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Effect of Women's Role on Household Decision Making on Institutional Delivery of the recent Child in Nepal

Ramesh Adhikari, PhD
Associate Professor, Geography and Population Department, Mahendra Ratna Campus, Tribhuvan University, Nepal
Email: rameshipsr@gmail.com

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Nepalese women are behind than men in many areas, such as educational attainment, participation in decision-making and health service utilization, all of which have an impact on reproductive health outcomes. This paper explores effect of women's role on household decision making on institutional delivery of the child in Nepal Data as drawn from the Nepal Demographic and Health Survey, 2011. The analysis is confined to women who had given birth in the five years preceding the survey (n=4,148). The net effect of women's role on household decision making on institutional delivery after controlling for the effect of other predictors has been measured through multivariate logistic regression analysis. The findings indicate that institutional delivery was still very low in Nepal. Only two in five of the women (40%) had delivered their last child with health facilities. Notably, higher level of women's role on household decision was associated with higher level of institutional delivery [adjusted odds ratio (aOR=1.20)] than their comparison group. It can be concluded that programs should aim to increase use of maternal health services by improving women's role on household decision making so that the overall well-being of the family can be maintained and enhanced.

Key Words: women's role, household decision, institutional delivery, child

Introduction

Institutional delivery service utilization is one of the key and proven interventions to reduce maternal death. Despite various national and international efforts initiated to improve maternal health, about 289,000 women worldwide die each year as a result of complication arising from pregnancy and child birth (WHO et al., 2014). A substantial body of research has examined the role of women's autonomy on health and behavioral outcomes such as fertility (Abadian,

1996), infant mortality (Adhikari & Swangdee, 2010), and child rearing and pregnancy care (Matsumura & Gubhaju, 2001; Mullany et al, 2005; Mistry et al, 2009).

Improving maternal health is one of the eight Millennium Development Goals (WHO, 2005). Research has shown that higher status for women correlates positively with their health and that of their children. According to estimates developed by the WHO, UNICEF, UNFPA and the World Bank, there were estimated 358,000 maternal deaths globally during 2008 (WHO, 2007; WHO, 2010). Nepal is making good progress on reaching most of the health MDGs. According to the latest UN data; Nepal has now met the MDG 5 target of reducing the maternal mortality ratio by ¾ by 2015 (WHO et al., 2012). Maternal mortality rate has reduced from 539 to 281 per 100,000 live births over the period of 1996 and 2006 (Pradhan et al. 1997; MoHP et al., 2012). Fertility has declined in Nepal over the last 2 decades from an average of 5.1 children per women in 1984-6 to the current level of 2.6 in 2011 (MoHP et al., 2012).

In many societies women's inferior social status and status within the household adversely affect their health and that of their children. The health of women and their children is largely impaired by culturally and socially determined roles for women through a complex web of physiological and behavioral interrelationships and synergies that permeate every aspect of their lives (Santow, 1995). Research has shown that higher status for women correlates positively with their health (Castle, 1993) and that of their children (Adhikari & Sawangdee, 2011). A review study found positive associations between women's empowerment and lower fertility, longer birth interval and lower rates of unintended pregnancy (Upadhyay et al, 2014). Study also found that use of maternal health care services is influenced by women's roles in decision-making (Sado et al, 2014).

It is well documented that women almost everywhere are disadvantaged compared to men in terms of their access to assets, employment, health care, and education. Since the social status and level of autonomy of Nepali women is low, their status at the household level needs to be further explored in terms of health services utilization, which has a direct impact on maternal and infant morbidity and mortality. This relationship clearly warrants further attention, particularly in settings such as Nepal, where maternal and child health utilization is low (MoHP, 2002; MoHP et al., 2012).

This paper is an attempt to examine whether women's role on household decision making is associated with place of delivery of their child in the context of Nepal. We hypothesize that women with higher autonomy are more likely to deliver their recent child at health facilities than those with lower autonomy. This paper aims to close the knowledge gap in the literature with regard to a society in which women suffer gross disadvantages in the context of a patriarchal culture, which in turn can help guide reproductive health program planners and policy makers to understand various factors influencing maternal health service utilization and to assist in implementation of reproductive health programs that will decrease maternal morbidity and mortality.

Materials and methods

Data source

Data for this paper was drawn from the Nepal Demographic and Health Survey, 2011. The primary purpose of the 2011 NDHS, a nationally representative sample survey, was to provide current and reliable data on fertility and family planning, child mortality, children's nutritional status, utilization of maternal and child health services, domestic violence, and knowledge of HIV/AIDS. The 2011 NDHS was carried out under the aegis of the Population Division of the Ministry of Health and Population.

Sample size

Interviews were completed for 12,674 women of reproductive age (MOHP, 2012). However, this analysis is confined to ever married women who had given at least one birth in the five-year preceding the survey (n=4,148).

Methods of data analysis

Association between women's role on household decision making and institutional delivery of the recent child was assessed via bivariate analysis using chi-square tests. Then logistic regression was used to assess the net effect of women's role on institutional delivery after controlling for several other independent variables. Before the multivariate analysis, multicollinearity between the variables was assessed and the highly correlated variables were removed from the logistic model. It was found that the variables 'age of women' and 'total number of children ever born' was highly correlated. So the variable 'total number of children ever born' was not entered in the logistic regression model.

Two models were run in the analysis. The first model contained variables related to women's role on household decision making variable and dependent variable. In the second model, i.e. full model added the other socio-demographic and economic characteristics such as age of women, ethnicity, education, religion, ecological zone, place of residence, and wealth index.

Variables

Dependent variable

This paper has used place of delivery as a dependent variable. This variable is categorized into two categories and labeled as '0'delivered of the recent child at home '1' institutional delivery (delivered at hospital, PHCC, HP, or SHP) '.

Independent variables

Key explanatory variable of this paper was women's role on household decision-making autonomy. As other study (Adhikari and Swangdee, 2010) women's role on household decision-making, which was measured based on responses to "Who makes the following decisions in (respondent's) household about: 1) obtaining health care for yourself; 2) large household purchases; and 3) visits to family or relatives?" Response options were: a) respondent alone; b) respondent and husband/partner; c) respondent and other person; d) husband/partner alone; e) someone else; f) other. The value of 1 is assigned if the response was (a), (b), or (c), that is, involvement of the respondent, or else 0, for no involvement of the respondent.

The other control variables included in this study were demographic and socioeconomic variables such as age, number of children born, ethnicity, education, religion, ecological zone, place of residence, and wealth status of households.

Result

About two-fifth of the ever married women who had given birth in the five years preceding the survey (40%) were youth aged 15-24. More than a fifth of women had four or more children. A considerable proportion of these women (37%) were from Janajati ethnic group followed by Brahmin/Chhetri (31%).Only less than two in five women (36%) had secondary or above education. An overwhelming majority of women believed Hindu religion (83%), and lived in rural area (90%).

Women's role on household decision was low in the country. Only less than two in five women (38%) had any say in all three household decisions (Table 1).

Table 1: Background characteristics of ever married women who had given at least one birth in the five-year preceding the survey

Demographic and socio-economic characteristics	Percent	Number
Age group		
Less than 25 years	40.1	1662
25-29 years	31.6	1310
30 years or above	28.4	1176
Total number of children ever born		
One	31.4	1302
Two	28.0	1162
Three	17.7	733
Four or more	22.9	952
Ethnicity		
Brahmin/Chhetri	30.9	1283
Janajati	36.7	1523
Dalit	16.5	683
Other	15.9	660
Education level of women		
No education	43.9	1822
Primary	20.1	835
Secondary or above	36.0	1492
Religion		
Hindu	83.0	3444
Buddhist	8.7	360
Muslim	5.7	235
Kirat/Christian	2.6	109
Ecological zone		
Mountain	7.4	306
Hill	40.2	1669
Terai	52.4	2174
Place of residence		
Urban	10.1	418
Rural	89.9	3730
Wealth index		
Poor	45.3	1879
Middle	21.0	873
Rich	33.7	1397
Women's role on household decision making		
Not involved in all three household decisions	62.1	2576
Has any say in all three household decisions	37.9	1573
Total	**100.0**	**4148**

Only 40 percent of the married women had institutional delivery of the recent child. Women's role on household decision making was associated with institutional delivery. Institutional delivery was higher among those women who had any say in household decisions (43% vs. 39%). In regard to socio-demographic variables, institutional delivery was lower among older, those who had more children, those who were illiterate, those who were from Dalit caste, those who lived in mountain region, lived in rural area and those who were poor (Table 2).

Table 2: Background characteristics of married women who had given at least one birth in the five-year preceding the survey by place of delivery for the most recent live birth

	Place of delivery		**Total**	
	Home	**Institution**	**%**	**N**
Women's role				
Women's role on household decision making		*		
Not involved in all three household decisions	61.3	38.7	100	2576
Has any say in all three household decisions	57.3	42.7	100	1573
Socio-demographic characteristics				
Age group		***		
Less than 25 years	53.7	46.3	100	1662
25-29 years	58.6	41.4	100	1310
30 years or above	69.7	30.3	100	1176
Total number of children ever born		***		
One	38.4	61.6	100	1302
Two	58.7	41.3	100	1162
Three	71.3	28.7	100	733
Four or more	81.4	18.6	100	952
Ethnicity		***		
Brahmin/Chhetri	50.6	49.4	100	1283
Janajati	63.1	36.9	100	1523
Dalit	68.8	31.2	100	683
Other	60.7	39.3	100	660
Education level of women		***		
No education	77.8	22.2	100	1822
Primary	63.7	36.3	100	835
Secondary or above	35.6	64.4	100	1492
Religion		***		
Hindu	58.3	41.7	100	3444
Buddhist	69.9	30.1	100	360
Muslim	62.7	37.3	100	235
Kirat/Christian	66.1	33.9	100	109

Table 2: Continue

	Place of delivery		Total	
	Home	**Institution**	**%**	**N**
Ecological zone		***		
Mountain	77.2	22.8	100	306
Hill	62.8	37.2	100	1669
Terai	55.0	45.0	100	2174
Place of residence		***		
Urban	24.6	75.4	100	418
Rural	63.7	36.3	100	3730
Wealth index		***		
Poor	79.0	21.0	100	1879
Middle	61.9	38.1	100	873
Rich	32.7	67.3	100	1397
Total	**59.8**	**40.2**	**100**	**4148**

* p<0.1, ** p<0.05 & ***p<0.01

The multivariate analysis found that women's role on household decision making and other several variables were significantly associated with institutional delivery. The odds ratio shown in table 3 presents the effect of each independent variable on the dependent variable. Women's role on household decision making had resulted significantly higher institutional delivery (aOR=1.20) after controlling for other socio-demographic and economic variables.

The other control variables such as age, level of education, religion, place of residence and wealth index had significant association with place of delivery. Women's aged 25-29 (aOR=0.78) and 30 or above (aOR=0.67) were less likely to have institutional delivery compared with the youth mothers aged less than 25 years.

The study found that women with higher level education were more likely to have institutional delivery (aOR= 1.7 for Primary and aOR=3.5 for secondary or above) to their recent child compared with illiterate women. Similarly, middle class and rich women were more likely to have institutional delivery of their child (aOR=1.68 and 3.49, respectively) compared with poor women. On the other hand, rural women were less likely to deliver their child at health facilities (aOR=0.35) compared with women in urban area (Table 3).

Table 3: Adjusted odds ratios (aOR) from multivariable logistic regression assessing the likelihood among women having institutional delivery within the past five years preceding the survey by women's role on household decision making and selected socio- demographic and economic predictors

Predictors	**Model I**	**Model II**
Women's role on household decision making		
Not involved in all three household decisions	*(ref.)*	*(ref.)*
Has any say in all three household decisions	1.18**	1.20**
Socio-demographic predictors		
Age group		
Less than 25 years		*(ref.)*
25-29 years		0.78**
30 years or above		0.67***
Ethnicity		
Brahmin/Chhetri		*(ref.)*
Janajati		0.85
Dalit		1.03
Other		0.93
Education level of women		
No education		*(ref.)*
Primary		1.71***
Secondary or above		3.49***
Religion		
Hindu		*(ref.)*
Buddhist		0.83
Muslim		1.36
Kirat/Christian		0.66
Ecological zone		
Mountain		*(ref.)*
Hill		1.23
Terai		1.38
Place of residence		
Urban		*(ref.)*
Rural		0.35***
Wealth index		
Poor		*(ref.)*
Middle		1.68***
Rich		3.49***
Constant	*0.63****	*0.51***
- 2 log likelihood	*5585.1*	*4544.9*
Cox & Snell R Square	*0.002*	*0.223*

Discussion and conclusion

This paper explores dimensions of women's role on household decision and their relationship to place of delivery of the recent child. Results show that both wormen's role on hosuehold decision and institutional delviery is low in Nepal. It also shows that higher level of women's role on household decision was positively associated with higher level of institutional delivery.

Bivariate analysis shows that variables such as women's role on household decision making is important variable in explaining institutional delivery. This study further found that age group of women, education level of women, place of residence and wealth index variables have an significant association with institutional delviery of the child. In the multivariate analysis women's reole on household decision making is significant predictors of haivng institutional delivery.

Study showed that institutional delviery is significantly higher among those women who were involved in decisions regarding their household activities compared to those who were not. This study is similar to the study that suggests use of maternal health care services is influenced by women's roles in decision-making (Sado et al, 2014). A possible explanation could be that women who have role on household decions making are more likely to have a higher level of autonomy on health care, which might lessen their reproductive behavior risks (Dyson, 1983). A study in India has also confirmed that a women's control over household resources (ability to keep money aside) has a significant positive effect on both the demand for prenatal care and the probability of hospital delivery (Maitra, 2004).

There are some limitations in the interpretation of the results of this study. Women's role is a complex phenomenon that cannot be completely measured by only a few household decision-making indicators. Similarly, as pointed out previously, we restricted our subjects to women who had given at least one birth in the five-year preceding the survey, so our results regarding institutional delivery should be generalized with care. Because the cross-sectional design of the study and all of the items analyzed in the logistic regression analysis came from information at the time of survey, the analysis can only provide evidence of statistical association between those items and institutional delivery and cannot show cause-effect relationships.

In conclusion women's role on household decion making is a strong predictor among many other predictors of institutional delivery of the recent child in Nepal. Women's decision-making power appear to be the most powerful predictors among many others for increasing institutional delivery. Hence, in order to increase institutional delivery, ongoing activities to empower women should be sustained and broadened to include every woman in order to reach the MDG goal for the year 2015. The study results also suggest that policy actions that increase women's role in household decision making could be effective in helping assure institutional delivery. If programs focus on increasing women's role on decision making, institutional delivery will increase and the overall well being of the family will be maintained and be enhanced.

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