreed with this statement were compared to those who disagreed or strongly disagreed with it.

Quantitative Data Analysis –

In order to focus on the dynamics between the husband and wife, women were excluded from further analyses if they reported that someone else (predominantly the mother-in-law) had the final say in at least one of the eight decisions in the index. Linear regression was used to determine if background characteristics were associated with decision-making patterns. Relationships between male involvement behaviors and socio-demographic, women's status, and couple characteristics were assessed using logistic regression. Other factors potentially related to decision-making patterns and/or male involvement behaviors, including caste, religion, gestational age of pregnancy, age of woman at marriage, duration of marriage, and marriage type (arranged versus love marriage) were tested for associations with male involvement behaviors. Bivariate and multivariate regression techniques were used to compare male involvement behaviors across different levels of women's autonomy, as defined by decision-making indices. All multivariate models were adjusted for socio-demographic, women's status, and couple characteristics that were significantly related to at least one of the male involvement outcomes in bivariate analyses. In the final multivariate regression model, the indices for wife's final say and joint final say in decision-making were included. Differences in log likelihood and chi-squared values were examined to assess the contribution of each decision-making index to model fit. As the sample over-represented women whose husbands had accompanied them to ANC, sampling weights were utilized to enable generalization of results to the entire clinic population.

Results:

Qualitative findings --

Fourteen couples and three women (whose husbands could not be located at home) participated in in-depth-interviews. A total of seventeen couples and six women (whose husbands were unavailable to participate due to job constraints) participated in focus group discussions. The interview and discussion group data yielded several main themes in relation to patterns of household decision-making and male involvement behaviors.

- **Decision-making patterns**

With respect to minor household purchases, decision-making patterns varied considerably according to household composition. In extended families, husbands and wives in general agreed that decisions about purchases of minor household items were divided between household members, often assigned by convenience to 'whoever was going outside the house. Although both men and women noted that wives were often involved in decisions over daily consumer goods, wives experienced very little purchasing power, rarely made these final decisions alone, and usually needed permission or requested money from their husbands.

Most men described the decision-making process for larger household purchases as a variation of the following:

"We discuss together about buying big items such as shelves or chairs for the room, but ... I make the final decision." –24-year old businessman

More generally, the majority of participants agreed that husbands most often made decisions on significant household matters after consultation with their spouses. For example:

"I have bought a plot of land here in the city only after discussing it with my wife. If I buy it alone, it may be that she would not like it; if things go wrong in the future, both of us will share the blame together this way." –25-year old waiter

This example highlights a predominant feature of responses made by both men and women. An important benefit of joint decision-making, it appeared, was the ability to ‘share the blame,’ in case unexpected or unwanted ramifications stemming from the decision. One woman explained:

“When we do a certain activity or decision, it may turn out bad or good. If it turns out bad, then both of us can discuss and try to correct it. But if [a decision is made] alone, then if it turns bad, then it can be easily blamed. This depresses the other one who is blamed. If things are done jointly than even if they turn bad, both take the responsibility to correct the situation.” –20-year old shopkeeper

These data suggest that final decision-making power often rests fully or partially in the hands of the husband. In regards to health-related decision-making, while a small number of participants stated that mothers-in-law played a significant role, final decisions were often taken by the husband, or jointly by the husband and wife.

Only a few couples provided conflicting accounts of decision-making patterns in the household. While one 32-year old working woman said “I always discuss with my husband, and sometimes he tells me that I should make decisions on my own...”, her 40-year old husband simply stated “in fact, the family is run by my decisions.” Similarly, while one 19-year old housewife described how “he [her husband] decides for everything,” her 24-year old husband responded to the same question by saying “I do not make decisions alone...we both decide together.”

- Male involvement in pregnancy

Male and female participants generally portrayed husbands as involved and interested in pregnancy health, particularly in the areas of initiating discussion about health with wives, providing information and support to wives, alleviating the workload of wives, and making preparations for birth. Approximately half of all FGD and IDI participants, however, described ways in which traditional Nepalese society stigmatized husbands who played a supportive or helpful role during their wives’ pregnancy. Numerous participants, however, described how men often overcame these obstacles, usually by ignoring or dismissing individuals who discouraged their supportive behaviors. For instance, one husband described:

“In my family I help my wife, and in the village people talk about me helping my wife. They say I let my wife lie down on the bed while I work like a servant. It does not matter.” --27-year old service industry worker

Respondents noted that as Nepal becomes more modernized, the behaviors of men towards their wives are becoming more accepted:

“As per our societal tradition, we should not try to know everything about women – but I think these are old beliefs and we should try to learn as much as possible.” – 30-year old farmer

“The people [in my community] motivate me to help my wife. Nowadays the villagers hold the belief that the wife should be helped in pregnancy; this is a changed attitude.” – 20-year old businessman

Social response biases may have influenced descriptions of how men seemingly shrug off taunts or discouragement from their own communities, and women may have been reluctant to criticize their husbands. The majority of male and female participants in both interviews and discussion groups, however, reiterated common themes, suggesting that male involvement in pregnancy health is becoming increasingly accepted.

Quantitative Findings –

Between September and December 2003, 629 women receiving antenatal care services were approached for enrollment in the quantitative study. Thirty-seven (5%) women declined to participate, most often citing husband’s refusal to allow participation or time constraints. Approximately 30% (n=193) of the remaining women were excluded from analyses because they reported that their mother-in-law or another individual had the final say in at least one of the eight decisions used to create the indices. Tables 1 and 2 provide the characteristics of the 399 remaining women who comprised the analytic sample for the study. In general, the sample included young Hindu women in their first pregnancy who did not live with their mothers-in-law, were relatively poor, and had a range of educational backgrounds (Table 1). Women who declined to participate in the study were similar to participants in all respects, with the exception of having a lower mean gestational age (21.1 weeks versus 23.3 weeks, $p < 0.01$).

Similar to the qualitative findings, reported levels of male involvement in pregnancy health were high (Table 2). As weighted to represent the entire ANC patient population, 40% of women were accompanied by husbands, 75% reported discussing health with their husbands in the previous month, over half (57%) reported that their husbands helped them to reduce their workload during pregnancy, and 74% reported making at least one fixed

arrangement for birth with their husbands. Discussing health with husbands was significantly associated with husbands' help in reducing pregnancy workload and with birth preparedness. Women whose husbands were present at ANC were more likely to report that their husbands helped to reduce their workload during pregnancy (data not shown).

The general pattern of women's involvement in decision-making in these data was similar to the overall low level of involvement in household decisions reported in Nepal's most recent DHS (Nepal DHS, 2001). Women were most likely to have the sole decision-making power in decisions regarding what food to cook daily. In general, less than one-third of women reported making any of the other types of decisions alone. Decisions about family planning use, visits to family, friends or relatives, and decisions concerning health care when a family member becomes sick were the most frequently cited 'joint' decisions (Table 2). Women were least likely to have any say in decisions regarding their own health care or large household purchases.

Several background factors were associated with different decision-making patterns (Table 3). Having currently living child(ren) was associated with significantly higher levels of women's sole final decision-making. Husbands' domination of decision-making was significantly associated with women who were younger, less educated, the husbands unemployed, co-residence with mothers-in-law and traditional gender attitudes on her part. Couples who made more decisions jointly included women who were more educated, whose husbands were employed, who were less likely to reside with their mothers-in-law, or have more traditional gender attitudes. Gestational age, age at marriage, caste, religion, and marriage type (arranged versus love) were not associated with making decisions in any of the three patterns (data now shown).

Bivariate analyses revealed several associations between male involvement behaviors and background characteristics, as well as with decision-making patterns (Table 4). Younger, nulliparous women were more likely to have their husbands accompany them to ANC and help them reduce their workload than women who were older or had children. Less educated women were significantly less likely to discuss health with their husband, receive assistance in reducing workload, or prepare for birth with their husbands. Women who were employed in addition to their husbands, and women who shared problems with their husbands were more likely to experience several male involvement behaviors. Women with traditional gender attitudes were less likely to receive assistance in workload reduction during pregnancy.

In unadjusted (bivariate) logistic regression models (Table 4), women's greater sole final decision-making power was associated with lower odds of discussion of health with husbands (OR=0.74, $p<0.01$), lower husband accompaniment to ANC (OR=0.73, $p<0.001$), and lower overall male involvement (OR=0.80, $p<0.05$). Little or no decision-making power, measured as the number of questions in which the husband had final say, was associated with less discussion about health with husbands (OR=0.83, $p<0.01$), greater husband accompaniment to ANC (OR=1.15, $p<0.05$), and less birth preparedness (OR=0.89, $p<0.1$). Women who reported more joint decision-making were more likely to discuss health with their husbands (OR=1.52, $p<0.001$), report that their husbands helped them to make at least one preparation for birth (OR=1.20, $p<0.01$), and experienced higher levels of male involvement (OR=1.34, $p<0.01$). Household wealth, residence with mother-in-law, gestational age, age at marriage, caste, religion, marriage type (arranged versus love), pregnancy complications history, and whether the pregnancy was planned and/or wanted, were not associated with any of the outcomes in bivariate analyses, and were thus excluded from final logistic regression models. [FOOTNOTE: Despite associations with husbands' reduction of wife's workload, marriage duration was not included in final logistic regression models given its high correlation ($r=0.8$) with the parity variable].

The adjusted odds ratio estimates of male involvement outcomes presented in Table 5 indicate that few of the associations described above changed in the multivariate model. The decision-making index for husband's final say was excluded from this model due to its high correlation with the joint decision-making index ($r>0.7$). After adjustment for other covariates, each additional decision in which a woman had final say was associated with a significantly lower likelihood of her husband accompanying her to ANC (OR=0.70, $p<0.01$). Conversely, for each additional decision made jointly with husbands, women were more likely to discuss health with their husbands (OR=1.47, $p<0.001$), to make birth preparations (OR=1.19, $p<0.05$), and to experience a high level of male involvement (OR=1.29, $p<0.05$). Log likelihood ratio tests confirmed that, for each of the significant associations above, the addition of that particular index increased model fit (not shown).

For comparative purposes, all multivariate analyses were conducted with the original full study sample as well. The only differences in associations were that in the full sample, the odds of husband's assistance in workload reduction significantly increased as women reported making more decisions jointly, while the strength of the association between joint decision-making and birth preparedness was diminished (not shown). While the application of sampling weights to the analytic sample appropriately resulted in slightly larger standard errors for estimates, the interpretation and significance levels of estimates remained unchanged.

Discussion:

Despite fairly traditional gender roles and norms in Nepal these data suggest that gender dynamics and male involvement attitudes and practices are transitioning, with an increasing proportion of husbands playing important roles during pregnancy. Significant proportions of sampled women were accompanied by their husbands (40%) and reported that their husbands discussed health with them (75%), helped them in reducing their workload (57%), or helped to arrange birth plans with them (74%). Educated women were more likely to report that their husbands practiced each of these behaviors.

Women with children were about half as likely to have their husbands accompany them to ANC as women without children. However, a follow-up assessment of why husbands were not present at ANC suggested that most men who were not present were unable to attend ANC due to their job constraints, rather than childcare responsibilities. Women who were accompanied by their husbands to ANC were also more likely to report sharing problems with their husbands, implying a level of emotional support different from women who were unaccompanied by their husbands.

The qualitative findings confirmed the patterns of decision-making found in the questionnaire. When describing decisions where the husband reportedly had final say, however, both men and women described a higher level of ‘consultation’ and communication with the wife than would be implied by a woman having ‘no say’ in a final decision according to the questionnaire. This distinction underlines the importance of conducting qualitative research to better understand the context of decision-making questions in a specific setting. Researchers using decision-making indices as measures of autonomy must keep in mind that husbands having ‘final say’ or wives having ‘no final say’ can take on different meanings in different settings, and a woman having no final say does not necessarily equate to having no decision-making power or involvement in the decision. Furthermore, most women who would ultimately be coded as ‘husband alone has final say’ seem to be at least somewhat involved in the decision process according to the qualitative results, suggesting that women who are coded as having ‘sole final say’ or ‘joint final say’ are indeed different. Their ‘joint’ decision-making power, for instance, may imply greater true equity in decision-making, as opposed to simply being included as a secondary player in the decision process.

After adjustment for socio-demographic, women’s status, and couple characteristics, the majority of the associations between male involvement outcomes and decision-making patterns found in bivariate analyses remained strong and consistent. The wife having sole final say in household decision-making was independently associated with significantly less ‘involved’ husbands. The relationship between joint decision-making and communication about health also remained strong after adjustment for potential confounders, implying that the act of making a decision in a joint fashion necessitates higher levels of spousal communication. In addition, joint decision-making remained an important predictor in the likelihood of a couple making birth preparations and in male involvement in general. The odds ratios describing these relationships remained largely unaffected after adjustment, suggesting that the wife’s sole and joint decision-making act independently to influence male involvement behaviors.

These findings imply that greater women’s autonomy, as measured by wives’ sole decision-making power, is in fact associated with lower levels of men’s involvement in pregnancy health. As Carter (2002b) pointed out, female autonomy, when thought of as sole decision-making power, may not represent the ‘ideal’ in women’s eyes, nor in terms of health outcomes. In describing their decision-making patterns, several participants explained that joint decision-making was the most desirable, particularly because it allowed the husband and wife to ‘share the blame’ in case negative repercussions ensued after a decision. Perhaps sole decision-making implies that the wife, rather than being empowered to make decisions alone, may in fact bear the burden of full responsibility and the potential blame of those decisions. Alternatively, women who have sole decision-making power may do so out of necessity, not empowerment. Being isolated from or unable to depend on husbands may mandate sole decision-making responsibilities, a consequence that would in fact seem unlikely to fit with the goals of most women’s empowerment programs. Similarly, economic factors in a setting may limit a man’s ability to participate in decision-making, or a woman’s reproductive history (e.g., parity) may influence her involvement in decision-making, but these do not necessarily mean that a woman is more ‘empowered.’ Sole decision-making power has been associated with other negative health outcomes, such as increased inter-partner violence in the Philippines (Hindin & Adair, 2002). A woman who is especially ‘empowered’ with sole decision-making power may be viewed by her husband as a threat to his position as head of household.

Husbands’ final say in decision-making was also significantly associated with lower male involvement in bivariate analyses. Husbands’ domination of decision-making was found to be the most common pattern of decision-making in this sample, reflecting the presence of traditional gender norms in urban Nepalese society. When assessing traditional gender attitudes, findings indicated that women who agree that men should be the

primary breadwinners of the family were significantly more likely to report that husbands dominated decisions and were less likely to report making decisions jointly. Since women who more strongly believe in traditional gender roles are also more likely to have husbands dominate decision-making, it is likely that they are also either less comfortable themselves, or have husbands who are less comfortable, with the notion of men's involvement in women's health issues, as is suggested by the bivariate associations between male involvement behaviors and traditional gender attitudes (Table 4).

The positive associations between joint decision-making and male involvement imply that couple communication and shared negotiation strategies can improve health practices. The qualitative findings also suggest that joint decision-making is often viewed as the 'ideal' by both men and women. Whether it is desirable because it allows members of a couple to 'share the blame,' or because it is associated with more husband involvement and better health practices, as the quantitative findings suggest, is unclear. Joint decision-making and couple communication have been found to be associated with more positive health outcomes in other areas as well, particularly increased contraceptive use (Bawah, 2002; Al Riyami et al., 2004) and decreased risks of interpersonal violence (Hindin & Adair, 2002).

The generalizability of the study findings must be considered. Issues of selection bias are inherent in all hospital-based studies. Women attending the PGMH for ANC are likely to be less wealthy than women who receive ANC services at the private hospitals or antenatal clinics of Katmandu, but wealthier than women receiving no ANC. Even though health services for destitute individuals are free at the PGMH, and only a small fee is charged for other patients, seeking ANC already makes these women 'special,' in the sense that they (or someone in their lives) had the motivation to take this preventive health measure. Since over 80% of urban Nepalese women receive at least one ANC visit (Nepal 2001 DHS), the potential selection biases are likely limited. Also, the majority of women in Katmandu Valley seeks ANC services and delivers at PGMH (Ellis et al, 2000). Additionally, the decision-making patterns reported here are similar to those previously reported in a broader sample of urban Nepalese women (Nepal 2001 DHS).

The study eligibility criteria (married women aged 18 and older attending their first ANC visit during the second trimester) were unlikely to have introduced a significant source of selection bias. In urban Nepal, the median age at first birth is 21.3 years, marriage is nearly universal (95%) among pregnant women, out of wedlock birth is rare, and the majority of pregnant women receive their first antenatal visit during the second trimester (Nepal 2001 DHS). Similar results between the analytic sub-sample and the full sample indicate that excluding those women whose mothers-in-law (or other family member) dominated at least one aspect of household decisions had little impact on the generalizability of these particular findings. While the overall study participation refusal rate was low (<5%), certain women may have been more likely to refuse participation than others. Study participants were, on average, slightly more advanced in gestational age, than non-consenters. Though the primary reason given for non-participation was a lack of time, a woman whose husband was completely un-involved may have refused if participation was perceived as futile, or if she did not want him involved. The cross-sectional nature of the study also limits our ability to make causal interpretations.

The measurement of autonomy employed in this study introduces a few shortcomings. Although the concept of autonomy includes several important dimensions (Jejeebhoy, 1995), the current study was limited by examining only one specific component of autonomy (decision-making), measured according to women's self-report. The decision-making questions included in this study, though intentionally varied, may not have covered all important areas of household decision-making. In addition, this study focused on a micro level definition of women's status. Further efforts to examine family, community, and macro level factors of women's status and autonomy, particularly taking into account the gender politics of different cultural contexts, are crucial. Several researchers have recently begun to apply multilevel analytic frameworks to examine individual as well as contextual determinants of women's status (Chen et al, 2005).

Autonomy in this study was measured using index variables, which represented a summation of responses to eight individual decision-making questions. Some researchers have cautioned that reliance on index variables may 'mask differential effects' of empowerment if the individual items in the index are associated with outcomes in highly different ways, or if the individual questions carry different weights (Malhotra et al., 2002). Since our decision-making questions encompass several different domains, and some topical areas would seem to purport a higher level of responsibility than others, we considered implementing a weighting scheme for various questions, excluding certain questions from the index, or grouping the questions into categories via factor analytic techniques. The majority of individual index items were, however, associated with outcomes in similar directions and with comparable magnitude. For purposes of comparison and validation though, various analyses were run using the above different versions of the indices; the odds ratios estimates remained, by and large, highly consistent. Furthermore, the qualitative data suggested that even within apparently 'lower responsibility' areas, such as decisions

over daily purchases or daily meals, decision-making varied a fair amount among households, and we felt that assigning weights or creating categories might introduce too much subjectivity. We thus conclude that while summation indices may not represent the most ideal measures of autonomy, they can still represent good indicators for comparing autonomy across women. Finally, the aim of this study was to describe the relationship between male involvement and women's autonomy, as measured by different decision-making patterns in a broad sense, and not to examine associations with other specific components of autonomy, such as those suggested by Jeejeeboy (1995).

Male involvement is a burgeoning field, and as it develops, new and refined indicators of men's behaviors will likely emerge. The male involvement outcomes utilized in this study do not necessarily represent positive health behaviors. For example, the health benefits of husband's presence at ANC and discussion with wife about health are less clearly positive than assistance with workload and birth preparedness. As male involvement becomes more widely studied, more information will also become available as to how accurately these behaviors correspond to positive health outcomes.

Since men are the primary decision-makers of most families, future research should assess the impact of educating these decision-makers on health outcomes. A second priority is to better understand how women's autonomy and male involvement interact to influence health outcomes; the findings here suggest that these two factors do not act independently. Longitudinal studies are needed to address whether empowering women promotes or hinders male involvement in reproductive health, or vice versa. Husbands' assessments of women's autonomy should be included in future research as well. Jeejeebhoy (2002) found that in rural India, husbands' and wives' reports of women's autonomy varied considerably. Similarly, husbands' reports of household decision-making and male involvement behaviors should also be included and compared to women's reports. The roles played by mothers-in-law, particularly as related to household decision-making dynamics and male involvement activities, constitute another important topic of future research.

Finally, the data presented in this paper raise several important issues for consideration in both research and programmatic aspects of male involvement and women's empowerment. These two concepts are necessarily intertwined: as women become more empowered, how will the roles and behaviors of men change? What is the impact of these interrelationships on health behaviors? This study initiates discussion of these topics by assessing how different decision-making patterns within couples are associated with male involvement in health behaviors. As women's empowerment is promoted worldwide, there is a need to better understand the process and ramifications of this empowerment. Involving husbands and encouraging couples' joint decision-making in reproductive and family health may provide an important strategy in achieving women's empowerment. Perhaps if men feel less 'threatened' or 'left out,' they will in fact be more involved and supportive of changes in women's status and autonomy.

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Table 1. Distribution of independent background variables in the study sample, Prashuti Griha Maternity Hospital, Katmandu, Nepal (n=399, weighted sample).

Independent variables (Background characteristics)		Means (SD)
<i>Socio-demographic characteristics</i>		<u>%</u>
Woman's age (years)		22.9 (5.7)
Woman's age at marriage (years)		19.3 (4.4)
Woman's gestational age (weeks)		23.4 (3.5)
		<u>%</u>
Gravida = 1 (pregnant for first time)		56
Have currently live child(ren)		37
Reside with mother-in-law		7
Household wealth (weighted index of 6 items) (% with <= median number items)		69
Religion		
Non-Hindu		15
Hindu		85
Caste		
Newar		18
Brahmin		25
Chhetri		31
Hills ethnic groups		20
Low caste / untouchable		5
<i>Women's status</i>		<u>%</u>
Employment status (currently working for pay)		
Only husband working		80
Only wife working		1
Both husband and wife working		14
Neither husband nor wife working		5
Women's educational level		
None		27
Primary (grades 1-7)		25
Secondary or more (grades 8+)		48
<i>Couple characteristics</i>		<u>%</u>
Marriage type		
Arranged, met at wedding		43
Arranged, knew before		14
Love marriage		43
Emotional closeness with husband		
When have problems, share them with husband before anyone else		79
Traditional gender attitudes		
Agree that it is better if men earn living and women tend home		61

Table 2. Distribution of dependent and key independent variables in the study sample, Prashuti Griha Maternity Hospital, Katmandu, Nepal (n=399, weighted sample).

Dependent variables (Male involvement outcomes)	%		
Have discussed health with husband in the last month	75		
Husband present at first ANC visit	40		
Woman responds 'husband' when asked if anyone has helped her to reduce household work during pregnancy	57		
Have made fixed arrangements for at least one birth preparation ^a	74		
Key independent variables	Decision-makers (%)		
<i>Final say on:</i>	Woman alone	Husband alone	Wife & husband jointly
Woman's own health care?	28	56	16
Making large household purchases, eg TV?	10	50	40
Making household purchases for daily needs?	39	31	29
Visits to family, friends, or relatives?	17	36	46
What food should be cooked every day?	78	4	17
What to do if a family member becomes sick?	12	43	45
Whether you should work outside the home?	27	48	24
Whether or not to use family planning in the future?	10	14	76

^a Possible birth preparations included: plans in case of pregnancy complications, plans for place of delivery, purchase of safe delivery kit, plans for getting to place of delivery, plans for financing delivery, plans for blood donor in case of emergency.

Table 3. Standardized coefficients for socio-demographic, women's status, and relationship characteristics from multiple linear regression models of the number of decisions^a dominated by the wife, the husband, or made jointly (n=399, weighted sample).

<i>Covariates</i>	Decision-Making Patterns		
	Wife alone has final say	Husband alone has final say	Decisions made jointly
<i>Socio-demographic characteristics</i>			
Woman's age, years	0.11	-0.20**	0.10
Have currently live child(ren)	0.16*	-0.00	-0.11
Reside with mother-in-law	-0.01	0.13*	-0.11*
Household wealth (weighted sum of # of items)	-0.06	-0.06	0.10
Hindu religion	-0.05	0.07	-0.04
<i>Women's status</i>			
Husband works for pay	-0.02	-0.16**	0.17***
Wife works for pay	0.01	-0.05	0.04
Wife's grades completed	-0.00	-0.21***	0.20**
<i>Couple characteristics</i>			
Have arranged marriage	-0.05	0.01	0.03
Share problems with husband first	-0.07	0.03	0.03
Agree with traditional gender statement	0.01	0.22***	-0.23***
R ²	0.07	0.19***	0.18***

^a The index format of the decision-making variables consisted of an index of the number of decisions being made in this particular pattern (range 0-8).

⁺ p<0.10; *p<0.05; **p<0.01; ***p<0.001.

Table 4. Bivariate (unadjusted) odds ratio estimates from logistic regression models of male involvement outcomes, for selected socio-demographics, women's status, couple characteristics, and decision-making variables (n=399, weighted sample).

<i>Independent variables</i>	<i>Male involvement outcomes</i>				
	Discussed health with husband	Husband present at ANC	Husband helped to reduce workload	Birth prepared-ness	High male involvement^a
<i>Socio-demographic characteristics</i>					
Woman's age, years	0.96	0.94*	0.94+	0.95	0.93+
Have currently live child(ren)	0.78	0.55*	0.48**	0.76	0.72
Reside with mother-in-law	1.16	0.75	0.48	0.77	0.50
Household wealth (weighted sum of items)	1.01	1.01	1.02	0.98	1.00
Had complications in prior pregnancy ^b	0.81	1.58	2.09	1.17	1.58
Experienced complications in current preg	1.53	1.11	1.42	0.88	1.49
Current pregnancy was planned	1.23	0.80	0.73	0.77	0.91
Current pregnancy was wanted	1.07	1.00	0.70+	0.76	0.83
Hindu religion	1.05	0.76	0.58	1.27	0.56
<i>Women's status</i>					
Employment status of husband & wife					
Only husband works for pay (reference)	1.00	1.00	1.00	1.00	1.00
Only wife works for pay	0.78	^c	2.13	0.97	1.32
Both work for pay	0.80	1.19	2.97**	1.99*	3.01
Neither work for pay	0.53	0.13**	0.90	1.30	0.73
Women's education level					
No schooling	0.40**	1.13	0.58+	0.41**	0.45+
Primary (grades 1-7)	0.72	0.90	0.80	0.86	0.65
Secondary or more (grades 8+) (reference)	1.00	1.00	1.00	1.00	1.00
<i>Couple characteristics</i>					
Share problems with husband first	1.13	1.99*	0.84	1.34	1.09
Married less than one year	1.36	1.44	2.14**	1.19	1.58
Agree with traditional gender statement	0.85	1.40	0.49**	0.68	0.68
<i>Decision-making indices (# of decisions, 0-8)</i>					
Wife alone has final say	0.74**	0.73***	0.90	0.91	0.80*
Husband alone has final say	0.83**	1.15*	0.97	0.89+	0.89
Wife and husband have joint final say	1.52***	1.01	1.10	1.20**	1.34**

^a Male involvement was classified as 'high' if wives reported that their husbands performed more than one male involvement activity during pregnancy (compared to 'low' involvement which included men who performed zero or one male involvement activities).

^b N=160 women who had previously been pregnant

^c Dropped because predicted success of outcome perfectly.

⁺ p <0.10; *p<0.05; **p<0.01; ***p<0.001

Table 5. Multivariate (adjusted)^a odds ratio estimates from logistic regression models of male involvement outcomes for decision-making covariates (n=399, weighted sample).

<i>Decision-making covariates</i>	<i>Male involvement outcomes</i>				
	Discussed health with husbands	Husband present at ANC	Husband reduced workload	Husband prepared for birth	High involvement^b
Index of number of decisions in which wife alone had final say (0-8 items)	0.91	0.70**	0.95	1.03	0.93
Index of number of decisions in which wife & husband had joint final say (0-8 items)	1.47***	0.90	1.00	1.19*	1.29*

^a Odds ratios are adjusted for: woman's age, having currently live child(ren), husband's & wife's employment status, woman's educational status, sharing of problems with husband, and traditional gender statement agreement.

^b Husband involvement was classified as 'high' if wives reported that their husbands performed more than one male involvement activity during pregnancy (compared to 'low' involvement which included men who performed zero or one male involvement activities).

⁺ p <0.10; *p<0.05; **p<0.01; ***p<0.001

Figure 1. Decision-making questions used for creation of autonomy indices.

“In family life, there are certain activities on which decisions are made by the husband alone or made by the wife alone. In addition, sometimes decisions may be made through discussion with the spouse and making final decisions together, or someone else in the household may make the decision.

Who in your family usually has the final say in the following decisions?”

- 1) Your own health care?
- 2) Making large household purchases, eg TV?
- 3) Making household purchases for daily needs?
- 4) Visits to family, friends, or relatives?
- 5) What food should be cooked every day?
- 6) What to do if a family member becomes sick?
- 7) Whether you should work outside the home?
- 8) Whether or not to use family planning in the future?