International Journal of Research in Social Sciences
Vol. 8 Issue 5, May 2018,
ISSN: 2249-2496 Impact Factor: 7.081
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

THE INFLUENCE OF WOMEN AUTONOMY AND DIFFERENT SOCIO-DEMOGRAPHIC FACTORS ON THE MATERNAL HEALTH SERVICES IN THE NORTH INDIAN STATES

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Keywords:

Women Autonomy;
Gender;
Decision making;
Maternal service;
IHDS;

India.

Abstract

Introduction: Women's role has been a priority area not only for sustainable development but also in reproductive health since ICPD 1994. However, very little empirical evidence is available about women's role in maternal health service utilization in India. **Objective:** This paper attempts to explore the effect of women autonomy and various socio-demographical factors on maternal health services utilization. **Data and Methodology:**The data for this study is taken from India Human Development Survey-II (IHDS-II), conducted during 2011-12 a nationally representative, multi-topic survey

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of 42,152 households. In the present paper, we have taken six north Indian states Uttar Pradesh, Madhya Pradesh, Bihar, Uttaranchal, Chhattisgarh and Jharkhand of total 4584 women in the reproductive age group who give birth after2005.A multivariate analysis has been used to examine the relationship between the number of socio-demographic variables and women autonomy with maternal health services utilization.**Results:** Finding shows that, the mean age (sd) of respondent was 29.25(6.06) years.65.9% of the studied women in higher autonomy in decision making in various household decision as compare to 16.6 %and 17.5% were in medium and low autonomy in decision making and 73.3%, 54% and 44% women received ANC, Institutional delivery, and postnatal services during last delivery respectively. There is significant association with various socio-demographical factors like education, caste, religion, age and other factors with maternal health services utilization and women autonomy is not significantly associated with ANC and Postnatal services utilization but positively associated with institutional delivery.

1. Introduction

Pregnancy and childbirth are the most joyful events in any couple's life. Perhaps it is the most wonderful, emotional and dramatic experience not only in a woman's life but also in the life of her family members. If it is uncomplicated, could be the most wonderful and fulfilling experience; however, if complicated, could threaten the woman's life.As per the United Nations Millennium Development Goals report 2009, each year, millions of women and girls unnecessarily die as a result of complications during pregnancy, childbirth or within the 6 weeks

following delivery and more than 95% of these deaths occurred in the under develop and developing countries [1].

According to 2013 report of World Health Organization, preventable complication is one the major contribution of 2, 86,000 of maternal deaths occurred in developing countries [2].Approximately 600,000 women worldwide aged between 15 and 49 years were dying due to complications arising during pregnancy and childbirth. Many of these deaths would be preventable if adequate Antenatal Care and intrapartum care services were available. The maternal morbidity and mortality burden is highest in Sub Saharan Africa [3].

If we talk about India, over a decade considerable decline in MMR from 398 in the year 1997 - 1998 to 178 in the year 2010-2012 as per 2013SRS is reported but there is an awful variation observed within different regions of the country. At one side Assam and EAG (empowered action Group) almost 24 women per 1,00,000 of women in age group 15-49 are dying due to maternal cause whereas in southern states its reduces to only 6 and Assam remains at the bottom whereas Kerala at the top among the state-wise variation in MMR as per 2013 SRS reports on the other.

Maternal death germinates by distinct kind of direct and indirect causes. Hemorrhage; followed by other condition, infection (sepsis), abortion complications and obstructed labor and hypertensive disorder are the 6 major contributors to the direct cause of maternal death. Three delays; delay in seeking care, delay in reaching healthcare facility and delay at an institutional level in providing appropriate care are the indirect cause of maternal death [4]. So in such cases, Antenatal, Institutional delivery, and Postnatal checkup are key features of health interventions for reducing maternal and newborn morbidity and mortality.

Furthermore, Women's role has been a priority area not only for sustainable development but also in reproductive health since ICPD 1994. However, very little empirical evidence is available about women's role in maternal health service utilization in India. Women’s autonomy can be defined as the capacity and freedom to act independently. It encompasses women’s ability to formulate strategic choices, control resources, and participate in decision-making.Several Studies

have shown that increased Women's autonomy is positively associated with maternal healthcare service utilizationand confers benefits such as long-term reduction in fertility, higher child survival rates, and allocation of resources in favor of children in the household [5].The paper attempts to explore the effect of women's autonomy and various socio-demographical factors on maternal health services utilization.

2. Method

The data for this study is taken from India Human Development Survey-II (IHDS-II), 2011-12 a nationally representative, multi-topic survey of 42,152 households. In the present paper, we have taken six north Indian states Uttar Pradesh, Madhya Pradesh, Bihar, Uttaranchal, Chhattisgarh and Jharkhand of total 4584 women in the reproductive age group who give birth after2005. Women autonomy was measured by a composite index based on the 8 questions related to control over finance, decision-making power and decision related to own and child health. A composite measure was created using the sum of equal weighted binary (1= responses contributed to the higher degree of autonomy verse 0= otherwise). Based on these values the overall score is found to be 8.Therefore those women who score between 0to3, 4to6 and more than 6 of the total score considered as low, medium and higher autonomous respectively[6,7,8].

Bi-variant and multivariate analysis has been used to examine the relationship between the number of socio-demographic variables and women's autonomy in relation to maternal health services utilization.Binary logistic regression analysis is used to obtain odds of antenatal are service utilization (ANC), institutional delivery and postnatal care service utilization (PNC).The independent variable in this study are autonomy, age, the number of living children, level of education, religion, caste and wealth quintiles and dependent variables included in the study are antenatal services, institutional delivery, and postnatal services.

Let Y_i is the independent variable; $X_i$is the set of explanatory variables and $\beta_i$is the coefficient, then logistic regression equation is

$$logit(P) = \log\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots$$

Where P is predicted the probability and log odd of P and (1–P) provides the odds ratios on the reference category.

3. Results and Analysis

Findings show that, the mean age (standard deviation) of respondent 29.25(6.06) years. 65.9% of the studied women were higher autonomy followed by 16.6 %and 17.5% having medium and low autonomy in various decision making in household and other activities, 73.3%, 54% and 44% women utilized ANC, Institutional delivery, and PNC services during their last delivery respectively.65.3% women in higher autonomy said that she gone for ANC services for their last delivery as compared to their counterpart's women having low and medium autonomy in decision i.e. 17 and 17.7 respectively similar pattern is also observed in intuitional delivery and PNC services utilization.

Table1: Distribution of ANC, Institutional Delivery, and PNC with Women Autonomy and socio-demographic variables in northern states of India, 2011-12.

Socio-demographic variables	**ANC (%)**	**Institutional Delivery (%)**	**PNC (%)**
Autonomy			
Low	17.7	18.1	18.6
Medium	17	18	18.8
High	65.3	64	62.6
Age groups(in years)			
15-19	5.1	6.1	5
20-24	28.7	31	28.2
25-29	35.9	35.4	34.1
30-34	18.6	17.9	20.5
35-39	8.7	7.4	8.7
40-44	2.5	1.8	2.9
45-49	0.6	0.5	0.7
Educational level			
No Education	38.5	36.9	39.8
Primary	16.6	14.8	15.5

secondary	30.5	31	30.7
Intermediate & above	14.5	17.3	14
Number of living children			
0	0.8	1.00	0.9
1-2	56.9	60.8	54.5
3-4	31.3	28.7	33.2
5+	10.9	9.4	11.4
Religion			
Other	1.4	1.3	0.9
Hindu	81.8	83.2	84.6
Muslim	16.8	15.5	14.6
Caste			
ST	9.6	6.7	8.5
General	20.7	21.8	19.7
OBC	49.8	51.4	51.3
SC	19.9	20.1	20.5
Wealth quintile			
Poorest	49.6	46.7	49.6
Poorer	29.2	30.2	29.1
Middle	11.1	11.5	11.1
Richer	7	7.7	7.5
Richest	3.1	3.9	2.7
Over All (Total)	73.3	54	44

Women in the age group 25-30 years utilized higher percentage of maternal health services (ANC, intuitional delivery, PNC) followed by the women in age group 20-25 years and least in age group 45-49 years which is less than 1% this may be the women in 45 plus age group already achieve their ideal family size. Surprisingly maternal services utilization is higher in illiterate women than their counterparts (having primary and secondary schooling). Women with one child have the higher percentage of ANC (57), Institutional delivery (37) and PNC (55) services utilization as compared to women with 2 or more child and no child. In the present study higher

percentage of women belongs to Hindu religion having higher maternal health services utilization as Muslim and women's of other religion. Women from OBC caste and Poor wealth quintile have the higher percentage of antenatal, institutional and postnatal check in their respective group.

Table 2 shows the percentage distribution of maternal services utilization among the north Indian states. There is a big gap in the utilization of ANC, institutional and PNC services among six states. In Uttarakhand, 90% of women went for ANC checkup during their last delivery and 60% went for institutional delivery and only 40 % went for PNC services. The similar pattern is also observed in other states in the maternal services utilization except Bihar were institutional delivery was 77% which is higher as compare to ANC(59%) and PNC(23%) services utilization.

Table 2: Percentage Distribution of utilization of ANC, Institutional Delivery, and PNC utilization in six north Indian states during 2011-12

State	ANC (%)	Institutional delivery (%)	PNC (%)
Uttarakhand	90.2	51	39.8
Uttar Pradesh	68.5	51.2	46.5
Bihar	54	49.6	22.9
Jharkhand	87.3	50.5	30.4
Chhattisgarh	86	41	53.8
Madhya Pradesh	80.4	67.2	54.2

From table 3, there is an insignificant association between women autonomy and ANC and PNC services utilization but in case of institutional delivery, there is a positive association of autonomy and institutional delivery women having medium and higher autonomy have 17% and 9% higher chance of institutional delivery as compare to lower autonomy.

The odds of having ANC services among the women belongs to 20-25,25-30,30-35, 35-40 and 40-45 years was 1.6,1.9,1.8,1.9 and1.8 timer higher than the women in age group 15-20 years and as age increase from 30-35, 35-40 and 45-45 the odds of having institutional delivery is 34%, 47%, and 59% less than the women in age group 15-20 because women in age group 15 -

20 are at higher risk of maternal complication as compared to other age groups. Women in age group 25-30 have 1.4 times higher chance of PNC services utilization as compare to age group 15-20 and there is no association of remaining group to maternal service utilization.

As the level of education changes from illiterate to primary, secondary and higher likelihood of ANC utilization is increased by 1.9, 2.9 and 7.8 times respectively. The similar pattern is also observed in institutional and PNC services utilization, as the level of education increase odd of service utilization is also more as compared to illiterate women.

There is an insignificant association with the number of living children and maternal service utilization except in institutional delivery. The odds of having institutional delivery 4.4 times more in women having one child as compared to women have no child. Hindu women have 2 times higher chance of PNC services utilization as compare to women of other religion and 56% less chance of institutional delivery among the women of the Muslim religion as compared to others.

Table 3:Result of Binary Logistic Regression of ANC, Institutional Delivery, and PNC with Women Autonomy and socio-demographic variables in Northern states of India, 2011-12

Background Characteristics	**ANC (Odd Ratio)**	**Intuitional Delivery(Odd Ratio)**	**PNC(Odd Ratio)**
Autonomy			
low®			
Medium	1.11	1.17*	1.15
Higher	1.1	1.09*	0.86
Age Groups (in years)			
15-19®			
20-24	1.58*	0.87	1.23
25-29	1.9*	0.72	1.19
30-34	1.75*	0.66*	1.49*
35-39	1.9*	0.53*	1.37

40-44	1.79*	0.41*	1.5
45-49	1.75	0.54	1.81
Educational leve			
No Education®			
Primary	1.93*	0.96	1.2
Secondary	2.95*	1.6*	1.55*
Intermediate & higher	7.77*	3.5*	1.67*
Number of living children			
0®			
1-2	1.4	4.48*	1.16
3-4	0.69	2.7	1.04
5+	0.43	2.6	0.68
Religion			
Other®			
Hindu	0.23*	0.52	2*
Muslim	0.28	0.44*	1.64
Caste			
ST®			
General	1.187	2.51*	1.27
OBC	1.03	2.27*	1.32*
SC	1.11	2.02*	1.26
Wealth quintile			
Poorest®			
Poorer	1.15	1.21*	1.17*
Middle	1.51*	1.35*	1.22
Richer	2.33*	1.5*	1.58*
Richest	4.38*	4.71*	1.09

The odds of having Institutional delivery among the women belong to general, other backward class and Schedule caste 2.5, 2.3 and 2 times higher than women belong to Schedule tribe caste. As the improvement in the wealth from poorest to the middle, richer and richest likelihood of

ANC utilization is increased by 1.5, 2.3 and 4.3 times respectively similarly change in wealth quintile from poorest to poorer, middle richer and richest odd of having institutional delivery is 1.2,1.35,1.5 and 4.7 times higher to the women of poorest quintile. Women of poorer and richer wealth quintile have 1.2 and 1.6 times higher chance of PNC services utilization as compare to poorest women and there is no association of remaining group to PNC service utilization.

4.Conclusion and Discussion:

In this study, more than half of the women have higher autonomy related to control over finance, decision-making power and decision-related to own and child health. There is a big gap in ANC services utilization to institutional delivery and PNC services utilization in all the states. But in Bihar institutional delivery is almost double than the PNC services utilization. There is a significant association with various socio-demographical factors. Education, caste, religion, age and wealth quintile are significantly associated with the maternal services utilization like other studies [9,10,11,12]. Caste is still playing an important factor in determining the institutional delivery. Women from schedule tribe have the lowest access to maternal service utilization. Women autonomy and number of living children has significantly associated with institutional delivery but not with the ANC and PNC services utilization.

Despite several programs like JananiSurakshaYojana (JSY), JananiShishuSurakshaKaryakram (JSSK), Home Based New Born Care (HBNC), implemented by the government there is a gap in maternal service utilization. There is a need of more awareness among the community about the benefits of institutional delivery and PNC services and proper monitoring is also required for both, during and after pregnancy, in order to improve maternal and safe delivery by providing good health care services.

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