# Does Empowerment of Women helps in use of Maternal Health Care Services in India: Evidences from North-East Region

## Introduction

Near about 500,000 women die every year because of pregnancy related complications and child birth, and maximum number of deaths occur in developing countries (WHO, 1999). The maternal mortality ratio is still high in India which is 301 per one lakh live births (SRS, 2001-03) and the levels of maternal mortality varies among the regions because of the variation in providing emergency obstetrical care, prenatal care, anemia rates among women, education levels of women and other factors within the country (SRS, 1993-2003). Maternal health care has a major concern in demographic and other health outcomes and which also reflects the status of women in the society and empowerment level and also appalling the basic health care facilities in a particular region. As a fundamental human right a women has right to take all the decisions according to her needs and purpose.

According to National Population policy, 2000 maternal mortality is not a health disadvantage, it is a matter of social justice. Low social and economic status of girls and women limits their access to education, good nutrition, as well as money to pay for health care and family planning services. The extent of maternal mortality is an indicator of disparity and inequality in access to appropriate health care and nutrition services throughout a lifetime, and particularly during pregnancy and child birth and in a crucial factor contributing to high maternal mortality.

The ability of women to make decisions that affect the circumstances of their own lives is an essential aspect of empowerment. Empowerment also leads in utilizing maternal health care because of the fact that if women are empowered in the sense of decision making and aware about the health care facilities then they will visit the health facilities more than that of those who are not aware about all those facilities. Glaring shortcomings in the health care services like poor coverage and quality of antenatal care, unsafe deliveries, lack of emergency obstetric care and poor referral services also contribute to high rates of maternal deaths (WHO, 1998).

In spite of the Government's effort to reach out to pregnant women in all parts of the country to provide all components of maternal health care free or with nominal charges, utilization of

maternal health care remains low in the country (P P Yesudian 2004). According to National family health survey 2005-06 (NFHS-III) less than 40 percent of births in India take place in health facilities. In the case of institutional delivery only 22.4 percent delivery takes place in health care institution in Assam.

Utilization of maternal health care depends not only the availability of services but also on different other factors such as distance of health care facility, perception of women and their families regarding the need for care, social restrictions on freedom to movement, the opportunity cost of accessing health care, and the interaction between the client and the provider of formal health care system (World Population Monitoring, 1998, IIPS, 2000). As well as the status of women in society shows the utilization of maternal health care facilities. Education of mother is also an important reason that has performing the positive attitude on utilization of maternal health care.

On the other hand empowerment is a process of development of status of women in society and also influence in maternal health care. Education, work participation, exposure to mass media and the living standard also develops the decision making power of women as an integral part of empowerment. It seems that female work participation in non-agricultural sector and level of wage are also considered as a determinant of empowerment (Srinivasan, 1990 and Kulkarni, et, al, 1990).

**Women Empowerment**

Empowerment is a process, by which women gain greater control over material and intellectual resources which will assist them to increase their self reliance and enhance them to assist independent rights and challenge the ideology of patriarchy and the gender based discrimination against women. This will also enable them to organize themselves to assert their autonomy to make decision and choices, and ultimately eliminate their own subordination in all the institutions ad structures of society (Batliwala, 1995, Malhotra, 2002, P P Yesudian, 2004). Empowerment factors such as education, exposure to media and standard of living should positive relationship towards maternal health care utilization as well as full autonomy and decision makings such as staying with siblings or parents, self health care and buying important

household items had significant impact on maternal health care utilization (P.Princy Yesudian, 2004).

Findings of Sunita Kishor and Kamla Gupta (2004) revealed that average women in India were disempowered absolutely relative to men, and there had been little change in her empowerment over time. The authors viewed that there were several cogent and pressing reasons for evaluating, promoting and monitoring the level of women's empowerment in India, not the least of which was that household health and nutrition was generally in the hands of women and their empowerment was necessary for ensuring not just their own welfare, but the wellbeing of households. They also asserted that empowerment was critical for the very development of India, as it enhanced the quality and quantity of human resources available for development.

The impact of women empowerment in utilization of maternal health care is the main aim of this paper. The proper utilization of maternal care depends on the knowledge and decision making power of women. Educated, employed and independent women are more concerned about their health mainly at the time of pregnancy. They also visit antenatal checkups, doctors etc. They also prefer to go for institutional delivery. North-eastern states of India, where the empowerment level (decision making power) is in a good position, but the utilization of maternal health care is still less and percent of institutional delivery is also less. Instead of higher empowerment among women utilization of maternal health care is less. So the study is needed to see the relationship between the level of women empowerment and utilization of maternal and child health care in this particular states.

The paper is prepared to fulfill two main broad objectives which are related to different level of empowerment among women and to look at the impact of empowerment on use of maternal health care services in north-eastern states of India.

**Need for the study**

The impact of women empowerment in utilization of maternal health care is the main aim of this paper. The proper utilization of maternal care also depends on the knowledge and decision making power of women. Educated, employed and independent women are more concerned about their health mainly in the time of pregnancy. They also visit antenatal checkups, doctors

etc. They also prefer to go for institutional delivery. In North eastern part of India where the empowerment level (decision making power) is in a good position, but the utilization of maternal health care is still less and very few percent of institutional delivery taking place in the region. So the study is very much needed to understand the relationship between the empowerment level and utilization maternal health care and to see the state variation within the region and to understand how empowerment helps in motivate the utilization of maternal health care.

**Data Source and Methodology**

This paper is based on 2005-06 National Family Health Survey (NFHS-3), vol. 1 conducted by the Internal Institute for Population sciences (IIPS) under the support of the government of India. Data is mainly related with the currently married women who have at least one live birth in the five years preceding the survey. Data related to women empowerment has also been used in this study. For empowerment related questions NFHS-3 asked the married women that who makes decisions on their health care, on making large household purchase, making purchases for daily household needs and on visiting their family or relatives. Questions were also asked about access to money and credit, freedom of movement etc. in this paper data has also been taken related with any antenatal care visit, TT injection, and place of delivery with health facility etc.

**Methodology**

To study the objectives, only the currently married women who had given birth during the last five years preceding the survey and those who are empowered and taking the maternal health care were selected. For this purpose the empowerment indicators such as decision making power for own health care, household purchase, household needs and visit family or relatives, access of own money and freedom to move alone where three distinct places such as market, health facility, outside village or community are included. Here in this paper the combination of these three indicators are termed as Full Empowerment Index. On the other hand in maternal health care indicators the antenatal care visit indicators are included. Such as any antenatal care visit, more than three antenatal care visits, receive 100 IFA tablets, atleast two TT injection receive and delivery in health facility under heath personal. Simple percentages have been used to show the variation among the states for empowerment index and maternal health care index by doing cross tabulation with the background characteristics. Then logistic regression has done for

showing the relationship between the set of independent variable with the dependent variable. In regression instead of wealth index, standard of living variable is taken because of the size of sample.

Dependent Variable: Full Empowerment Index (1=yes, 0=no). Independent variables: Age of mother, residence, number of living children, household structure, education, employment, religion, wealth index, exposure to mass media, partner's education and marital duration, institutional delivery, delivery by health professional, ANC visit, received TT injection, having IFA tablets/syrup etc.

**Results and Discussion**

**Indicators of women's empowerment**

Table 1 represents different empowerment indices for different states of north-eastern part of India. Here empowerment of women has been shown in terms of three broad categories to measure the status of empowerment. Decision making power has been made of different indicators of empowerment like taking decision of own health care, household parches, household needs, visit family or relatives etc. The state of Nagaland has shown the highest proportion of women having the decision making power of their own which is about 98 percent Arunachal Pradesh has the lowest proportion having 54 percent within the region. When all the north-eastern states, women has a better position in their decision making power a measly number of women has this empowerment in national average and which is only 37 percent. When it comes to the economic empowerment means that women have a right to decide how to spend her own money the proportion of women has been declining in the states of NE India. Here women of Arunachal Pradesh have the highest power of use her own money which is about 39 percent and it is lower than the national average of 45 percent. Mobility index comprises of the indicators of empowerment move freely, like go to the market, to the health facility and to the places outside the village/community. In this case women from Mizoram show the higher percentage which is about 78 percent followed by Manipur (64%) and Sikkim (53%). Women from Nagaland reports less mobility power (25%) as compare to other north eastern states and which is also less than the national average (35%). Its shows that women have higher autonomy to take all kind of decision making but they have not free to use her own money and to move

outside home. It means women were empowered in sense of decision making for household need but not to use own money and free move which is also less for the country average.

**Use of maternal health care:**

Table 2 represents of women's empowerment as well as use of different maternal health care services in the study region. The full empowerment index comprises of the combine sets of decision making power, right to have use of own money and of free mobility of women. When it comes to full empowerment, the state of Meghalaya shows the highest percentage (77%) followed by Nagaland (73%) and Mizoram (71%) which is also high as compare to regional average (59%). About 90 percent of women visit any ANC during their reproductive time period in Sikkim and 93 percent of them received tetanus toxid injection, 80 percent received Iron Folic Acid tablets, 83 percent of women visits full ANC. In use of full ANC (i.e. three or more ANC visit, atleast two TT injection and having 100 IFA tablets) Nagaland has shown the lowest percentage which is only 8 percent. Assam has the highest percentage of delivery at health facilities than other north-eastern states (67%). But in case of delivery assisted by health professional is found high in Mizoram (68%) and lowest in Nagaland (28%). Overall we can say that still there is a gap in use of health care services in north-eastern part of India which need to take care off.

**Socio-demographic differential in women Empowerment:**

Table 3 represents the differentials of socio-demographic aspects in women empowerment status in states of north-east India. With the increasing in age of women the level of empowerment is increasing but again declines in the later ages in almost all the states. Place of residence has and great impact on empowerment level of women. it is found that urban women are more empowered in terms of decision making, use of own money and free movement which is defined as full empowerment as compare to rural women. But rural women in Meghalaya and Arunachal Pradesh are more empowered than their urban counterparts. Education plays an important role in empowering women. Women with no education were less likely to be empowered than middle and higher educated women in north-eastern states of India. At the regional level the status of empowerment is increasing 57 percent to 70 percent according the increasing level of education. Employed women are also more empowered than not employed women in almost all the states

except Sikkim. Wealth index or standard living of women shows that women belong to higher wealth group are more empowered than women belongs to low and medium wealth quintile. Exposure of mass media, partner's education and increased marital duration has also an impact on women empowerment in north-east India. Where women who are exposure of mass media, her partner were well educated and those whose marital duration is more than five years were more empowered than their counterparts.

**Access of maternal health care by Empowerment status:**

In table 4 the women those who were empowered and their use of facilities has shown. The association of empowerment and maternal health care services in north eastern states has a variation in between them. The use of atleast one ANC visit is very less in all the studied states among empowered women. Almost more than half of fully empowered women went for ANC visit in first trimester in north-eastern states of India except Arunachal Pradesh. In receive of two or more TT injection women from Sikkim has the highest proportion (82%) followed by Tripura (81%) and Manipur (80%). Mizoram has the lowest where fully empowered women receives two or more TT injection during their pregnancy (9%). Most of the fully empowered women received IFA tablets/syrup in almost all the states except Arunachal Pradesh and Nagaland. When it comes to use of full ANC 86 percent of services used by fully empowered women in Sikkim and which is highest among the region. But it is seen that the use of full ANC is not that satisfactory where empowerment of women does not help much to utilize these services. Institutional delivery is found to be high in Meghalaya (65%) followed by Arunachal Pradesh (63%) and Assam (62%). In case of deliveries assisted by the health professionals are less than half of women in the north eastern states of India. Nagaland shows the lowest percentage of women who delivered their babies under skilled health professional (29%).

The use of postnatal care is very less in north-east India. From the study it is found that less than 5 percent of fully empowered women had gone through postnatal check up within two months of delivery. This shows lack of availability and knowledge regarding postnatal care services in north-eastern part of India. Overall we can say that there is no association between women empowerment and use of maternal health care facilities because very few empowered women ever use of full ANC, delivery and natal care facilities.

**Results of logistic regression:**

Table 5 represents the results of logistic regression which show the impact of women's full empowerment status on different socio-demographic as well as use of maternal health care services in north-eastern states of India. Result shows that in Assam older aged women (30-40 years) are almost three times more likely to be empowered as compare to younger aged (less than 20 years) women. In Manipur and Nagaland also shows a significant relationship in between increasing age of women and empowerment status of them. As already mentioned above that education and empowerment has a positive interrelationship in between where it shows that with the increasing in education level women empowerment increases. Results from the regression analysis show no significant relation between education and empowerment except in states of Nagaland and Tripura. In case of employment status women of Assam, Meghalaya and Nagaland were two, three and again two times more likely to be empowered than not employed women respectively. Rest of the states the results is not showing any significant relationship.

**Conclusion**

The results reveal that more than half of women have utilized any one of the recommended ANC services in north-eastern states of India. When it comes to use all the recommended ANC services (full ANC) it is only about 18 percent. It is also clear from the results that very few percent of women visited any health facility for delivery purpose and health professionals. As the empowerment level is high among women in the study area but the use of health care facilities is still lacking behind. There is a vast difference in the maternal healthcare utilization pattern in rural and urban settings.

Empowerment factors such as education and exposure to mass media show positive relationship towards maternal health care utilization. Women involvement in work participation has a negative impact in use of health care utilization. In north-eastern region of India, women were empowered but they have not adequate knowledge and facility available for health care because of what prevalence of utilization is low.

The study clearly brings out the association between social determinants that impact the utilization of maternal and perinatal healthcare. Women's employment did not show much

impact on maternal care utilization because in the Indian setting women often go to work out of economic urge and employment does not necessarily mean that women could use the money that they have earned. The government is making excellent efforts to make maternal health services accessible to women by giving them financial incentives for institutional deliveries and bringing antenatal care to their door step. There is a growing need to plan and implement programmes that are tailored to the needs and realities of the national and sub-national settings and to scale up known or new cost-effective (social and economic) interventions. However, all these efforts will not yield results unless there is perceptible change in the social context, where decisions are taken to utilize healthcare. Therefore it is very urgent needs for the government to evolve policies to improve the social milieu of women, which will in turn be conducive for them to utilize maternal healthcare as well as to improve empowerment level.

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Table 1: Percentage of currently married women with different empowerment indices in NE states of India, 2005-06.

| States | Decision making* | Who have own money** | Mobility index*** |
|---|---|---|---|
| Arunachal Pradesh | 54.1 | 38.6 | 44.2 |
| Assam | 61.0 | 24.9 | 37.2 |
| Manipur | 94.8 | 26.4 | 63.6 |
| Meghalaya | 88.5 | 31.5 | 31.6 |
| Mizoram | 95.9 | 14.3 | 77.5 |
| Nagaland | 98.1 | 36.5 | 25.4 |
| Sikkim | 89.0 | 37.1 | 52.5 |
| Tripura | 54.4 | 20.4 | 31.8 |
| NE region | 84.1 | 28.1 | 37.3 |
| **India** | **36.7** | **45.0** | **35.0** |

**Note:** * Own health care, household parches, household needs, visit family or relatives
** Those who have own money to decide how to use
*** To the market, to the health facility, and to places outside the village/community

Table 2: Percentage of currently married women reporting of empowerment status and use of maternal health care services in NE states of India, 2005-06.

| States | Full Empowerment* | Any ANC visit | Receive TT injection | Taking 100 IFA tablets | Full ANC visit | Delivery at health facility | Delivery by health professional |
|---|---|---|---|---|---|---|---|
| Arunachal Pradesh | 54.1 | 55.2 | 53.1 | 48.7 | 37.6 | 64.9 | 33.6 |
| Assam | 60.8 | 75.6 | 79.6 | 67.5 | 58.1 | 66.6 | 40.1 |
| Manipur | 67.0 | 86.7 | 89.4 | 65.8 | 62.7 | 49.6 | 63.3 |
| Meghalaya | 76.5 | 67.2 | 63.8 | 55.4 | 49.0 | 64.6 | 34.9 |
| Mizoram | 70.8 | 73.6 | 82.2 | 61.1 | 48.1 | 35.5 | 67.8 |
| Nagaland | 73.1 | 57.8 | 62.4 | 25.7 | 8.4 | 31.2 | 27.9 |
| Sikkim | 55.3 | 89.5 | 92.5 | 86.8 | 82.7 | 47.1 | 56.1 |
| Tripura | 25.7 | 79.7 | 81.7 | 69.9 | 61.5 | 45.5 | 52.2 |
| **NE Region** | **59.1** | **72.2** | **75.3** | **62.5** | **17.6** | **21.6** | **38.3** |

**Note**: * Own decision making, who have own money and mobility index

Table 4: Percentage of fully empowered* women and use of maternal health care services in NE states of India, 2005-06.

| Maternal Health care indicators | North-Eastern States of India | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | AP | Assam | Manipur | Meghalaya | Mizoram | Nagaland | Sikkim | Tripura | NE Region |
| No ANC at all[1] | 39.8 | 22.7 | 13.9 | 30.4 | 27.3 | 40.8 | 8.7 | 16.3 | 25.0 |
| **Components of Antenatal care** | | | | | | | | | |
| Atleast one ANC check-up | 6.8 | 7.4 | 5.0 | 5.0 | 4.8 | 12.3 | 5.4 | 3.9 | 7.7 |
| ANC at first trimester | 45.9 | 63.0 | 75.2 | 51.4 | 61.8 | 54.0 | 67.6 | 67.6 | 60.6 |
| Two or more Tetanus Toxoid injections | 43.8 | 19.6 | 80.0 | 52.6 | 9.4 | 51.7 | 82.3 | 81.1 | 67.3 |
| Iron and folic acid tablets or syrup | 48.4 | 68.8 | 64.5 | 56.9 | 61.9 | 26.4 | 89.0 | 71.5 | 63.6 |
| Full Antenatal care [2] | 38.5 | 58.2 | 61.2 | 50.3 | 48.4 | 13.2 | 86.0 | 63.1 | 25.2 |
| **Natal care** | | | | | | | | | |
| Institutional delivery | 63.2 | 62.4 | 52.1 | 65.2 | 36.1 | 48.4 | 40.3 | 41.5 | 29.6 |
| Delivery with assistance from health professionals [3] | 35.0 | 43.5 | 61.5 | 34.4 | 66.0 | 28.6 | 63.4 | 57.7 | 40.5 |
| **Postnatal care** | | | | | | | | | |
| Postnatal check up within two months | 4.1 | 0.6 | 1.1 | 0.6 | 0.6 | 0.8 | 2.6 | 1.1 | 0.5 |

**Note**: * Own decision making, own money and mobility index

[1] No antenatal check up, no intake of iron folic acid/syrup and no tetanus injection

[2] Utilization of three or more antenatal checkups (with the first check up within the first trimester of pregnancy) & two or more tetanus toxoid injections, an & Iron and folic acid tablets or syrup

[3] Women's delivery assisted by doctors, nurse/midwives and other health professionals

Table 3: Percentage of fully empowered* women by background characteristics in NE states of India, 2005-06.

| Background Characteristics | North-Eastern States of India | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | AP | Assam | Manipur | Meghalaya | Mizoram | Nagaland | Sikkim | Tripura | NE Region |
| **Age** | | | | | | | | | |
| Less than 20 years | 47.9 | 45.5 | 47.4 | 71.4 | 52.9 | 63.9 | 45.0 | 20.7 | 41.59 |
| 20-29 years | 54.6 | 59.4 | 60.5 | 75.2 | 62.1 | 68.0 | 57.2 | 23.0 | 54.87 |
| 30-39 years | 56.4 | 66.9 | 75.1 | 78.7 | 82.0 | 76.4 | 56.2 | 34.7 | 64.78 |
| More than 40 years | 40.0 | 64.3 | 69.1 | 77.1 | 83.9 | 77.6 | 35.3 | 30.0 | 62.70 |
| **No of living Children** | | | | | | | | | |
| No children | 54.5 | 55.6 | 100.0 | 88.9 | 0.0 | 72.2 | 83.3 | 25.0 | 47.22 |
| Living children | 53.9 | 60.8 | 66.9 | 76.3 | 70.7 | 73.2 | 55.1 | 25.8 | 60.45 |
| **Residence** | | | | | | | | | |
| Urban | 49.7 | 67.1 | 67.5 | 70.4 | 72.3 | 70.4 | 64.4 | 31.6 | 65.19 |
| Rural | 55.7 | 59.6 | 66.9 | 77.8 | 69.3 | 74.1 | 53.6 | 24.6 | 57.62 |
| **Household Structure** | | | | | | | | | |
| Nuclear | 52.1 | 66.8 | 78.9 | 76.9 | 79.3 | 75.1 | 56.5 | 30.6 | 63.81 |
| Other | 55.5 | 52.3 | 54.6 | 75.9 | 59.7 | 68.6 | 54.3 | 19.1 | 51.84 |
| **Education** | | | | | | | | | |
| No education | 57.0 | 57.6 | 75.7 | 71.6 | 70.8 | 65.2 | 40.0 | 18.9 | 57.21 |
| Primary | 45.8 | 56.6 | 65.0 | 83.3 | 76.3 | 74.2 | 54.1 | 29.1 | 55.62 |
| Secondary | 53.3 | 64.1 | 64.5 | 76.7 | 67.5 | 76.5 | 64.0 | 25.0 | 61.18 |
| Higher | 57.9 | 70.0 | 62.6 | 81.8 | 86.1 | 83.0 | 76.9 | 47.8 | 69.68 |
| **Employment** | | | | | | | | | |
| Not employed | 50.0 | 59.4 | 65.4 | 71.4 | 67.0 | 70.4 | 56.3 | 24.6 | 56.25 |
| Employed | 55.2 | 65.3 | 68.3 | 83.8 | 77.1 | 76.0 | 52.8 | 28.8 | 65.23 |
| **Religion** | | | | | | | | | |
| Hindu | 49.2 | 64.7 | 68.0 | 64.2 | 72.7 | 58.0 | 54.1 | 26.2 | 59.86 |
| Muslim | 38.1 | 51.4 | 64.4 | 42.9 | 100.0 | 51.1 | 28.6 | 20.0 | 49.48 |
| Christian | 55.6 | 65.5 | 67.6 | 80.8 | 70.7 | 77.0 | 59.3 | 66.7 | 71.74 |
| Other | 59.1 | 20.0 | 63.6 | 75.9 | 66.7 | 42.9 | 58.6 | 26.7 | 61.54 |
| **Caste** | | | | | | | | | |
| Scheduled Caste | 43.9 | 68.8 | 63.4 | 83.3 | 50.0 | 52.6 | 53.6 | 25.0 | 58.91 |
| Scheduled Tribe | 56.3 | 67.3 | 68.2 | 79.5 | 71.0 | 77.7 | 58.0 | 25.5 | 66.29 |
| Other Backward Class | 50.0 | 62.0 | 59.3 | 56.3 | 40.0 | 71.1 | 56.8 | 23.2 | 58.91 |
| Other | 52.7 | 57.6 | 69.8 | 34.9 | 66.7 | 56.2 | 42.9 | 27.7 | 57.14 |

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Table 4: Percentage of fully empowered* women by background characteristics in NE states of India, 2005-06.

| Background Characteristics | North-Eastern States of India | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | AP | Assam | Manipur | Meghalaya | Mizoram | Nagaland | Sikkim | Tripura | NE Region |
| **Wealth Index** | | | | | | | | | |
| Low | 52.7 | 57.8 | 74.8 | 73.1 | 75.7 | 70.9 | 30.4 | 24.1 | 54.32 |
| Medium | 48.8 | 60.9 | 67.9 | 78.9 | 79.5 | 71.5 | 52.4 | 25.1 | 58.13 |
| High | 60.2 | 68.0 | 62.4 | 79.1 | 66.8 | 75.8 | 62.7 | 30.0 | 66.73 |
| **Exposure to Media** | | | | | | | | | |
| Non-Exposure | 48.2 | 56.7 | 75.0 | 73.9 | 67.6 | 76.2 | 41.6 | 22.9 | 53.52 |
| Exposure | 59.1 | 64.8 | 65.5 | 75.4 | 70.5 | 70.8 | 60.7 | 22.8 | 63.39 |
| **Partner's education level** | | | | | | | | | |
| No education | 51.2 | 52.5 | 70.8 | 73.6 | 72.2 | 69.8 | 44.3 | 25.3 | 53.68 |
| Literate | 54.9 | 64.0 | 66.9 | 78.2 | 70.6 | 74.0 | 57.4 | 25.5 | 61.06 |
| **Marital Duration** | | | | | | | | | |
| Less than 5 years | 47.4 | 56.2 | 50.7 | 75.3 | 59.3 | 71.1 | 58.7 | 23.6 | 49.39 |
| More than 5 years | 56.2 | 62.8 | 73.7 | 76.8 | 76.3 | 73.5 | 53.7 | 26.9 | 61.60 |
| **TOTAL** | **54.1** | **60.8** | **67.0** | **76.5** | **70.8** | **73.1** | **55.3** | **25.7** | **59.1** |

**Note:** AP- Arunachal Pradesh

Table 5: Regression analysis for women empowerment by use of maternal health care services and by background variables in NE states of India, 2005-06.

| Background Characteristics | North-Eastern States of India | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AP | Assam | Manipur | Meghalaya | Mizoram | Nagaland | Sikkim | Tripura |
| **Age** | | | | | | | | |
| <20 | | | | | | | | |
| 20-29 | 1.64 | 1.83* | 4.40** | 1.18 | 0.38 | 1.70 | 2.91** | 0.36* |
| 30-39 | 1.93 | 2.48** | 6.123*** | 1.33 | 0.46 | 2.55** | 2.59* | 0.97 |
| >40 | 0.72 | 3.44** | 3.01 | 1.43 | 1.15 | 2.96** | 1.40 | 0.36 |
| **Residence** | | | | | | | | |
| Urban | | | | | | | | |
| Rural | 2.63*** | 0.83 | 0.64** | 1.35 | 0.91 | 1.10 | 0.98 | 0.77 |
| **Education** | | | | | | | | |
| No education | | | | | | | | |
| Primary | 0.52* | 0.98 | 0.75 | 1.89* | 1.73 | 1.66*** | 1.06 | 3.77*** |
| Secondary | 0.40** | 1.29 | 0.57 | 1.16 | 1.81 | 2.47*** | 0.98 | 3.33* |
| Higher | 0.39 | 0.63 | 1.02 | - | - | 16.12*** | 1.62 | 73.02*** |
| **Employment** | | | | | | | | |
| Not employed | | | | | | | | |
| Employed | 1.57 | 1.50* | 0.79 | 2.80*** | 1.18 | 1.44** | 0.72 | 0.88 |
| **Wealth Index** | | | | | | | | |
| Low | | | | | | | | |
| Medium | 0.93 | 0.82 | 0.86 | 1.69* | 1.01 | 1.27 | 2.78*** | 1.20 |
| High | 1.29 | 0.73 | 0.77 | 1.13 | 0.42 | 0.92 | 1.93* | 1.60 |
| **Exposure to Media** | | | | | | | | |
| Not exposed | | | | | | | | |
| Exposed | 1.96** | 1.15 | 0.88 | 0.82 | 1.03 | 0.49*** | 2.06** | 0.60 |
| **Partner's education level** | | | | | | | | |
| No education | | | | | | | | |
| Literate | 2.03*** | 1.79*** | 0.78 | 1.09 | 1.33 | 1.00 | 1.10 | 0.47* |
| **Marital Duration** | | | | | | | | |
| Less than 5 years | | | | | | | | |
| More than 5 years | 1.19 | 0.71 | 2.05*** | 0.95 | 1.51 | 0.80 | 0.78 | 1.47 |
| **Maternal health care** | | | | | | | | |
| **Any ANC visit** | | | | | | | | |
| No | | | | | | | | |
| Yes | 1.64 | 1.00 | 1.58 | 1.93 | 0.67 | 0.90 | 0.11* | 0.57 |
| **Received TT injection** | | | | | | | | |
| No | | | | | | | | |
| Yes | 2.55 | 0.24*** | 1.33 | 0.94 | 0.42 | 1.03 | 0.08* | 0.82 |
| **Received IFA tablets/syrup** | | | | | | | | |
| No | | | | | | | | |
| Yes | 0.40 | 0.70 | 3.46 | 1.58 | 1.13 | 0.42* | 0.17 | 0.92 |
| **Full ANC visit** | | | | | | | | |
| No | | | | | | | | |
| Partial | 0.86 | 5.57** | 0.41 | 0.72 | 4.32 | 1.90 | 43.80* | 3.40 |
| Full | 0.74 | 5.82 | 0.11 | 0.46 | 4.60 | 3.82 | 52.99* | 2.67 |
| **Institutional delivery** | | | | | | | | |
| No | | | | | | | | |
| Yes | 0.65 | 0.55** | 0.88 | 1.22 | 0.72 | 1.62* | 0.80 | 1.12 |
| **Delivered by assisted health personal** | | | | | | | | |
| No | | | | | | | | |
| Yes | 0.65 | 0.80 | 0.93 | 0.87 | 0.58 | 1.15 | 1.03 | 1.32 |

Note: ***<=0.01, **<=0.05, *<=0.10 ® Reference Category